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## **IT'S ABOUT PEOPLE 2024: IN SERVICE OF SUSTAINABILITY AND DIGNITY**

*The 12<sup>th</sup> Annual Conference of Europe's Sciences  
and Arts Leaders and Scholars*

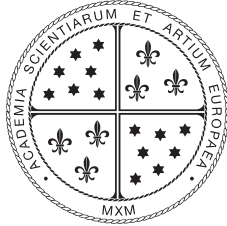


# BOOK OF ABSTRACTS

1<sup>ST</sup> EDITION

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organised by Alma Mater Europaea - ECM and the European Academy of Sciences and Arts

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**The 12<sup>th</sup> Annual Conference of Europe`s Sciences and Arts Leaders and Scholars  
It's About People 2024: In Service of Sustainability and Dignity  
Book of Abstracts**

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# **INVITED TALKS OF THE CONFERENCE**

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# FOREWORD

**Ludvik Toplak, Rector of Alma Mater Europaea**

The 12th Annual Conference of Europe's Sciences and Arts Leaders and Scholars, 'It's About People 2024: In Service of Sustainability and Dignity,' organized by University Alma Mater Europaea in co-organization with the European Academy of Sciences and Arts, took place in one of the most turbulent periods of the last hundred years.

This year's conference's message was about society's current challenges in the interconnectedness of valuing humanity at a time when the world is faced with various forms of rebarbarization. The conference was dedicated to academic research and technological progress for the needs of society in valuing humanity, having a platform for interdisciplinary dialogue and a new renaissance, conserving natural resources, and considering demographic changes. Key aspects include intergenerational equality, the sustainable use of resources, and meeting development needs.

Special thanks go to the Vice-President of the European Commission for Democracy and Demography, Dubravka Šuica, who opened the event with a highly acclaimed honorary speech; the President of the European Academy of Sciences and Arts, Professor Dr Klaus Mainzer, for co-organizing the conference and for chairing the program committee and keynote speech, and to the honorary President of the European Academy of Sciences and Arts, Professor Dr Felix Unger.

I am grateful to the former President of Slovenia, Borut Pahor, for his cooperation and inspiring address, as well as the Former Advocate General at the Court of Justice of the European Union, Professor of European Law, Verica Trstenjak.



Ludvik Toplak and Borut Pahor

Photo: Marko Pigac

I want to thank the chairman of the organizing committee, Professor Dr Jurij Toplak, and expert staff for organizing the conference.

Keynote speaker Professor Dr Klaus Mainzer, who was awarded an honorary doctorate for outstanding achievements in philosophy, science, and essential academic and organizational contributions to the development of Alma Mater Europaea – ECM at a special ceremony during the plenary session, delivered the framework with a topic 'A New Renaissance for Europe' and opened new dimensions expressing the need for a dignified future.

Distinguished scholars and intellectuals Dr Richard James Overy, Professor at the University of Exeter, Dr Andrew Sumner, Professor at King's College London, Luciana Duranti, Emeritus Professor at the University of British Columbia, Dr Ioannis Liritzis, Dean of Natural Sciences at the European Academy of Sciences and Arts and Professor at Henan University, Dr Dany Bahar, Professor at Brown University and Senior Research Fellow at Harvard University presented the scientific achievements of world-renowned universities following the fundamental principles of Alma Mater Europaea – transnationality, interdisciplinarity, and building bridges.

The conference program featured more than 60 sections. We managed to gather over 250 authors from more than 30 countries. Among them were academics from the most prominent universities, such as Harvard, Stanford, University College London, King's College London, the University of British Columbia, ETH Zurich, and others. They presented diverse academic perspectives, knowledge, and innovations. There were more than 2500 listeners on the conference's first day, which is annually growing, confirming the necessity of such important academic events and Alma Mater Europaea's core role in it.

The task of science is to provide answers to new challenges, thus preventing threatening contradictions and developing values and technologies in the education system to ensure peace and well-being in society.



Barbara Toplak Perovič, Dubravka Šuica, Ludvik Toplak and Jurij Toplak

Photo: Marko Pigac

Alma Mater Europaea, in March 2024, became a full university with all academic disciplines at the bachelor and master levels and doctoral degree, and in all disciplines according to the Frascati and Classics classification. Alma Mater Europaea – ECM has strengthened its position in Slovenia and has joined world-renowned academic institutions globally. It is also developing into a centre of excellence for Slovenia and the wider Central European area.

,It's About People 2024: In Service of Sustainability and Dignity' drew attention to the challenges of our time, with an appeal to opinion makers and decision-makers to implement knowledge in the light of the European humanistic tradition and contribute to the consolidation of peace and well-being based on European values and human rights, as the conference declared in the resolution.

Finally, I sincerely thank everyone who contributed to this year's conference and cordially invite esteemed colleagues and the international academic public to initiate and participate in the 13th It's About People conference, which will be held in March 2025.



EUROPEAN ACADEMY  
of Sciences and Arts



ALMA MATER  
EUROPAEA  
ECM

## Resolution

Of the 12th Annual Conference of Europe's Sciences and Arts Leaders and Scholars 'It's About People: In Service of Sustainability and Dignity', 8 – 13 March 2024.

**The Scientific and Programme Committee** of the 12th international conference *It's About People: In Service of Sustainability and Dignity*, organised by Alma Mater Europaea – ECM and European Academy of Sciences and Arts between 8 – 13 March 2024, with the active participation of the European Commission Vice-president Dubravka Šuica, President of EASA Professor Klaus Mainzer, representatives of the universities, and other academic and public institutions from more than 30 countries and all parts of Europe, proclaims the following:

## RESOLUTION

1. The **pressing issues of our time** require humankind to balance between ensuring sustainable development in balance with nature and upholding the dignity of each human being with respect to their individual circumstances.
2. The conference organisers reaffirm the fostering of **sustainability** to ensure the equitable meeting of the needs of present and future generations, understanding human beings as an integral part of the natural environment.
3. Academic and other public institutions, especially EASA members, are invited to act as role models and encourage the respect of **human dignity** both in their professional and scholarly work and personal conduct.
4. Contemporary global and regional political and military instabilities call for a renewed focus on fostering **peace and security**, not only in political but in ethical terms, to ensure a path to a better future for Europe and the World.
5. Europe and other parts of the world face unprecedented demographic challenges in terms of **aging populations and migrations**.
6. Conference organisers affirm the need for platforms of interdisciplinary dialogue to integrate natural and engineering sciences with arts and humanities, to generate value, and cluster new portfolios of innovations to foster a **New Renaissance for Europe**.

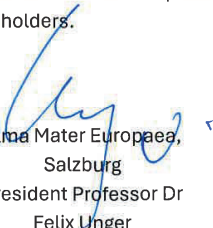
7. The assembled academic community proposes that the European institutions and governments of European Union member states provide the necessary organisational, infrastructural, financial, and material **support in the form of dedicated institutions**, procedures, and budgets, to address the pressing contemporary challenges appropriately.
8. An establishment of a specific body focused on **holistically solving Europe's demographic issues** is proposed.
9. The conference appeals to academic institutions, opinion-makers, and European religious and thought leaders to develop relevant mechanisms for the preservation of cultural heritage, such as equal rights, the rule of law, and the inviolability of human dignity, justice, and democracy, by implementing the **New Renaissance for the Future of Europe**.

Alma Mater Europaea ECM affirms its intention to pursue the above objectives with academic and other societal stakeholders.

Alma Mater Europaea,  
ECM  
President Professor Dr  
Ludvik Toplak



Alma Mater Europaea,  
Salzburg  
President Professor Dr  
Felix Unger



European Academy of  
Sciences and Arts  
President Professor Dr  
Klaus Mainzer





# WELCOME ADDRESSES

**Jurij Toplak**, University Professor  
Alma Mater Europaea ECM, Fordham University  
President of the Organisational Committee of the It's About People Conference

Welcome to It's About People 2024

Dear Esteemed Participants,

it is with immense pleasure and anticipation that I extend a warm welcome to each of you to the 12th Annual Conference of Europe's Sciences and Arts Leaders and Scholars, „It's About People 2024“. Hosted by Alma Mater Europaea and the European Academy of Sciences and Arts, this gathering serves as a beacon of intellectual discourse and collaboration in our shared pursuit of advancing knowledge and fostering positive change in Europe.



Jurij Toplak

Photo: Marko Pigac

Our theme this year, „In Service of Sustainability and Dignity“, resonates deeply with the pressing challenges facing our world today. Over the course of this conference, esteemed speakers including Ioannis Liritzis, Andy Sumner, Dany Bahar, Tatiana Christelbauer, Michael Marsh, Alice Siu, Mark Franklin and many others will lead discussions on critical topics such as Education and Mental Health, Neuroscience of Movement, Voter Turnout and the Future of European University Alliances. These sessions promise to offer profound insights and opportunities for engagement.

We are honored to have Vice President of the European Commission Dubravka Šuica, and Prof. Dr. Klaus Mainzer and Prof. Dr. Felix Unger, the President and Honorary President of the European Academy of Sciences and Arts among our distinguished speakers.

The partnership between Alma Mater Europaea and the European Academy of Sciences and Arts stands as a testament to the power of international collaboration in education and research.

As we convene in both virtual and physical spaces, I invite each of you to actively participate in the rich tapestry of discussions, workshops, and networking opportunities that this conference offers. Together, let us explore innovative solutions, forge lasting connections, and inspire one another to strive for excellence in all our endeavors.

For further details on conference logistics and submission guidelines, please visit our website where you can access live stream links and submit abstracts free of charge.

Once again, welcome to It's About People 2024. May our time together be marked by intellectual curiosity and meaningful contributions to the advancement of knowledge.

Warm regards,  
Professor Dr Jurij Toplak

**Felix Unger, University Professor**  
 Honorary President, European Academy of Sciences and Arts

Good morning. Ladies and gentlemen, Excellency, it gives me great pleasure to welcome you again, and I have to confess how the whole Alma Mater Europaea is growing. Especially we have a good branch here in Slovenia, and this was based on the efforts of Ludvik Toplak. Dear Ludvik, I have to thank you and congratulate you for what you have done over the years. What you have done is a remarkable example of a private initiative in energy, which can lead to a good result. We need such people, organizations, and events everywhere in our society. We also need it in the church to have such a stimulus going on.



Felix Unger

Photo: Marko Pigac

Ladies and gentlemen, I will be short. What he has done, is great. With great pleasure, I have been coming to Maribor all the years to see the whole idea of Alma Mater Europaea growing. It is fantastic to see the whole progress, and our humanity does not stay still; it has no stops. It is a further development. We should be a participant in the development of society as a whole. Moreover, every man can contribute to the evolution of this whole idea. Even with the European idea. When we have our election to the European Parliament in a few weeks, it is important to contribute and give the vote to the European Parliament. It is not too good that this is a new way of designing and constructing our society. There are so many things left. I am always disappointed when the idea is scrutinized with wars and said it is too big walls and the borders in Ukraine and Israel, and how difficult it is to prevent those wars.

Ladies and gentlemen, we all in the room can contribute to the whole European idea. It simply is that you have to tell your neighbour a spiritual message and stimulate him about how important European ideas are. This was also the idea why we founded the Academy and, later on, the Alma Mater Europaea to spread this idea. To help this idea come to a new fruitful result.

Ladies and gentlemen, I have to congratulate Professor Toplak and his team, Jurij Toplak and all these people who helped him. I think it will be a very exciting new way of collaboration and a new way stimulating the European idea. Thank you very much. It was a great pleasure coming to Maribor.

# HONORARY ADDRESS

**Dubravka Šuica**, European Commission Vice-President for Democracy and Demography

It is my pleasure to join you today for the 12th Annual Conference of Europe's Sciences and Arts Leaders and Scholars. This is a world-class Conference that Alma Mater Europaea is known for. Indeed, my portfolio links very well to your regular conference theme: "It's about people". Because in the roots of democracy and demography, you find the word demos – meaning people! In my work as European Commission Vice-President, we keep citizens at the very heart of everything that we do! And these days, we are doing it increasingly with them! We seek to underpin and support all Member States when it comes to their democracy, prosperity and security.

I am especially honoured to be with you and to avail of this opportunity to look together at a future where demographic knowledge and policymaking can help us all face the challenges and opportunities that lie ahead! The thinking around demographic challenges and trends has evolved significantly since the beginning of this Commission mandate. Demographic change matters, and it matters a lot! President von der Leyen has ensured it remains high on the political agenda. Our leaders in the European Council agree with her on this point. Our leaders are grasping the importance of addressing demographic change today! Before it is too late! I welcome this because it helps us avoid mistakes we have previously committed. When we failed to react in time to climate change, which is why it is now more complicated to manage the transition. Here, we can take the lead and move forward before it becomes too late!



Dubravka Šuica

Photo: Marko Pigac

The European Commission's work on demography links to the guiding themes of your conference. Your event looks at how we can understand, respond and prepare policymaking in the context of overcoming crises. First to understanding! Data-driven evidence on populations is vital to understanding



our democracy, the economy, and society as a whole. Given the current geopolitical context, data-driven evidence on demographic change is crucial to addressing the impact of crises. Whatever form a crisis may take! While some may find the data alarming, I consider it a call to action. Our two reports on the impact of demographic change have helped to make the case for this approach.

With my colleague Commissioners, we endeavour to streamline demographic change into our policymaking right across the board. In April 2021, the Commission launched the Atlas of Demography. It is an interactive knowledge management tool that enables policy-makers and citizens to observe, monitor and anticipate demographic challenges with an unprecedented body of data. We have made it available to all. What is very useful about this tool is that you can truly zoom into the data on the ground. Right into the municipal level. As a former mayor, I understand how all politics is local, so it is important to have access to this information.

Ladies and gentlemen,

The demographic mega-trend of ageing is sweeping across our continent and many other parts of the world. This is an opportunity to shift the narrative from an ageing society to a longevity society. Ageing suggests a burden, while longevity inspires hope and opportunity. My main message to you today is the urgent need to make our population and our democratic institutions longevity literate. This is not a message just for older people. Life plans! Education and life-long learning! The meaning of retirement and pensions! These are all affected by longer life expectancy. So this is a message for young people too! In fact, it is especially for them. Indeed, for all generations!

As we look to the future, more energy must be devoted to caring for all generations, especially the elderly. Is AI going to be helpful in this respect? To what extent? How will telemedicine deliver? Can we deliver the benefits of the silver economy? The good news is that we live longer and healthier lives than ever. Having so many generations alive at the same time is a unique achievement in human history. We must learn to harness that potential to build a better future for all generations. Moreover, it is crucial to highlight that if demographic challenges are left unaddressed, this can potentially make crises worse.

As part of our response, it is vital that we provide stability and reassurance and demonstrate the ability of democracy to deliver for citizens, especially given the upcoming European elections. And I believe these elections will be fought on the basis of trust—trust in democracy's ability to truly deliver what citizens need, where they need it! Citizens must be able to trust and have confidence in the democratic institutions designed to serve them. This is a very important reflection this year, given the many elections worldwide!

We came out recently with a Defence of Democracy Package. It guides our efforts to enhance the resilience of our democracies. The proposed Directive on transparency of interest representation aims to establish harmonised rules to ensure transparency and accountability, particularly in the face of foreign influence. Part of that package was a recommendation aimed at enhancing the participation of citizens and civil society in policymaking across all levels of governance and across all generations. This initiative reflects our dedication to strengthening the quality and resilience of our democracies, fostering accountability in public decision-making, and promoting a thriving civic space. These are all essential for meaningful participation.

We are also continuing to embed citizen engagement in our policymaking. We are currently running a European Citizen Panel on Energy Efficiency, which is attracting a lot of interest. And we already have another panel on hatred planned for April. These democratic innovations are essential for bridging the perceived gap between citizens and the democratic institutions designed to serve them! Of course, this increasing engagement with citizens helps to strengthen our representative democracy. It is not designed to replace it! For example, I was a co-chair at the Conference on the Future of Europe. This is the largest exercise in deliberative democracy the world has ever seen! If you read the 49 proposals that came out of the deliberations, you will see that demography was mentioned there! Citizens demanded action on it. This is part of the story behind why we came forward with a toolbox last October. We came forward with a toolbox that is place-based and can help Member States address demographic change at all levels of governance.

This was delivered upon the request of Member States at the European Council in June. This shows that both citizens and elected representatives are helping to push forward the policy agenda around

demography. Before it is too late! The toolbox is not a "one-size-fits-all"-solution. It recognises that regional and local circumstances differ. Its four pillars empower and support parents, younger generations and older generations, as well as the opportunities offered by legal migration. The toolbox offers measures and solutions rather than imposing them.

Ladies and gentlemen,

Ignoring the impact of demographic changes on our democracy, society, and economy may lead to an uncertain future. But this is completely avoidable! The consequences of an ageing population, low birth rates, and migration need to be anticipated and addressed through informed policymaking. Inaction in the face of these demographic shifts could strain social systems, challenge labour markets, and create economic vulnerabilities.

It is imperative that we recognise that demographic factors are affecting broader crises. If we do that, we can respond proactively and productively. By doing so, we can build democratic resilience from within, promote social cohesion, and ensure prosperity, security and a sustainable and inclusive future for all.

Thank you.

# KEYNOTE SPEAKER

## A NEW RENAISSANCE FOR EUROPE: CHALLENGES OF SCIENCE, ARTS, AND INNOVATION IN THE SPIRIT OF EUROPEAN HUMANISM

**Klaus Mainzer**, University Professor  
 President, European Academy of Sciences and Arts  
 President of the Scientific Committee of the It's About People Conference

In the age of globalization, economic growth and the welfare of nations decisively depend on basic innovations. Therefore, education and knowledge are important advantages of competition in highly developed countries with high standards of salaries but raw material shortages. In the 21st century, innovations will arise from problem-oriented research, crossing over traditional faculties and disciplines. Therefore, we need platforms of interdisciplinary dialogue to choose transdisciplinary problems (e.g., environment, energy, information, AI, health, welfare) and to cluster new portfolios of innovations. The integration of natural and engineering sciences with arts and humanities can only be realized if the research training programs (e.g., graduate schools) generate a considerable added value in terms of multidisciplinary experience, international networking, scientific and entrepreneurial know-how and humanities.



Klaus Mainzer

Photo: Marko Pigac

In the past, significant impulses for humanity in science, technology, economy, and culture came from the old continent of Europe. The resulting dominance of Europe was also perceived as oppression and colonization by peoples outside Europe. Today, Europe itself competes with other political and ethical systems worldwide. The tectonic shifts in power in Asia, Russia, Africa, and America are giving rise to new centres of power, leading to considerable tensions and armed conflicts.

This is where Europe must focus on its profile as a centre of innovation and culture. Europe's strength must be the creativity of its people in science, technology, business, and culture. In the age of artificial intelligence, work is increasingly being automated and replaced by machines. However, people and their creativity remain the decisive driving force and must ultimately bear the responsibility.

On the background of my scientific engagement in foundational research and institutional leadership, this talk considers innovation dynamics for Europe in the framework of the legal constitution of democracy, which has been deeply rooted in European humanism since Antiquity.



# PLENARY SESSION 01

## INNOVATION AND EDUCATION FOR EUROPE

### CRITICAL ISSUES IN EDUCATION AND INNOVATION

**Ioannis Liritzis**, Dean of Natural Sciences at the European Academy of Sciences and Arts  
Distinguished Professor at Henan University and Alma Mater Europaea ECM

Education and innovation play essential roles as drivers of economic growth, societal advancement, and international competitiveness. This study delves into the intersection of education and innovation within Europe, concentrating on the diverse initiatives, regulations, and approaches embraced by European nations to stimulate innovation through education. Through an extensive examination of scholarly literature, policy papers, and empirical research, this paper investigates the function of education in cultivating the competencies, expertise, and mentality vital for innovation and entrepreneurship. It scrutinizes the changing landscape of education in Europe, encompassing the transition towards digitalization, continuous learning, and multidisciplinary methodologies.

**Fig.1 Content of the presentation**

CONTENT

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“Do not use compulsion, but let early education be a sort of amusement; you will then be better able to find out the natural bent”. (Plato, *The Republic*, 7. BOOK VII).

- Critical connection between education and innovation
- Some key aspects of Education and Innovation in Europe
- The Education-Research-Innovation may develop a new didactic model
- Educational umbrella onto R&I
- Challenges from New Technologies Boosting Modern Education
- Toward a Global Certificate

It's About People 2024

Source: Raphael, Philosophy (School of Athens), Stanza Della Segnatura, Vatican Palace, Rome, Italy, 1509-1511. Public Domain, <https://commons.wikimedia.org/w/index.php?curid=4406048>.

Moreover, it provides suggestions for policymakers, educators, and stakeholders to fortify the connection between education and innovation, foster cooperation across various sectors, and guarantee that Europe retains its leading position in global innovation throughout the 21<sup>st</sup> century. Several articles and websites deal with the topic of contemporary education.

The content of the present short presentation comprises of six issues (Fig.1):

- Critical connection between education and innovation
- Some key aspects of Education and Innovation in Europe
- The Education-Research-Innovation may develop a new didactic model
- Educational umbrella onto R&I
- Challenges from New Technologies Boosting Modern Education
- Toward a Global Certificate

Lastly, the paper assesses the repercussions of educational regulations and transformations on nurturing an environment conducive to innovation, encouraging research and development, and enhancing the capability for technological progress. Additionally, it deliberates on the contribution of higher education establishments, research institutions, and collaborations between the public and private sectors in propelling innovation ecosystems and knowledge-centred economies. It also sheds light on the new direction that education and innovation in Europe should strive for, such as rectifying educational disparities, fostering comprehensive innovation ecosystems, balancing interdisciplinarity, and adjusting to swift technological advancements coupled with humanities.

I thank Prof. Ludvik Toplak, President of AMEU – ECM Slovenia, for inviting me to the conference and Prof. Klaus Mainzer for inviting me to the Panel on Education and Innovation.

# INNOVATION AND EDUCATION FOR EUROPE

Željko Knez, University Professor  
University of Maribor, Slovenia

Excellencies, ladies and gentlemen, first, I would like to say that it is a great honour and privilege for me to participate in this plenary session, with such a group of excellent colleagues, on 'Innovation and Education for Europe'.

Moto of my short talk will be based on what will be said below:

**"Europe needs to do more on research, innovation and education to preserve its identity".**

Within the EU commission, there could be find several documents on education, but very important is target setting where the Member States agreed already on 5 May 2003 on five benchmarks: early school leavers; number of graduates and decrease of gender imbalance in maths, science and technology; upper secondary education completion; low achievers in reading literacy; lifelong learning. Under the current policy framework in Education and Policy (ET2020), the seven benchmarks require that:

1. *Early School Leavers*: less than 10% of school pupils should leave school before the end of compulsory schooling,
2. *Tertiary education attainment*: at least 40% of the population aged 30–34 years should have completed tertiary education,
3. *Early childhood education and care*: 95% of children aged 4 to the age when primary education starts should participate in early education,
4. *Low achievement in Reading, Maths and Science*: no more than 15% of 15-year-olds should be low-achievers in reading, maths and science,
5. *The employment rate of recent graduates*: 82% of the population aged 20–34 who are no longer in education or training and have successfully completed upper secondary or tertiary education should be employed,
6. *Adult participation in life-long learning*: participation of the 25–64 age group in lifelong learning (i.e. formal or non-formal continuing education or training including in-company skills development) should be not less than 15% per annum,
7. *Mobility between countries*: at least 20% of higher education graduates and 6% of 18- to 34-year-olds with an initial vocational qualification should have spent some time studying or training abroad.

In the area of science and innovation, there are two key documents: **Strategic Plan 2020-2024 and European Research Area Policy Agenda - Overview of actions for the period 2022-2024**, which defines the goals and strategies.

But the recent document signed at the European Industry summit on February 20th 2024 – **The Antwerp declaration for a European Industrial Deal** has the moto:

**"There is an urgent need for clarity, predictability, and confidence in Europe and its industrial policy."**

In this document, it clearly states (and I cite): "To meet climate neutrality by 2050 and the recently communicated 2040 target, Europe's electricity production will need to multiply, and industry investments will need to be a factor six higher than the previous decade. This enormous challenge come just as both large companies and SMEs face the most severe economic downturn in a decade, demand is falling, production costs increase, and investments move to other regions. A US economy that benefits from the financial support from the Inflation Reduction Act (IRA) and its ease of accessibility, a Chinese overcapacity and increasing exports to Europe all increase the pressure on the European industry even more. Our companies face this challenge every day. Sites are being closed, production is halted, and people are let go. Europe needs a business case urgently".

This document clearly states that open strategic autonomy for a competitive and resilient EU is crucial for Europe's transition in a constantly changing geopolitical environment. However, it can only be achieved if the basic and energy-intensive industries also stay and invest in Europe. Without a targeted industrial policy, Europe risks becoming dependent even on commodities and chemicals. Europe cannot afford this.

Therefore, the Declaration calls to Member State Governments, the next European Commission and Parliament to:

1. Put the Industrial Deal at the core of the new European Strategic Agenda for 2024-2029,
2. Include a strong public funding chapter with a Clean Tech Deployment Fund,
3. Make Europe a globally competitive provider of energy,
4. Focus on the infrastructure Europe needs,
5. Increase the EU's raw materials security,
6. Boost demand for net zero, low carbon and circular products,
7. Leverage, enforce, revive, and improve the Single Market,
8. Make the innovation framework smarter,
9. A new spirit of law-making,
10. Ensure the structure allows to achieve results.

To achieve the above objectives, it is important to take a European approach instead of twenty-seven different national incentives by preserving and strengthening the integrity of the internal market while taking better account of global competition.

We need to keep industry in Europe because it will provide the climate solutions that Europe needs. Solutions that citizens and governments can use, but that industry can only invent and implement at speed and scale and with the support of governments.

Based on all the above mentioned, I would conclude that "Europe needs to do more on research, innovation and education to preserve its identity".

**Verica Trstenjak, Professor of European Law**  
Former Advocate General of the Court of Justice of the EU

Distinguished guests, I am honoured to be with you today. I am the last speaker in this panel, so I will try to be dynamic. And I am not only the only woman but also the only lawyer on this panel. This means that I am going to concentrate on legal issues. Therefore, my comments will include laws, values, education, and innovation in connection with artificial intelligence and media. I would like to ask you a question - do we need the law to regulate all these questions? What do we need? Do we need many legal acts, or is it better to have not so many laws and legal acts but to have good quality? Where are our values?

I will show you two pictures. Who knows who is on the first picture? And do you know who is in the second picture? Why is Kim Kardashian in the first picture better known than the Nobel Prize winner for physique, Ferenc Krausz, in the second picture, who is also a member of the European Academy of Sciences and Arts? Who shapes our values? Media, parents, neighbours, relatives, schools, managers, conferences like this one, or networking groups. What is important in this context? Again, our values and relation to money. Do we have as individual an influence? How much are people paid? If you are, for example, a good football player. Or how much are you paid, as another example, if you are a doctor and save the lives of other people? How much are you paid if you decide about justice as a national, European or international judge? How much are you paid as a politician? Why can football players like Ronaldo, Messi and so on earn more than €100,000,000, and why don't we try to have more influence on developing these values?

What is important? Education is important. Innovations are important, including artificial intelligence. This enables us to get information, spread information, and influence people. A very important role in media, parents, society and others. Let us come back to law. What is the influence of the law? How many legal acts do we need, and how high has to be the quality of the laws we need? When we speak about the quality of the laws, we speak very often in connection with moral and human rights and ethics. We represent this in the form of two circles which should overlap in an optimal society - an optimal society with optimal law. And the next question - do we need law in connection with artificial intelligence, development, and sustainability? Do we have to adopt these laws before we go into practice, or should we first go into practice, like in the case of self-driving cars or GPT, and then we will make a law to regulate this? And how can we define borders that come not too early or are too high to hinder development? It is a very important role of the courts in all areas: national, European, and international courts. In this connection, I would like to mention that I will speak about our values in the future and our future in connection with sustainability, artificial intelligence and human rights in the afternoon.

Last week, I was in Paris, and at the Sorbonne, we can still find the quote »Liberté, égalité, fraternité«. I think, that this is something what influences the students - when you enter the building, you think about this quote. In Vienna, we still have in Vienna at the Hofburg, the motto of Emperor Franz I of Austria, »Iustitia Regnorum Fundamentum«. Justice also means human rights. Ethics is the foundation of the state. Do we have such motto today? This year, we will have European elections and we will have the possibility to decide about our future. We have to check what the mottos of the politicians are and what our values are, which will help us have a better future. And when we speak about education, there was some motto already in the history, cogito ergo sum. I have the privilege to be a professor, after being a judge at the European Court and Advocate General European Court of Justice in Luxembourg, and to work with young people. You are our future. We have to teach people, especially the young generation, to think and not to follow. This is especially a problem with the law study in Slovenia. They teach law students and future judges how to follow the words in the law but not the quality of these words. What is the ethic of one word? Justice, for example. So, this is an important task for all of us here.

Now regarding innovation and artificial intelligence, artificial intelligence is our future. The development of artificial intelligence needs to head in the same direction as human rights and ethics, not in different directions. I would like to see artificial intelligence as a benefit to human beings. In the future, it is not enough to have only technical sciences, but we need humanism, we need human rights, the rule of law. This is essential for our future. To conclude, who will control whom in the

future? Will this be artificial intelligence? Who will control the law? This means that when we speak about law, I think also about human rights, ethics, and those who will control artificial intelligence. It is not only the task of lawyers but also engineers, especially the young generation, to think about this. Who can change the world? We can change the world, all of us. Today is the International Women's Day. We have an important role, we are a very important part of the society. But the young generation especially has an important role in society - you will change the world. And I am happy to be with you. I hope that we will all together, with our older generation, with our experiences, and with the young generation with your motivation and with your esprit, change the world, keep it sustainable and have justice in the future. Thank you so much.

## INVITED SPEAKERS

## DELIBERATIVE DEMOCRACY

### AI-DELIBERATIVE POOLING ACTS: TRUTH, TRUST & HOPE IN ASSISTIVE SERVICE FOR SUSTAINABILITY AND DIGNITY

**Tatjana Christelbauer**, Founder and Director  
Agency for Cultural Diplomacy Vienna

**Alice Siu**, Senior Research Scholar at Stanford University  
Associate Director, Stanford's Deliberative Democracy Lab

This presentation advocates for the integration of diverse voices, emphasizing the inclusion of visually impaired high school students through a deliberative polling method. By facilitating the incorporation of varied perspectives, we underscore the significance of diverse stakeholder engagement in implementing AI ethical guidelines effectively. Through the application of the deliberative polling method, we present a compelling example of how AI tool optimization can be achieved via an inclusive and participatory design process.

Moreover, the discussion highlights AI's expanding role in daily life and relational cultures, showcasing its potential as a crucial aid in promoting societal well-being and fostering meaningful connections. By prioritizing the perspectives of diverse stakeholders, particularly the blind community, we envision a more empathetic and inclusive technological landscape that upholds the principles of dignity and sustainability.

This exploration aims to inspire a comprehensive understanding of AI design's ethical and practical implications, stressing the significance of holistic and inclusive approaches that cater to the diverse needs of user groups, ultimately fostering a more inclusive and equitable technological future.

# PLENARY SESSION 02

## HONORARY ADDRESS

**Borut Pahor, President of the Republic of Slovenia 2012-22**

The time has come for Europe to think about and decide on its institutional consolidation to become an autonomous and influential international actor. The European elections we expect soon are certainly one of the most important in the last 20 years. Mainly due to geopolitical tensions, such as the conflict in Ukraine and instability in the Middle East. That is why the participation of citizens in voting, who will decide the future of Europe amid these global challenges, is all the more important.

Focusing on the approaching anniversary of Slovenia's full membership in the European Union, the European idea in Slovenia's independence movement, democracy, and European integration for the country's identity are all important. Advocating greater integration within the EU, the continent can effectively address complex geopolitical issues only with a more cohesive European Union. Regarding defence and security, I support the idea of a more connected European defence policy within the framework of NATO, mentioning Sweden's decision to join NATO after 200 years.

The future of Europe requires the political will to continue institutional reforms and the possible convening of a new convention to discuss the future of the EU. I look optimistically at the upcoming challenges and call on everyone to be united and care for preserving peace, security, and democratic values in Europe.



# INVITED SPEAKERS

## WHY WAR?

**Richard James Overy**, Professor

University of Exeter, The Times Editor of Complete History of the World

Fellow of the Royal Historical Academy and British Academy

Recipient of the Wolfson History Prize and the Hessel-Tiltman Prize

The question 'Why war?' is of fundamental importance in understanding the human past and the human future. Almost a century ago, Albert Einstein invited Sigmund Freud to answer the question in terms of psychological science, since he assumed there must be a scientific explanation. Freud replied that humans were driven by both the capacity for love and the capacity for destruction, and the latter expressed in the 'death drive' was the root of war.

In the century that followed, the major human sciences have all attempted to engage with this key question to see whether the human sciences can provide an explanation for the nature and prevalence of warfare in the human story. Historians have been reluctant to suggest any general theory of the cause of war, which they see as determined by specific and contingent historical circumstances. But human biology, psychology, anthropology, ecology, political and social science, are all disciplines that have explored the broad issue of why warfare has been a characteristic feature of the human experience. The answers have been diverse as might be expected from the nature of the different disciplines.

For human biologists it is now axiomatic that humans are not genetically programmed for warfare, but in evolutionary terms the principle of 'inclusive fitness' i.e. protection and enlargement of the gene pool, if necessary, through violence, has come to be seen as the most likely origin of collective, warlike violence. Evolutionary psychology, rather than psychoanalysis, has also provided a causal base by looking at the ways the mind has evolved to cope with the threats facing early human communities, one of which is a psychological predisposition for collective violence in defence of community or in aggression against outsiders. Social psychology has reinforced this claim by examining the way in which human communities create a dichotomy between 'us' and 'them', seeing the other in terms of a potential threat, and giving psychological endorsement to the concept of the other. 'Otherization' has been seen as a key factor in explaining and legitimizing warlike violence.

Cultural anthropologists, and most sociologists, on the other hand deny that biological or psychological explanations for violence are convincing. They prefer to see warfare as a phenomenon that emerges only with the creation of political communities – tribe, proto-state, or state – and the evolution of cultures that endorse and shape the decisions for warlike violence. Cultural anthropology has found that practices that make for war are common from extant hunter-gatherer tribal communities to the historic state, with its emphasis on militarized culture and social segmentation that privileges the warrior elite. These cultures can be of long standing and shape social and political expectations, but they derive from culturally constructed experience, not from biological or psychological imperatives.

Much recent study on war has emphasized the role of ecological pressures (loss of resources, climate shocks, population pressure etc) in explaining the decision for warlike violence when no other solution seems available. These pressures operate in the natural world as well as for human communities. The search for resources, pressure on the land, problems of access to water, reaction to climatic change, have all been suggested as possible triggers for warfare. Today the idea of 'climate wars' has attracted considerable scholarly attention and evidence can be found in conflicts over water resources or grazing land in the modern age. The contest for resources, particularly for additional land or access to valuable materials, has grown out of the ecological pressures on communities, but it has also become a key concern today as resources dry up or are controlled by particular states.

The wars in Iraq are an example of conflict driven by resource insecurity (in this case Western access to Middle Eastern oil), but the desire for resources has driven warfare as far back in history as it is possible to go.

Political and social sciences have explored the cause of war in rather different ways, seeing war as essentially a product of the state and the insecurity states face, and have faced in the past, in an essentially anarchic world. Defence of frontiers, and arguments over borders, have been a persistent cause of wars in the recent past and remain a potential site of conflict in the modern age, as wars in Ukraine and Gaza exemplify. Political scientists have also looked at the issue of power balance, which can produce a peaceable world order when it works but can also provoke warfare where a rising state perceives that the existing balance can be overturned in its favour. There can also be wars rooted in belief or ideology, if there are perceived challenges to the values or faiths of a particular polity. Political and social motives for war reflect these values and sustain the conduct of hostilities.

All these various approaches to the question 'Why War?' invite the idea that if war can be understood, it can also be eradicated in a warless world, an outcome that would contribute fundamentally to the principles of sustainability and dignity with which this conference is concerned. The problem is that the more explanation available for why warfare occurs – whether biological, psychological, cultural, or political – the more obvious it becomes that human communities under certain circumstances have always reached for collective violence when needed and continue to do so in the modern age. Warfare is evidently retained as a possibility, or otherwise there would be a state of world disarmament and permanent peace. The effects of warfare can be mitigated, temporary institutional and international structures might reduce levels of violence significantly, but the present state of scientific study of warfare and its causes suggests that the propensity for warfare is too embedded for any general solution for its eradication.

# REMARKS ON THE REPEATED PAST MAJOR CLIMATIC EVENTS (MYTHOLOGICAL DELUGES, HYDRAULIC WORKS) AND THOUGHTS OF RESILIENCE AND MITIGATION

**Ioannis Liritzis**, Dean of Natural Sciences at the European Academy of Sciences and Arts  
Distinguished Professor at Henan University and Alma Mater Europaea ECM

The difficulties associated with studying climate change and social sustainability in archaeology from a transdisciplinary and long-term perspective have been extensively documented through a historical review of natural disasters in the ancient world found in ancient literature and old sacred texts. Disasters that have impacted the course of civilization are mentioned in various verses. I will briefly examine the water element, specifically floods, as a destructive force through the lens of mythological deluges worldwide.

The present era experiences such extreme climatic events. Flooding is a major issue, and the recent mega-flooding events echo ancient mythological reports and ancient engineered hydraulic activities. Early hydraulic works to remove flood and marshy environments and apply cultivation from prehistoric times shall be reported. The lake implies a freshwater diet; however, lakes and pond habitats are breeding grounds for mosquitoes, which can be an issue and spread dangerous diseases.

Learning from history should be a guiding principle but must be implemented practically. Projects that receive funding to study the catastrophic consequences of climate crises should shift away from theoretical evaluations and inspire tangible efforts to safeguard cultural heritage, modern life, and infrastructure.

To prevent disasters, it is crucial to adopt modern technological tools and practices.

# ENDING GLOBAL POVERTY

**Andy Sumner**, Fellow of the Academy of Social Sciences, Fellow of the Royal Society of Arts Professor at King's College London, Senior Fellow, United Nations University, President of the European Association of Development Research and Training Institutes, Foreign Policy's 'Top 100 Global Thinkers'

There is a long-running debate on the relationship between economic growth and poverty, and it has a long history. Initially, interest emerged in the 1970s from scholars who were critical of the distribution of the benefits of growth. The debate held a lot of attention in the late 1990s through to the mid-2000s, drawing from East Asian experience and the concept of 'pro-poor growth' and 'inclusive growth', the latter of which expanded the lens beyond monetary poverty towards non-monetary poverty and also capabilities expansion and employment and thus inequality of opportunity.

We discuss the literature and consider the historical relationship between growth and a set of poverty-related Sustainable Development Goals (SDGs), specifically, extreme monetary poverty, undernutrition, stunting, child mortality, maternal mortality, and access to clean water and basic sanitation. We then make projections for 2030 based on economic growth forecasts and demonstrate that economic growth alone is unlikely to be sufficient in the time frame to achieve these SDGs and that it is very likely that global poverty-related SDGs will not be met by a considerable distance. The implication of this is more emphasis is needed both on policies to build productive capacities along side the introduction or expansion of income transfers, and ensuring public investments are sufficient to meet the SDGs. These measures are crucial in the poorest countries - low-income countries and sub-Saharan Africa - in particular, given the projected changes in the composition of and trends in monetary and non-monetary poverty projected for 2030.

# PLENARY SESSION 03

## INVITED SPEAKER

### SUSTAINABILITY AND ITS IMPACT ON HUMAN RIGHTS

**Verica Trstenjak**, Professor of European Law  
Former Advocate General of the Court of Justice of the EU

Distinguished guests, dear students. My topic is sustainability and human rights, I will speak about the impact of the case law of the different courts. I see that the majority of you are students. Are you interested in sustainability? Are you interested in human rights? Let me ask more practical. Do you have any critical points concerning this conference in relation to sustainability? Would you change something? I have one example, not only from this conference but also from former ones at other universities: plastic bottles. This is my task, we should change it. Let us speak about human rights. In the following, I will show you some cases and also the possibilities of what you can do in the future. Here is one quote from Ban Ki-moon: »We are using resources as we had two planets, not one. There can be no Plan B because there is no planet B«. This is important for all of us when we speak about sustainability.

I think that you are familiar with the criteria of ESG - environmental, social, and governance - and all three of these criteria must be realized together. It's not enough if we realize only one, we have to realize all three. We have already heard today about the sustainability development goals, and you can check what you can change for our better future, for example, regarding water, plastic and so on. Now we move to the legal sources, legal acts and the question of how courts can influence this area. In the area of sustainability, we find the so-called corporate sustainability directive. According to this directive, enterprises, companies, and other legal personalities must report about their sustainability goals. They also have to report on human rights. This is important, and I would like to stress it because it means that enterprises have to report not only about the environment, social areas and so on but also about the respect for human rights. When we speak about human rights in the EU - do we have a special legal act? How are our human rights regulated in the EU? We all know that we have national constitutions, but we also have the EU Charter of Fundamental Rights. The Charter of Fundamental Rights counts for all 27 EU Member States, it is our Constitution, and you can see this little booklet right here in my hands, I always have it with me. But what would you say about which fundamental rights are important? Which fundamental rights are important in the area of sustainability? There are different ones, for example, regarding Environment Protection. Then we have Charter Article 37, which states that healthcare, education, equality before the law, and non-discrimination are just a few of them. But who actually takes care of those human rights in sustainability? Who guarantees human rights? NGO's, the Parliament, the EU Commission, or are these courts? As a former judge, I would like to mention a few cases in different areas, European and national courts, just to show you how important this is.

Do you think it is possible to start a procedure in the area of climate problems against your country, against Slovenia, Croatia, Greece, Spain and so on? The first case that I would like to mention when I was a judge is the case of the European Court of Justice in Luxembourg, the Court of the European Union. In this case, the European Commission started a procedure against Spain because of poor implementation of the Nitrates directive in Spain because all Member States should monitor their waters, but Spain didn't implement the directive. We also have the European Court of Human Rights, based in Strasbourg. This is not an institution of the European Union but an institution of the Council of Europe with 46 Member States. And at this court, we now have a very interesting case concerning

climate. The important legal act is the European Convention of Human Rights, and climate action is something that is new in this court. I will mention two very important procedures. One is from Switzerland and the second one is from Portugal. The first one, from Switzerland, was started by a group of older people, the Verein KlimaSeniorinnen. They started a procedure against Swiss (Confederation), against their own country, at the European Court of Human Rights. Why? Because they are concerned with the consequences of global warming and its influence or impact on their living conditions and health. The court hasn't decided yet, we don't know what the court is going to decide. But this is one of the first important climate actions at the European Court of Human Rights. In this example, it is the older generation who complains that the Swiss have failed to fulfil their positive obligations concerning their human rights, to protect life, to ensure respect for their private life and family life, and then procedural rights, rights to a fair trial and effective remedy. Now we will move to the case of the young generation, students. It is a case concerning global warming and greenhouse emissions from Portugal, and there are applicants from Portugal and 32 other Member States. They claim that global warming affects their living conditions and health, thus similar to the Swiss case. Also, in this case, we don't have the decision yet, we will probably have it in the next month, but you see that you can start such a procedure. Then, we have some actions against Austria, where some climate activists started a procedure, and the Constitutional Court decided that this action is not allowed in Austria. Then they went to Strasbourg, to the European Court of Human Rights, and we are now waiting for this decision. There are also many other cases, but because of the short time, I will not speak about them; I will only mention one more case because this one has already been decided. The German Constitutional Court has already decided this is a German case. The young generation started the procedure of constitutional complaints against the federal Climate Change Act. What was the problem here? Germany adopted the Federal Climate Change Act in 2019. Then, the young generation, different associations, and Fridays for Future started the procedure, and then the German Constitutional Court decided that there was actually a violation of human rights, human dignity, and the environment. This was a successful case at the national level in Germany, and it is very important, according to the rule of law, that Germany reacted and changed the law. In this case, the German Parliament changed the Federal Climate Protection Act law, which happened in June two years ago. So these are a few examples concerning the possibility that you will have to start a procedure at the court and take care of our future.

To conclude - sustainability is our future. This will have a big impact on our human rights, and it is not enough only to take care of the practice. I think that we also need legal acts, and, as we have seen, the courts can help. It is important to stress again that we are responsible. It will be your homework to think about what you can change and how you can contribute to better results concerning sustainability. And with the following quote (of Robert Swan), I will finish and would like you to think about these words: »The greatest threat to our planet is the belief that someone else will save it.« There is no one else, but we have to do this. Thank you so much for listening to me.







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# HONORARY DOCTORATE CEREMONY

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# WELCOME ADDRESSES

## Professor Dr Ludvik Toplak, President of Alma Mater Europaea – ECM

Over the past fifteen years, Alma Mater Europaea – ECM has developed academic programs at all levels and academic disciplines, in line with the mission of the European Academy of Sciences and Arts (EASA). We thank you for your trust, and for the moral and academic support shown throughout this period by the honorary president of EASA, Professor Dr Felix Unger, and the current president, Professor Dr Klaus Mainzer.

The 12th Annual Conference of Europe's Sciences and Arts Leaders and Scholars, 'It's About People 2024: In Service of Sustainability and Dignity,' co-organized with the European Academy of Sciences and Arts, takes place in one of the most turbulent periods of the last hundred years.

The fundamental values of the thousand-year-old European identity and the assumptions of the equality of all people, regardless of gender, religion, race, or other personal circumstances, are under threat. These values are based on the Judeo-Christian tradition, Greek philosophy, Roman law, European humanism, and the development of socio-economic rights in recent centuries. This includes the equality of languages and the political equality of people, established by the declaration of the United Nations on human rights, and by further acts of the institutions of the United Nations and the European Union.

The task of science is to provide answers to new challenges, and thus prevent threatening contradictions and develop values and technologies in the education system to ensure peace and well-being in society.

These are questions to which Professor Dr Mainzer has devoted himself in his work for several decades. Alma Mater Europaea – ECM expresses its gratitude to him for his outstanding contributions to science and philosophy in the vision of a new renaissance and awards him the title of honorary doctorate.

Professor Dr Ludvik Toplak

## Professor Dr Željko Knez, Academic; Member SASA and EASA

Distinguished Excellencies, Ladies and Gentlemen,

First, I welcome you on behalf of the Slovenian Academy of Sciences and Arts and its President, Academician Professor Dr Peter Štih.

I would now like to say that it is a great honor and privilege for me to be the promoter of an outstanding scientist, the President of the European Academy of Sciences and Arts, and, if I may say so, a man who was among the first to realize that Europe needed a Renaissance, Prof. Dr Klaus Mainzer.

Professor Dr Klaus Mainzer was born in 1947. He is a German philosopher and scientist.

Mainzer graduated from the Landrat-Lucas-Gymnasium in Opladen and studied mathematics, physics, and philosophy. In 1973, he obtained a doctorate in philosophy and mathematics fundamentals („Mathematical Constructivism“). In 1979, Mainzer got his habilitation in philosophy with a thesis on „Space, Geometry and Continuum“ at the University of Münster. In 1980, he received a Heisenberg grant. He was a professor of the foundations and history of exact sciences at the University of Konstanz from 1981 to 1988. He was the Vice-Rector of the University of Konstanz between 1985 and 1988.

From 1988 to 2008, Klaus Mainzer was a professor of the philosophy of science and director of the Institute for Philosophy. Since 1998, he has been the founding director of the Interdisciplinary Institute for Computer Science at the University of Augsburg. Between 2008 and 2016, he held the chair for philosophy and philosophy of science at the Technical University of Munich. Mainzer was appointed director of the Carl von Linde Academy. He was the Munich Center for Technology in Society founding director at the Technical University of Munich. Since 2016, Mainzer has been „TUM Emeritus of Excellence.“ Since 2019, Mainzer has been a Senior Professor at the Carl Friedrich von Weizsäcker Center at the Eberhard Karls University of Tübingen. He is also a co-founder of this institute.

He was a member of the Advisory Board of the TUM Institute for Advanced Study, Principal Investigator of the TUM Cluster of Excellence Cognition in Technical Systems, and a member of the Editorial Board of the International Journal of Bifurcation and Chaos in Applied Sciences and Engineering. He is a member of the Research Center for Education and Information (Beijing University), the Academia Europaea (London), the European Academy of Sciences and Arts (Salzburg), and their Dean of the Class for Natural Sciences 2018–2019, member of the German Academy of Science and Engineering. Mainzer was a member of the Board of Trustees of the Daimler and Benz Foundation and the Institute for Advanced Studies at TUM. Since 2020, he has been Deputy Chairman of the Board of Trustees of the Udo Keller Foundation Forum Humanum (Hamburg). He gave guest lectures or carried out visiting professorships in Brazil, China, India, Japan, Poland, South Korea, the US, and Russia. He was a visiting scientist at the Euler International Mathematical Institute (St. Petersburg), the Hausdorff Research Institute for Mathematics (Bonn), and the Leibniz Center for Informatics at Schloss Dagstuhl.

Klaus Mainzer initially published on the concept of a number, the foundations of geometry, space, time, symmetry, and quantum mechanics. He became known as a fundamental theorist of complex systems and artificial intelligence, who considers their social consequences in the age of digitization. He elaborated mathematical models of complex systems that organize themselves in nature - from molecular and cellular systems to organisms and brains.

Professor Dr Klaus Mainzer is the editor and author of several books translated into several languages. Besides the huge number of books, he is the author of the widely translated, cited, and reviewed book *Thinking in Complexity*.

Prof. Dr. Klaus Mainzer is the recipient of numerous awards and prizes. I will mention only the most prestigious ones:

- Heisenberg-Grant
- TUM Emeritus of Excellence
- Senior Professor University of Tübingen

- Merkatzer Philosophy Prize for outstanding overall and lifetime achievement in the field of philosophy
- Golden Medal of the International Center of Education for lifetime achievements in the fields of mathematics and complex systems science with outstanding performance as president of the European Academy of Sciences and Arts
- Patron of the EU Science Festival on the occasion of the appointment of Katowice (Poland) as Science City 2024

Besides this, he is a member of Academic Societies:

- European Academy of Sciences and Arts / Salzburg. In November 2020, the European Academy of Sciences and Arts elected Mainzer as its new president. He succeeded Felix Unger, who had served as president for three decades.
- Academia Europaea /London,
- National Academy of Science and Engineering Berlin/Munich.

Dear Rector of the Alma Mater Europea, Prof. Dr. Ludvik Toplak, I propose that, based on all that has been presented, you promote Prof. Dr. Klaus Mainzer to the honorary title of Doctor Honoris Causa.

Professor Dr Željko Knez

## Professor Dr Marko Robnik, Member EASA Founder and Director CAMTP

Honorable Guests, Respected Colleagues, Ladies and Gentlemen,

following the kind invitation of Professor Ludvik Toplak, it is my great honor and pleasure to briefly describe the scientific work of Professor Klaus Mainzer, President of the European Academy of Sciences and Arts, in continuation of Professor Knez's promotional speech.

Professor Mainzer is not only an outstanding philosopher, especially a philosopher of science, but also a mathematician, physicist, and theoretical computer scientist. His scientific work spans the impressively broad domain of various scientific disciplines. This includes foundations of mathematics, where he studied constructive mathematics, pursued the questions of predictability, and researched how mathematical proofs can be reduced to algorithms and computers.

He has been addressing the fundamental concepts in physics, like space, time, symmetry, and quantum mechanics. Perhaps his most crucial work contributed to the entirely general theory of complexity in a variety of systems, applicable in physics, encompassing microscopic and macroscopic systems, chemistry, and biology, from the single cells to organs, organisms, and ecological systems, but also in technology, social and economic sciences, as well as in neurosciences and computer sciences. He has been contributing to the foundations and applications of artificial intelligence and is advocating necessary increased research on aspects of machine learning away from the blind statistical learning algorithms in artificial intelligence. He is deeply concerned with the utilities, applications, and possible abuses of artificial intelligence. In addition, he is one of the main promoters of quantum computers.

In the technical sciences, Mainzer is concerned with the complex systems in the Internet of Things, which lead to a data explosion (big data) and raise security and responsibility issues. He also demands technology design to take into account the social, ecological, ethical, and legal aspects. He calls for the European innovation policy to make sure that these developments respect general individual human rights and that artificial intelligence serves society at all levels.

Let me say a few more words about his fundamental contributions to the development of the complexity theory. With Leon Chua of the University of California at Berkeley, he developed a mathematically formulated theory of how ordered complex structures can emerge from a disordered structure. The classical physics of the 19th and 20th centuries provided the foundations of the statistical theory of many-body systems, which, when isolated, tend toward complete disorder, based on the second law of thermodynamics. A fundamental discovery of the late 20th century, widely further developed in the 21st century, is that ordered structures can emerge from homogeneous, disordered structures. In a sense, order is created from chaos. It is the universal condition that such systems must be open systems, which gain energy from the environment, and to be stable must be dissipative in such a way that the energy losses, on average, are compensated by the energy gain. Quite generally: order costs energy! To create order from chaos, one certainly needs the nonlinearity of the underlying system. The emergence and existence of spontaneously ordered structures in such open systems, e.g., reaction-diffusion systems and biological systems, does not contradict the second law of thermodynamics.

Mainzer and Chua build on the ideas of Schrödinger, Turing, Haken, and Prigogine and show that nonlinearity and instability are not enough to create order. They maintain and show that *the principle of local activity is the missing concept to explain the emergence of complex patterns in a homogeneous medium*. This is also the title of their original book published in 2013 by the Imperial College Press.

Understanding the emergence of complex systems is the beginning. The effort to describe and understand the properties and functioning of a complex system requires new methods, from mathematical approaches to the computer-based analysis of big data, also using artificial intelligence and machine learning. Professor Mainzer has contributed significantly to these research issues and their societal impacts over the past decades. When it comes to organizing our modern society, also at the most global level, the key word is cooperation. In constructive cooperation, with maximal intelligence, nobody is harmed, and all parties involved are winners, and that was, on the time average, the main driving force of progress and prosperity in humanity.

The modest attitude of Professor Mainzer teaches us that this is the most appropriate approach based on tolerance and intelligence. Therefore, I support his and Chua's words: *Act locally and think globally with responsibility to the whole Earth system.*

Apart from his plentiful academic and scientific activities worldwide, I should mention that Professor Mainzer is, since 2019, every year one of the most prominent invited speakers at the annual Christmas symposia of physicists at CAMTP of the University of Maribor, which I am organizing since 2002. Also, we have been co-organizing several EASA workshops taking place in Salzburg. Thus, his scientific ties with Slovenia are also significant.

In the end, please allow me to congratulate Professor Mainzer for the promotion to Dr. h. c., thanking him in the most general sense for his outstanding contributions to science, the academic world, and human society.

Dear Klaus, sincere congratulations!

Professor Dr Marko Robnik

## Professor Dr Felix Unger, Honorary President of the European Academy of Sciences and Arts

On behalf of the European Academy of Sciences and Arts, I have the great honour to congratulate Professor Dr Klaus Mainzer to the Honorary Doctorate for his outstanding scientific achievements.

Professor Mainzer is one of the well-known German philosophers. Beyond artificial intelligence, his main areas of expertise are complex systems, philosophy of science, foundations of mathematics, history of science, and philosophy of nature. In addition to his numerous activities, especially as Emeritus of Excellence at the Technical University of Munich and Senior Professor at the Carl Friedrich von Weizsäcker Centre at the Eberhard Karls University of Tübingen and German National Academy of Science and Engineering (acatech), Prof. Mainzer is currently President of the European Academy of Sciences and Arts.

In the European Academy of Sciences and Arts, to which I belong as Honorary President and founding member, Professor Dr Mainzer continues the interdisciplinary work in the spirit of the Academy's principles with the aim of building bridges in science and society in a changed, tense and conflict-ridden world. In doing so, Professor Dr Mainzer is pursuing the idea of rediscovering Europe as an innovative and cultural area in the sense of a new renaissance.

His interdisciplinary commitment has had a wide impact on the leadership of numerous universities, scientific societies and organisations. Professor Dr Mainzer was Dean and Vice-Rector at the University of Konstanz, Director of the Institute of Philosophy, Founding Director of the Institute for Interdisciplinary Computer Science and Dean at the University of Augsburg; Director of the Carl von Linde Academy, and Founding Director of the Munich Center for Technology in Society (MCTS), as well as Emeritus of Excellence at the Technical University of Munich (TUM) and co-founder of the Carl Friedrich von Weizsäcker Center and Senior Professor at the University of Tübingen, to name but a few. Professor Dr Mainzer is also spokesman for the working group "Fundamental Issues in Engineering Sciences" of the German National Academy of Science and Engineering (acatech), as well as a member of the Academia Europaea (London), a member of the Daimler-Benz Foundation (Ladenburg), a member of the scientific advisory board of the Institute for Advanced Studies (IAS) at the Technical University of Munich and chairman of the scientific advisory board of the Forum Humanum Foundation in Hamburg.

Professor Mainzer's philosophical work shows an impressive breadth, he deals with the challenges of quantum physics as well as with the possibility of mathematical knowledge, which he has expressed in his numerous publications, seminars and lectures, he has written books on symmetries in nature as well as on time, and he has investigated in an interdisciplinary way how new things arise in the world.

In the European Academy of Sciences and Arts, Professor Dr Mainzer was particularly committed to the introduction of new working groups on the topics of "Digitalisation, AI and Society", "Energy, Climate, Environment", "Innovation, Training and Education". The certification of corresponding position papers ("white papers"), the introduction of the Academy's scientific journal PEASA and the coordination and moderation of numerous Academy events since 2020 are his ongoing and future projects.

The European Academy of Sciences and Arts is honoured having Professor Dr Mainzer as Honorary Doctor Maribor and I am sure, that he as important member of the Academy will enrich our goals.

Professor Dr Felix Unger



## Professor Dr Lenart Škof, Dean Alma Mater Europaea Institutum Studiorum Humanitatis

Dear distinguished guests,

it is my honor as a philosopher and Dean of Institutum Studiorum Humanitatis to be in the role of one of the laudators on the occasion of awarding the President of the European Academy of Sciences and Arts, Professor Klaus Mainzer the doctor honoris causa at Alma Mater Europaea.

Klaus Mainzer is a renowned German philosopher and scientist and the author of numerous books and publications on the philosophy of science, among them the widely translated, cited, and reviewed book *Thinking in Complexity*, published by Springer in 1994.

Professor Mainzer's career in philosophy started after obtaining a doctorate in philosophy and mathematics in 1973. A few years later, in 1979, Mainzer got his habilitation in philosophy with a thesis on „Space, Geometry and Continuum“ at the University of Münster. Later, he continued his philosophical work at the Universities of Konstanz and Augsburg. Between 2008 and 2016, he held the chair for philosophy and philosophy of science at the Technical University of Munich.

Broadly, his philosophical works focus on some of the fundamental concepts in philosophy ever since Plato: the concepts of number, space, time, and symmetry, but also key modern topics such as quantum mechanics. As a thinker, he became internationally known as a fundamental theorist of complex systems, and, more recently, artificial intelligence theories. This work closely relates to the Complex Systems theory, demonstrating that equilibrium in systems is not the answer, but that productive and robust systems must exist on the edge of chaos. As Prigogine & Stengers have been arguing in their works, by applying this lens to physics, biology, chemistry, philosophy, cybernetics, robotics, and other fields, resilience can be rebuilt and sustained. The key components of the Complex Systems theory and its new ontology and epistemology are in the integrative, diverse, mutually activating, co-evolving, dynamic, sub-optimal, self-organizing, connective, emergent and non-linear systems, making truly a paradigm shift in interdisciplinary humanities and philosophy of science today.

The contributions of Professor Mainzer in this view are enormous: with his already mentioned book *Thinking in Complexity*, as early as 1994, Mainzer was already able to predict some of the most dangerous threats of the world we are living in: he argued for an ethically and socially responsible science, economics, and politics, thus directly influencing not only our social lives but also our new ways towards relationality with nature. He states, »We should neither overact nor retire, because overreaction as well as retirement can push the system from one chaotic state to another. We should be both cautious and courageous, according to the conditions of nonlinearity and complexity in evolution«. Yes, to be cautious and courageous means to be both humble and bold, to be responsible towards everything that exists, but also to be audacious towards our common future. In his words: »We have to protect the Greatest Good in an ongoing evolution with increasing complexity«. These words undoubtedly testify to a truly strong presence of humanistic impulses and values in Professor Mainzer's works and scientific worldviews.

Among his key works, let me mention *Symmetrien der Natur* (De Gruyter, 1988), *Thinking in Complexity: The Computational Dynamics of Matter, Mind, and Mankind* (Springer, 1994, with new editions), *The Little Book of Time* (Copernicus, 2002), *The Universe as Automaton* (Springer, 2011) and *Die Berechenbarkeit der Welt: Von der Weltformel zu Big Data* (Beck, 2014). His book from 2019 is titled *Artificial Intelligence: When do machines take over?* (Springer) – in this book, Mainzer strongly argues that AI must prove itself as a service in society.

It is clear that today, apart from achieving peace in Ukraine, Israel, and Palestine, and elsewhere in the world, humanity will need to resolve many crucial issues – from environmental (such as global warming), to issues related to the ethical and also socio-political consequences of the advanced AI. In all these issues, Professor Mainzer's philosophical work was not only highly topical and influential but also contributed to the paradigm shifts in the areas of studies of complexity, dynamics, and, more recently, digitalization and advanced AI.

On behalf of the Alma Mater Europaea – Institutum Studiorum Humanitatis faculty, it is my greatest pleasure to express our praise for Professor Mainzer as a recipient of the Doctor Honoris Causa award from Alma Mater Europaea University and wish to congratulate him sincerely for the award.

Professor Dr Lenart Škof



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# **EDUCATION AND MENTAL HEALTH**

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# SCHOLARLY PANEL

## RELATIONAL ASPECTS OF FAMILY RESILIENCE

Barbara Simonič, Professor  
Faculty of Theology, University of Ljubljana, Slovenia

### ABSTRACT

*The family plays a key role in the development of the individual and has a consequent impact on society. There is a large body of research and studies supporting the importance of quality family relationships for personal, social, emotional, and cognitive development. However, in real-life contexts, there are many factors and stresses that lower the quality of family relationships and leave negative consequences. In such situations, it is crucial to seek support, establish effective communication, develop resilience, and manage stressful situations to strengthen the resilience of the family. Family resilience is a concept that describes the ability of families to (successfully) cope with stress, crises, and difficulties and to adapt and strengthen as a result of these experiences. It looks at those parts of the family system that enable the family to remain functional and well-functioning despite difficult circumstances. This paper will present the basic concepts and importance of resilience, focusing on the factors and aspects of family resilience. We will review the key relational transactional processes that enable a family to rally and organise itself in highly stressful times: to take proactive steps, to mitigate distractions, to reduce the risk of inappropriate responses, and to support positive adaptation and resourcefulness in the face of challenges.*

**Keywords:** resilience, family relationships, stress, coping, development

# WHAT HAS NARCISSISTIC PERSONALITY DISORDER IN COMMON WITH THE NEOLIBERAL SOCIAL VALUES?

**Renata Šribar**, Professor

Centre FemA – Association for Transformation Studies and Agency

Alma Mater Europaea – ISH, Slovenia

## **ABSTRACT**

*The author of the paper discusses the conceptual options to constitute a contemporary epistemic background for linking a severe mental health issue diagnosed as narcissistic personality disorder with the so-called socially pathological characters. These personalities are not clinically diagnosed, and are culturally and societally construed and supported by the negative values of the modern neoliberal society (competitiveness, unaccountability, self-centeredness, exclusive goal-orientedness, commodification and exploitation of others ...). With the aim to define theoretically the two psycho-social personality structures the inquiry into the crucial societal environments and ideological realms has been carried out. Special stress is put on augmented reality, with its positive impact being the construction of the virtual phenomenon of 'condividuality' (Deseriis, 2018) – which in our case opens the virtual spaces for proliferation of certain knowledges based on experiential issues and cognition – either intimate or therapeutic or even both at the same time. The hypothesis on the relation between diagnosed narcissism as mental disorder and narcissism with its characteristics as a socio-culturally supported constitutive element of the social pathology is proven through the inductive method of semantically analyzed and generalized testimonies and information in educational videos on the YouTube channel.*

**Keywords:** narcissistic personal disorder, social pathology, negative values, condividuality, semantics

# MENTAL HEALTH AND SCREEN AND SOCIAL MEDIA ADDICTION - DIGITAL COCAINE

Sebastjan Kristovič, Professor  
Alma Mater Europaea – ECM, Slovenia

## ABSTRACT

*Screen addiction has become so commonplace and „normal“ that we hardly notice it anymore. It seems that parents have become completely immune-tolerant to the addictive behavior of their children. Entire generations of children and adolescents are addicted to digital media, yet we are hardly aware of it. Recent studies show that teenagers and children spend an average of 5-8 hours a day in front of a phone screen alone. When other digital media are added, this time increases to 10 hours or more. This means that the average 15-year-old spends 2555 hours in a year staring at a phone (which is 107 days or three and a half months, 24 hours a day).*

*Because digital media and screens have the same impact on the brain in childhood as hard drugs, terms like „digital heroin“ and „digital cocaine“ are increasingly used to describe unhealthy screen use. Numerous studies examining the functioning and development of children's brains come to the same conclusion: screens have the same impact on the brain in childhood as hard drugs. With the advent and rapid rise of social networks, various mental distresses and illnesses among young people have dramatically increased, such as anxiety, depression, self-harm, aggression, apathy, life passivity, lack of empathy, lack of meaning in life, and suicides.*

*The results of scientific research, through comparative analysis and analytical-synthetic methods, demonstrate an extremely negative impact on mental health, behavioral disorders, and cognitive abilities. Screens kill a child's passion and creativity, destroy their curiosity and playfulness, distort their sense of beauty, erode their sense of being special and irreplaceable. They turn them into passive, silent observers of their own lives, people, and the world around them. More and more young people complain of feeling internally empty, anxious, depressed, fearful of everything, afraid of relationships, afraid of peer society, and see no meaning in their lives.*

**Keywords:** mental health, screen addiction, logotherapy, digital cocaine, upbringing

# WITH THE HELP OF CHRISTIAN WORSHIP MUSIC TO MEET GOD AND THE BELIEVERS

**Drago Jerebic**, Assistant Professor  
Faculty of Theology, University of Ljubljana, Slovenia

## **ABSTRACT**

*One of the characteristics of today's postmodern times is that people want to feel good and to be addressed holistically, both on a rational level and, above all, on an emotional level. In the field of pastoral work, this can be translated that today's believer wants the Christian message to address his fundamental needs and longings, and only then is the believer cognitively motivated as to what content he should accept and believe. This requires the preacher to deliver the message in an authentic way, which means activating both the left and right hemispheres of the brain.*

*In this paper, we will use a phenomenological method to present how modern Christian worship music responds to the fundamental needs of postmodern man. We will analyse the lyrics of the songs, which to a large extent refer to one of the fundamental features of attachment theory, the longing for the safe haven and reassurance that God represents. We will present the element of authenticity as they articulate personal testimonies, feelings and longings. We will evaluate the importance of this music in connecting with God and other believers as it invites honest emotional response and personal vulnerability.*

**Keywords:** *Christian worship music, relationship with God, attachment theory, authenticity*



# MEASURING THE COLOR OF PERCEIVED AFTERIMAGE WITH A COLOR WHEEL

**Bor Sojar Voglar**, PhD, Teacher  
Prva Gimnazija Maribor, Slovenia

## **ABSTRACT**

*Color afterimages are a perceptual phenomenon when after a prolonged visual exposure to an image of a certain color, a temporary image of the same shape but a different color remains in our perception while exposed to a white or grey colored background. It is widely accepted that the color of the perceived afterimage is the complementary color to the original stimulus color. To measure the color of the perceived afterimage the verbal method is widely used. In this presentation, we present a novel approach to measuring color afterimage perception. We propose a method that prompts subjects to select color from a color wheel, which should significantly increase the accuracy of the reported perception. This new approach was preliminarily tested with 107 participants each exposed to 6 different colored rectangles with fixation points for 30 seconds on monitor screen in random order. The levels of red, green and blue component intensity were measured for the reported color and the average difference from the original stimulus was calculated. Results show that for most colors the afterimage is in fact the complementary color, but for the blue and green stimuli the results are more complex.*

**Keywords:** perception, vision, afterimage color method

# ACTIVE LEARNING TOWARDS GLOBAL SKILLS AND COMPETENCIES

**Polonca Pangrčič**, Assistant Professor  
Alma Mater Europaea – ECM, Slovenia

## ABSTRACT

*The principle of active learning is based on the theory of students' in-depth and superficial approach to learning. In this paper, we will present active learning as a pedagogical concept and approach, and how we can build global skills and competencies based on the aforementioned approach, which are extremely important for every individual today. The key characteristics of active learning and the implications for teaching are expressed in learning in which students are actively involved in the learning process - participating in activities and performing tasks designed in such a way that students build their knowledge and abilities (competencies) through the use of higher-level thinking skills; relates to various educational theories and concepts; it includes everything from short responses to what is read or heard to complex group activities etc. In the empirical part, we will present research among 4,000 students (N = 4,000) and make a connection between students' self-awareness of (active) learning with self-awareness of global competencies and insight into their development through the study process.*

**Keywords:** active learning, global competencies, global skills, knowledge, in-depth approach to learning

# THE SIGNIFICANCE OF ESTABLISHING POSITIVE TEACHER-STUDENT RELATIONSHIPS

**Katja Vrtačnik Garbas, PhD, Teacher**  
Institute for the Deaf and Hard of Hearing Ljubljana, Slovenia

## **ABSTRACT**

*Establishing and nurturing positive relationships between teachers and students is fundamental for fostering an environment conducive to learning and holistic development. This paper explores the multifaceted importance of cultivating such relationships and the profound impact they have on both students and teachers.*

*Trust and comfort are foundational elements fostered by positive teacher-student relationships, creating safe spaces where students feel valued, respected, and empowered to engage actively in learning. This leads to improved retention, understanding, and learning motivation among students. Moreover, these relationships contribute significantly to students' social and emotional growth, nurturing vital skills like empathy, communication, and conflict resolution. Behavioral improvements often accompany positive relationships, as students tend to exhibit more positive conduct and respect for peers and rules.*

*Furthermore, the mental well-being of students is positively influenced, with reduced stress and anxiety levels. Besides, positive influences on mental well-being are experienced also by teachers. The enduring impact of positive teacher-student relationships extends beyond the classroom, shaping students' attitudes not only towards learning but also towards themselves and thus impacting their lifelong paths. This paper underscores the pivotal role these relationships play in shaping the holistic development of students and emphasizes their significance in educational practices.*

**Keywords:** teacher-student relationships, educational environment, holistic development, learning motivation, social-emotional learning

# THE POWERLESSNESS OF PROFESSIONAL WORKERS AT THE SOCIAL WORK CENTRE TO ESTABLISH A WORKING RELATIONSHIP WITH THE USER OF THE SOCIAL WORK CENTRE SERVICES

**Nataša Novak**, PhD Candidate  
Alma Mater Europaea – ECM, Slovenia  
North Primorska Social Work Centre, Slovenia

## ABSTRACT

*Social Work Centres provide various forms of assistance to people in need, such as services, public powers and statutory duties. All tasks are defined in the Catalogue of Public Powers of Centres for Social Work, which is based on a number of legal bases. In this paper, we present a demonstration of providing help to a person in need who is at the same time homeless and has mental health problems. It lives in different parts of Slovenia, where, according to the time of year, the local climate suits her best. It is a presentation of the provision of information, proposals for solving her problems according to the possibilities and resources of the current environment within the first social assistance service and referral to the locally and objectively competent center for solving public powers. It shows her behavior in the premises of the social work center, where she violates house rules countless times, expects solutions from professional workers immediately and according to her ideas, demands various certificates and never comes to agreed meetings where solutions or compromises could be found. Centers for social work are open and accessible, a novelty in recent years is the security service, which also has limited powers with regard to this type of behaviour of users in the premises of the social work centre.*

**Keywords:** social work centre, homelessness, people with mental health problems, working relationship, violations of house rules

# FAMILY OF ORIGIN AND ANGER-CONFLICT DYNAMICS IN ROMANTIC RELATIONSHIPS: A SYSTEMATIC LITERATURE REVIEW

Leina Radusinović, PhD Candidate  
University of Ljubljana, Slovenia

## ABSTRACT

*This systematic literature review synthesizes findings from 14 key studies exploring the impact of family-of-origin experiences on conflict and relationship dynamics in romantic and marital relationships. The selection criteria included studies that examined diverse facets of family-of-origin influences on adult relationships. The selected studies, ranging from early familial interactions to intimate partner violence perpetration, collectively highlight the enduring influence of early family environments on diverse aspects of adult relationships. The review underscores the interconnectedness of family-of-origin factors with conflict resolution patterns, marital satisfaction, attachment security, and the perpetuation of violence. The synthesis contributes not only to a comprehensive understanding of the intricate links between family-of-origin factors and adult relationship dynamics but also lays the foundation for targeted investigations to further enrich our understanding of these complex dynamics in future studies.*

**Keywords:** family-of-origin, conflict, romantic relationship, marital relationship, relationship dynamics

# EFFECTIVE PSYCHOTHERAPEUTIC TREATMENT OF YOUNG PEOPLE IN TIMES OF NIHILISM, LACK OF MEANING AND IDENTITY CONFUSION

**Uroš Perko**, PhD, Psychotherapist  
Institute Mitikas, Slovenia

## **ABSTRACT**

*Despite the growing number of mental health professionals, we have an increasing number of young people experiencing various mental health problems. There is a growing nihilism, existential emptiness, apathy, and an increasingly aimless search for identity among young people. Finding oneself is a difficult process, because one's personality can only be shaped through one's own experiences and initial successes in achieving one's goals. Recently, however, self-discovery has been accompanied by an increasing emphasis on self-improvement, the main aim of which is to maintain and acquire a youthful body. Thus, we are discovering less and less about our personality and more and more about self-improvement, which is contributing to the rise of various psychological disorders. The fact is that we can only develop our individuality through opposition and that man never knows himself by observation alone. In order to know who you are, you have to do your duty, which is inevitably linked to meaning, because it is precisely by solving problems that life has meaning. The aim of this article is to try to apply the findings of several well-known experts in the field of mental health to the psychotherapeutic treatment of young people in crisis and existential emptiness.*

**Keywords:** effective treatment, young people, nihilism, existential crisis, identity crisis

# THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE ACADEMIC APPROACHES OF THE NEW GENERATION OF STUDENTS

**Kledi Satka**, Professor  
University of Tirana, Albania

## **ABSTRACT**

*In the times we are living in, the presence of technology is undeniable in all aspects of life as a companion and sometimes a guiding force in human activities due to its practicality, functionality, and inclusiveness that technological devices have offered for decades now. In recent years, Artificial Intelligence has spread and developed increasingly, representing machines with thinking abilities that allow them to perceive, analyze, and derive desired results from given information in a comparable quality to human thinking and in record time. This study aims to determine the prevalence of Artificial Intelligence as a useful tool for higher education students in Albania and how far they utilize it, exploring the gray area of potential plagiarism in this context.*

**Keywords:** artificial intelligence, ChatGPT, students, coursework

# UNDERSTANDING SUBJECTIVE WELL-BEING IN KOSOVO YOUTH: EXPLORING PSYCHOSOCIAL AND SOCIO-DEMOGRAPHIC FACTORS

**Naim Fanaj**, Associate Professor  
Alma Mater Europaea Campus College Rezonanca, Kosovo

**Sevim Mustafa**, Assistant Professor  
AAB College Prishtina, Kosovo

**Elona Krasniqi**, PhD Candidate  
PMSH, Kosovo

## ABSTRACT

*Background:* Subjective well-being (SWB) is a complex construct that is influenced by a variety of psychosocial factors. The aim of this study in Kosovo is to explore how various psychosocial factors—such as cognitive style, hope, social support, coping strategies, and socio-demographic elements—interact with SWB among the youth.

*Methods:* In a cross-sectional study, 490 individuals between 15 and 23 years old took part (Mean=19.06; SD=4.17). These participants went through a series of assessment tools including the Adult Hope Scale, the Brief COPE Scale, the Oslo 3-item Social Support Scale, the WHO-5 Well-Being Index, and the Cognitive Reflection Test.

*Results:* A score below 13 indicating poor wellbeing is found in 26.9%. The study found significant correlations between WHO-5 Well-being Index scores and various factors: the social support scale ( $r = .288, p < 0.00$ ), CRT score ( $r = -.098, p < 0.04$ ), Problem- focusing Coping ( $r = .137, p < 0.03$ ), Adult Hope Scale agency thinking ( $r = .352, p < 0.00$ ), Adult Hope Scale pathway thinking ( $r = .370, p < 0.00$ ), Adult Hope Scale total score ( $r = .351, p < 0.00$ ), and Dysfunctional Coping ( $r = -.210, p < 0.01$ ). Multiple linear regression indicated that social support, dysfunctional coping and Adult Hope Scale agency thinking were predictors of reporting SWB. *Conclusions:* Specific psychosocial elements, particularly the availability of social support, the use of coping mechanisms, and certain aspects of hope, have a substantial impact on the SWB of Kosovo's youth; with potential implications for addressing these factors.

**Keywords:** subjective well-being, psychosocial factors, adolescent, Kosovo



# PROMOTION OF MENTAL HEALTH AND ESTABLISHMENT OF PARTNERSHIP BETWEEN PARENTS AND EDUCATIONAL INSTITUTIONS FROM THE POINT OF VIEW OF FAMILY PEDAGOGY AND FAMILY THERAPY

**Jasminka Zloković**, Professor

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**Sara Jerebic**, Assistant Professor

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## **ABSTRACT**

*The modern concept of mental health does not only refer to the absence of disorders but also to taking control of one's life and improving their general health. Since parents, as well as children, struggle with the issues and consequences of impaired mental health, teachers are those who contribute a lot to better the mental health of their students. One of the EU measures to improve mental health is the development of partnership and intersectoral cooperation. In practice, it has been shown that with a partnership between experts in family therapy and family pedagogy, we can train future teachers to deal with important topics such as mental health effectively. Forms of partnership in family therapy and family pedagogy are presented in the course „Partnership of parents and educational institutions“ at the Department of Pedagogy of the Faculty of Arts in Rijeka in collaboration with the Department of Marital and Family Therapy, Psychology and Sociology of Religion at the Faculty of Theology of the University of Ljubljana. We want to shed light on the important role of interdisciplinary cooperation, which is key to strengthening mental health and developing and educating young people.*

**Keywords:** family pedagogy, family therapy, partnership, promotion of mental health, children, parents

# SUPPORTING DIGITAL SKILLS EDUCATION FOR PEOPLE WITH INTELLECTUAL DISABILITIES FROM THE PERSPECTIVE OF SERVICE PROVIDERS

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## ABSTRACT

*To ensure that digital technologies and technological development serves the needs of all, we need to support people with intellectual disabilities (ID) in acquiring digital skills. The digital exclusion of this population is largely the result of a lack of adequate education and environmental support. The study aims to investigate what opportunities adults with ID have to acquire digital skills, i.e. to examine the significance, requirements, challenges and potential for digital participation and education. To gain a deeper insight, focus group interviews were conducted with professionals from several service providers. The results of the qualitative analysis show that there is a lack of educational curriculum and systematic training in digital skills. Professionals mostly provide individual situation-based support depending on the everyday needs. In addition, participants pointed out other various challenges associated with the use of digital technologies by people with ID, such as online risks, family support, lifelong learning, motivational aspects. This suggests that not all people with ID have equal opportunities to participate in the digital world, as the acquisition of digital skills depends on the knowledge and goodwill of supporters and family. Based on the obtained results, a support framework and guidelines for improving digital education for people with ID are presented.*

**Keywords:** digital inclusion, digital education, people with intellectual disabilities

# RECONNECTED: ADDRESSING MENTAL HEALTH CHALLENGES IN EUROPEAN COMMUNITIES, INCLUDING KOSOVO

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**Sevim Mustafa**, Assistant Professor  
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**Elona Krasniqi**, PhD Candidate  
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## ABSTRACT

*Current global societal challenges threaten the mental health of European citizens. The 'RECONNECTED' project, funded by the EU/Horizon Europe program, aims to address the mental health challenges faced by vulnerable populations in Europe, including Kosovo. It introduces a novel community care model utilizing a digital, evidence-based, and ecologically sensitive self-management support system. By leveraging complex systems theory, the project targets mental health literacy, social participation, and micro-interventions to enhance citizens' well-being and resilience. This system will be tailored and tested in nine European countries, including Kosovo, to assess its effectiveness across diverse vulnerable communities. Combining technological advancements with participatory research and end-user stakeholder involvement, the project aims to align innovations with societal needs, facilitating widespread adoption. From internet search, we learn that Kosovo is marked by high poverty rates and mental health stigma, lacks specific information on social prescription implementation and mental health literacy programs. Existing fragmented activities lack structure and formalization. The absence of mental health promotion initiatives and studies further underscores the pressing mental health challenges. These gaps highlight the necessity for a new community care model like RECONNECTED's digital support system, indicating its potential significance in addressing Kosovo's mental health needs and implementation barriers.*

**Keywords:** *reconnected, project, mental health, digital, implementation, Kosovo*

# INTERGENERATIONAL TRANSMISSION OF PARENTS TRAUMATIC STRESS AND CHILD EDUCATION AND MENTAL HEALTH OUTCOMES: PROMOTING INNER STRENGTH AND RESILIENCE

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## ABSTRACT

*Scientific research confirms that parents traumatic experiences can be passed on to children, thus affecting their emotional and behavioral well-being and academic performance as well as their overall functioning. Children exposed to unprocessed parental traumas are more prone to internalize and externalize behavioral issues such as anxiety, aggression, problems with concentration, and social interactions. Difficulties in managing stress often occur, which can affect mental health, academic performance, and the development of socially accepted behaviors. At school, this can be reflected in problems with adaptation to the learning environment, reduced motivation, mistrust in relationships with peers and teachers, and reduced ability to concentrate. Children who have been exposed to parental trauma often have problems with self-regulation, which can make the learning process and overall development of the child difficult. Understanding the dynamics and mechanisms of intergenerational sequelae of traumatic stress is key to developing tailored pedagogical approaches that take into account the child's emotional well-being and provide a supportive environment. Holistic cooperation between educational staff (teachers, pedagogues, psychologists, principals), parents, and mental health experts (family centers, health institutions, etc.) is essential for identifying and providing appropriate, timely, and professional help to eliminate or minimize the consequences of trauma transmitted to children.*

**Keywords:** parent trauma, intergenerational transmission, traumatic stress, mental health, education

# SLEEP AND ITS IMPORTANCE FOR MENTAL HEALTH IN UNIVERSITY STUDENTS: ANALYTICAL CROSS-SECTIONAL STUDY

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Denalda Bashota, Student

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## ABSTRACT

Seeing that the number of attendance in the first hours of university lectures was limited, followed by loss of attention and general fatigue for the next hours, intrigued the initiative to undertake a study about this phenomenon. The Pittsburgh Sleep Quality Index (PSQI) is a self-assessment questionnaire which indicates sleep quality and disturbances within an interval of 1 month. General Health Questionnaire is a mental health instrument which contains 12 items that designate respondent's psychological distress. The study is an analytical cross-sectional study with self-report questionnaires as main measuring instruments. The number of participants consists of 226 students of Shkodra (N=226). From the data collected the global PSQI mean score was 8,38 (Mean=8,38), that shows a "poor" sleep quality among students. The total GHQ-12 mean score resulted 14,78 (Mean=14,78), which indicates signs of psychological distress in students. To observe if sleep disturbances and psychological distress are correlated, Pearson's Correlation was calculated with a result of approximately 0.42 ( $r=.419$ ;  $p<0.05$ ). Other statistical calculations were applied such as Reliability (Cronbach's  $\alpha=.703$  for PSQI; Cronbach's  $\alpha=.87$  FOR GHQ-12) and Internal Validity (KMO Bartlett test value=.73 for PSQI; KMO Bartlett test value=.86 for GHQ-12).

**Keywords:** sleep, mental health, students, psychological distress

# PSYCHOSOCIAL APPROACHES AS HELP FOR SOLVING THE CHALLENGE OF RISKY ONLINE BEHAVIOURS

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## ABSTRACT

*The article sheds light on the importance of the safety and protection of children and their families in a digital environment. Children are a very vulnerable group of the population and often lack the experience and knowledge to be able to assess the risk and consequences of the digital environment. With the two surveys and their comparison, we wanted to check whether the number of users of the digital environment and consequently the number of inclusions in psychosocial programs to help those addicted to digital devices, increased during the pandemic period. Based on the obtained data, we found an increase in users in the digital environment, which is especially typical during the pandemic. We have also addressed important points of departure for the formulation of policies and thus appropriate intervention approaches that would enable the resolution of the challenge in this area. With this contribution, we also highlight the importance of free psychosocial intervention programs financed by the Ministry of Labour, Family, Social Affairs, and Equal Opportunities. A program dedicated to offering individual professional and group help to those addicted to digital devices, LogOut, was also presented. The use of ICT is an important tool in the lives of children in achieving education, socialization, and inclusion, but at the same time its use can expose them to risk, exploitation, and abuse, so it is necessary to raise awareness and train both children and their parents in the safe use of the digital environment and provide them psychosocial assistance.*

**Keywords:** safety, addiction, digital environment, children, intervention programs, addiction

# MENTAL HEALTH AND A MEANINGFUL LIFE FOR SLOVENIAN ADOLESCENTS

Jasmina Kristovič, PhD Candidate  
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## ABSTRACT

*The World Health Organisation is working to develop a range of strategies to halt the years-long rise in mental health problems. The period of adolescence brings many changes and challenges for parents and adolescents. The reasons why mental disorders occur in children and adolescents are not straightforward. Many studies show that the number of children and adolescents with mental health problems is increasing over the years. Globally, 10% of children and adolescents experience a mental disorder, but most of them do not seek help or receive care.*

*We conducted a quantitative survey among Slovenian adolescents. The aim of the research was to find out to what extent Slovenian adolescents perceive their lives as meaningful and to what extent they are already in an existential crisis or existential vacuum. 409 respondents took part in the survey. The standardised instrument used was The Purpose in Life Test, which is used to measure the meaning of life. Psychometric indicators showed that 1/3 of the students were experiencing an existential crisis and less than 1/3 considered their life to be meaningful.*

*Science and professionals often overlook the fact that mental health problems, the lack of purpose in life and satisfaction are caused by a dysfunctional lifestyle and various problems (relationships, education, violence, addiction, etc.) within the family.*

*The research was carried out in the framework of the project Holistic Educational Process and Mental Health Promotion, funded by the Slovenian Research Agency (ARRS), the International Institute of Psychotherapy and Applied Psychology and Alma Mater Europaea - ECM.*

**Keywords:** positive mental health, mental disorders, meaning of life, logotherapy, adolescents

## EXPERT PANEL

# MINDFULNESS APPROACH IN SHAPING CONCEPTS OF INTERPRETING HOUSE MUSEUMS

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Žirovnica Institute for Tourism and Culture, Slovenia

### ABSTRACT

*The study is developing a thematic framework and guidelines for contemporary sustainable interpretation models in museum houses, with an emphasis on a mindful approach. Mindfulness is becoming increasingly popular in museums as a means of promoting mental health and creating a comprehensive experience of artistic, historical, or thematic exploration. Mindfulness encourages visitors to connect with the past presented by the museum, allowing them to discover themselves.*

*Modern interpretation strategies not only enable the experience of the material dimension of historical architecture but also provide a holistic experience of culture, heritage, and authenticity at a specific destination while promoting sustainability. House-Museums reflect the local community and nation, serving as places for preserving collective memory. In the fast pace of globalization, community members recognize them as the last refuge against the loss of specificity and diversity.*

*Understanding the complex messages in House-Museums requires a mindful approach, as they cannot be fully comprehended solely through rational means. Holistic heritage experiences, supporting individuals in their physical, mental, and spiritual dimensions, should be a key priority for every museum. New approaches to the interpretation of House-Museums are needed to establish socio-social connections and communication between societies of the past, present, and future.*

*The study will be based on the first house transformed into a museum in Slovenia in 1939 – the Prešeren's birth house. Today, it is considered the most visited museum of its kind in Slovenia and represents a representative model in shaping the interpretation of House-Museums in the country.*

**Keywords:** house museums, interpretation, Prešeren's birth house, mindfulness



# INTEGRITY: THE CORE OF DIGNITY IN TEACHER EDUCATION

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## ABSTRACT

*Respecting human integrity paves the way for honouring an individual's dignity. The role of a teacher is paramount. When teachers are conscious of their own integrity, they naturally perceive children as holistic beings, thereby extending respect to every aspect of their dignity.*

*In this paper, I provide an analytical summary of three perspectives on the human condition, as articulated by contemporaries who lived through the tumultuous times of the two World Wars: Viktor Emanuel Frankl (1905–1997), Ruth Cohn (1912–2010), and Franc Pediček (1922–2008). Amidst an era marked by the trampling of human dignity, these three thinkers paved the way for a holistic understanding of the human personality.*

*I provide a review of the fundamental guidelines for teacher education within the European and Slovenian context. Additionally, I conducted a minor qualitative research study among third-year pedagogic course students. My inquiry focuses on assessing their comprehension of integral personality and dignity, their awareness of personal integrity, and exploring their understanding of the foundational concepts within the spiritual dimension.*

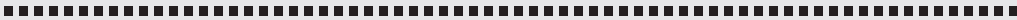
*I am thus attempting to gain insight into the current situation at the Faculty of Pedagogy and assess the extent to which it aligns with the guidelines of European and Slovenian documents, as well as the concept of human integrity. I am particularly interested in the area of the spiritual dimension, which appears to be overlooked; although it is an important aspect of human well-being.*

**Keywords:** *dignity, holistic personality, research, spiritual dimension, teacher*





# HIGHER EDUCATION





# THE FUTURE OF EUROPEAN UNIVERSITY ALLIANCES

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Fordham University, USA

*European University Alliances now consist of 50 networks of universities from different European countries, including 430 higher education institutions across 35 countries with around 1700 associated partners from EU and non-EU universities. These alliances play a crucial role in building the European Higher Education Area and the European Research Area, supported and funded by the EU. Strengthening their connections, alliances aim to gain a collaborative advantage over non-member universities, potentially enhancing the competitiveness of European universities globally and within the European research market.*

# TAKING THE EUROPEAN COOPERATION IN HIGHER EDUCATION TO THE NEXT LEVEL - WHAT DOES IT TAKE?

**Nadia Manzoni**, PhD Candidate  
Central European University, Hungary

## **ABSTRACT**

*Nadia Manzoni contextualised the European Universities Initiative against the background of the history of European cooperation in higher education. Establishing European University Alliances has triggered a new policy dynamic at the European level, with new opportunities for universities and stakeholders to influence directly and co-create EU-level policies in higher education. This unprecedented level of international cooperation among universities has thrown up the need for EU Member States to discuss the big questions regarding the terms of the relationship between universities and the nation-state, in particular, the sources of funding for „Europeanised“ education and ways of regulating the quality of joint educational provision.*

**Keywords:** *Europeanisation of higher education, state-university relations, history of European cooperation in education, university politics, higher education policies*

# THE EUROPEAN UNIVERSITIES INITIATIVE: BETWEEN STATUS HIERARCHIES AND INCLUSION

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## ABSTRACT

*Using a dataset of higher education institutional alliances within the framework of the European University initiative (Eui), we tested empirically whether the policy-defined goal of a relative balance between excellence and inclusiveness within the scheme has been achieved. Specifically, we provide a descriptive and analytical account of the diversity of the higher education institutions participating in the EUI, the composition of- as well as the mechanisms behind the formation of individual alliances. Our findings suggest that existing hierarchies within European higher education have largely been replicated in the EUI. We found that global university rankings significantly influence individual institutions' participation and, to a lesser extent, alliance composition. Additionally, we observed that existing collaborative ties played a strong role in alliance formation. However, we acknowledge the positive impact of specific EUI design elements. We found that the requirement for broad geographical coverage and open participation rules have facilitated the involvement of lower-ranked institutions, expanding the initiative beyond the core group of prestigious research universities. These observations highlight the potential influence of design choices on the future of the EUI, particularly as the initiative seeks to expand.*

**Keywords:** European Universities initiative, transnational collaboration in higher education, higher education stratification, higher education policy, higher education institutions

# COMPARING THE 50 EUROPEAN UNIVERSITY ALLIANCES

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Fordham University, USA

## ABSTRACT

*My goal was to compare and rank the 50 existing alliances. Which are the top alliances based on their members and members rank in global rankings? Comparing and ranking universities is a controversial topic. Higher education comparisons and rankings play a significant role in helping future students navigate the complex landscape of higher education institutions. These rankings provide simplified, sometimes controversial methods of comparing universities across various dimensions, such as reputation, faculty, student ratio, citations per faculty, and international faculty ratio. So ranking is a simplified form, a subgroup of comparing. There is a lot of criticism, but comparisons and rankings can be highly beneficial. Methodologically speaking, I used three existing global rankings: Times Higher Education, QS, and Shanghai ranking, each with a unique approach. Based on these three rankings, I focused on the presence of alliance member universities in the top 100 and the top 500 in any of the three global rankings, so I counted the number for each alliance. The top universities tend to partner with other top universities from Western Europe and then add some top universities from Eastern Europe into their group. Then, the lower-ranked Western universities work together and add a bit of lower and Eastern European universities to their group. The ranking of universities and alliances matters. It is the best simple indicator of quality.*

**Keywords:** European University Alliances, global rankings, Times Higher Education, QS, Shanghai ranking, comparing

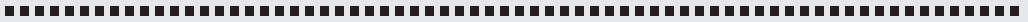








# PHYSIOTHERAPY





# SCHOLARLY PANEL

## THE EFFECTS OF MEDICAL STAY COMBINED WITH SPELEOTHERAPY ON THE PULMONARY FUNCTION AND EXERCISE TOLERANCE IN CHILDREN WITH ASTHMA

**Sylwia Metel**, PhD, Lecturer

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**Paweł Janus**, Lecturer

Andrzej Frycz Modrzewski Krakow University, Poland

**Magdalena Dyda**, Expert

Sanatorium Edel Zlaté Hory, Czechia

### ABSTRACT

*Backgrounds: Asthma is the leading cause of chronic disease and missed school days in children. The aim of the study was to evaluate the pulmonary function and exercise tolerance of the children with asthma who underwent speleotherapeutic intervention - STI between January 2022 and October 2023 in Sanatorium Edel in Zlaté Hory.*

*Methods: 415 patients with clinical diagnosis of asthma (J45.9, J45.0, J45, J45.8, J45.1) were enrolled to the study. They attended the rehabilitation and treatment stay with medial length of 32 days combined with at average 15 speleotherapy sessions. The spirometry parameters, exhaled nitric oxide - FeNO and 6-Minutes Walking Test - 6MWT were measured before and after STI.*

*Results: 252 patients aged between 4 - 18 years with mean age  $8.56 \pm 3.13$  years who completed the STI and the tests were included in the analysis. The mean spirometry difference in percent predicted before and after STI was  $PEF = 3.38\%$ ,  $p=0.000$  and  $FEV1 = 1.07\%$ ,  $p=0.047$ . In the results of FeNO the mean difference was  $9.8\text{ppb}$ ,  $p=0.000$  and in 6MWT the distance increased by  $18.51\text{m}$  after the speleotherapeutic stay.*

*Conclusions: The medical stay combined with speleotherapy positively influence on the pulmonary function and exercise tolerance in children with asthma.*

**Keywords:** asthma, children, subterranean therapy, 6MWT, exhaled nitric oxide

# MANAGEMENT OF STRESS URINARY INCONTINENCE IN HEALTH PROMOTION AND HEALTH EDUCATION CENTRES IN SLOVENIA

Aleša Kukovica, Expert

Andrea Backović Juričan, Senior Lecturer  
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## ABSTRACT

*Introduction:* For the prevention and conservative treatment of stress urinary incontinence the pelvic floor muscle and bladder training including lifestyle change is important. In Slovenia, behaviour change counselling is provided in health promotion centres (HPC) and health education centres (HEC).

*Research problem:* The main goal of this study was to obtain data on the share of adults with stress urinary incontinence, identify the most frequent target group and most commonly the management strategies in HPC/HEC.

*Methods:* The survey was based on the quantitative method using a specially designed reliable online questionnaire available from March 14th till May 19th 2022 for physiotherapists and kinesiologists in HPC/HEC. We collected 43 completed questionnaires (53% responsiveness). The data were processed using IBM SPSS Statistics 23.0 and analysed using descriptive statistics.

*Results:* The most common detected forms of incontinence in HPC/HEC are stress and mixed urinary incontinence. The share of adults suffering ranges from 40% to 59% and they are most commonly treated with pelvic floor muscle training.

*Discussion:* Stress urinary incontinence represents a moderate to severe life problem, which can be managed successfully on primary health care level. When there is no improvement, it is important to direct the patient to other specialists.

**Keywords:** stress urinary incontinence, target groups, adults, primary health care, pelvic floor muscle training

# TRANSLATION, ADAPTATION AND VALIDATION OF THE LOWER EXTREMITY FUNCTIONAL SCALE (LEFS) FOR THE PEDIATRIC ORTHOPEDIC PATIENT

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## ABSTRACT

*Introduction: In pediatric trauma, the lower limbs turn out to be the most involved, going to result in highly variable outcomes, which can compromise the subjects' level of participation in activities of daily living. In order to ensure the implementation of an effective individualized rehabilitation plan, the evaluation of the patient is essential, to highlight the major deficits. In the orthopedic field, there are no validated functional assessment scales for the pediatric population specific to the lower limb. In the literature there is evidence of the Lower Extremity Functional Scale (LEFS), translated,*

*adapted and validated in Italian for the adult patient. The objective of the study is to translate, adapt, and validate the LEFS scale for the pediatric orthopedic population to provide a validated tool for use in clinical practice.*

*Materials and Methods: The study was conducted between October 2022 and October 2023, at the IRCCS Burlo Garofolo in Trieste. Starting from the Italian version of the scale, the items were adapted to the pediatric population. It was administered to a sample with access to the Physiokinesitherapy Service, with a doctor's prescription, for any orthopedic problem at the lower limb level. The sample consisted of 69 total subjects; a second sample, consisting of 14 subjects, was given the assessment a second time within 48 hours to calculate its validity in the test-retest.*

*Results: The results obtained from statistical analysis of the data are a Cronbach's Alpha of 0.94; ICC of 0.97 (c.i. 0.89 - 0.99); Spearman's rank correlation coefficient with the Visuo-Analog Scale (VAS) of -0.333 (p-value 0.00521).*

*Conclusions: Based on the empirical results obtained, the Lower Extremity Functional Scale can be an extremely effective tool for functional assessment of the lower extremity in the pediatric orthopedic patient.*

**Keywords:** *pediatric, lower limbs, orthopedic, rehabilitation*

# EVALUATION OF THE STRENGTH AND MOBILITY PARAMETERS OF THE VOLLEYBALL PLAYER'S SHOULDER

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**Francesco Frontani**, Lecturer

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## ABSTRACT

*Background.* The shoulder is the fifth highest incidence injury in volleyball and is categorized as an overuse pain. Today (September 2022), normative values of strength, ROM, and shoulder ratio of volleyball players, with or without pain are not known.

*Objective.* The objective of this study is to search for normative values, divided by age, group and gender.

*Design.* Prospective longitudinal study. All measurements were made inside a volleyball court.

*Population.* Sixty-seven boys aged 12 to 32 years were evaluated.

*Methods.* Two strength assessments were made per arm in extra rotation, two in intra rotation, by HHD, and one measurement of Rom of rotation, by inclinometer. Two assessments were performed per athlete at the beginning and end of the season, and both were preceded by a questionnaire.

*Results.* Tables containing normative values were created, divided by age (u13, u15, u17, u19, series B). In addition, values of subjects with pain and subjects without pain were compared. Rom, strength in intra rotation and extra rotation, force ratios change in a statistically significant way both between groups and within the same group.

*Discussion.* ERG (gain external rotation) begins at 15 years but strength deficits, especially in AbEr shoulder position are already visible at 13 years. In the u19 and series B groups, the increase in ROM in extra rotation and the loss of strength in extra rotation is evident. We believe that the main cause is the high number of attacks carried out in volleyball careers.

*Conclusion.* Our study specifies normative values for the shoulders of groups u13, u15, u17, u19 but not series B. Our data affirm that alterations in Rom and Strength alone do not justify the presence of shoulder pain in volleyball players. A larger sampling of athletes would allow for normative values and comparison values between athletes with and without pain of better quality.

**Keywords:** shoulder, volleyball, strength, ROM, parameters



# COMPARISON OF THE EFFECTIVENESS OF A HOME-BASED TREATMENT BETWEEN APP OR VERBAL EXPLANATION IN PATIENTS WITH TEMPOROMANDIBULAR DISORDERS. A PILOT STUDY

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**Francesco Frontani, Lecturer**

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**Giovanni Galeoto, PhD**

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**Gianfranco Albergo, PhD**

Dentoral, Associate Practice of Dentistry, Italy

## ABSTRACT

*Introduction: Temporomandibular disorders (TMD) represent a spectrum of clinical dysfunctions which occur to involve masticatory muscles, the joint itself and its associated structure. Quality of life seems to be affected by these disorders, and a direct correlation between temporomandibular disorders and a lower quality of life was demonstrated. The goal of this study was to evaluate the effectiveness of a protocol of exercises for the TMD comparing standard protocol to a protocol proposed with a mobile application, the MedicApp.*

*Methods: Participants were randomized in two groups with a ratio of 1:1. All the patients were assessed by a physician, and a routine of protocolled exercises were assigned for the following six weeks. Two follow-ups were set up every three weeks after the first examination. Different outcome measures were analysed: Centrality Of Pain Scale, Tampa scale, and Self Efficacy for exercise, articular and muscular pain in VAS. The statistical analysis was performed using Student's t-test and Wilcoxon rank test; lastly it has been used the Delta measure and the ANOVA for the repeated measure.*

*Results: Group 1 achieved the most noteworthy results in muscular pain in VAS, showing statistical significant difference variables in all the tests and measures applied. The most remarkable values arise from the ANOVA measures  $p=0.007287$ ;  $0.0000002654$ ; and  $0.024057$ , respectively, from the variables Time, Group and Time+Group. Statistically significant different were showed through the ANOVA on TAMPA scale ( $p=0.0000003078$ ), Mastication (JFLs) ( $p=0.0001002$ ), Mobility (JFLs) ( $p=0.0001985$ ), COPS ( $p=0.00006605$ ), Articular pain in VAS ( $p=0.00005465$ ), JFLs total score ( $p=0.0000186$ ) and SEE (T1-T2) ( $p=0.0008395$ ;  $0.0075493$ ).*

*Conclusions: There was a difference between groups considering different outcome measures, mainly favouring telerehabilitation through the MedicApp. This is a pilot study, so more intensive research is needed on this subject to clarify the effectiveness of telerehabilitation intervention in patients with TMD. However, the results seem encouraging.*

**Keywords:** ATM, telerehabilitation, pilot study, rehabilitation

# CERVICAL RADICULOPATHY MIMICKING A NEURODEGENERATIVE DISEASE: A CASE REPORT OF AN EARLY-ONSET PARKINSON'S DISEASE DIAGNOSIS IN A MIDDLE-AGED WOMAN IDENTIFIED VIA HYPERHIDROSIS

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## ABSTRACT

*Background: Parkinson's disease (PD) is a neurodegenerative condition characterized by motor and non-motor symptoms, which have an important impact on patients' autonomy and quality of life (QoL) levels. Basically, the PD diagnosis is clinical and in some case it is hard to be diagnosed, due to the heterogeneity of the symptoms.*

*Case description: A 58-year-old woman who, during the lockdown, referred to experience slight tremor and stiffness in her left hand during resting state, but without any other associated symptoms. Firstly, after consulting a general practitioner (GP), the patient was diagnosed with cervical radiculopathy (CR), characterized by essential tremor and stiffness to the hand. Nevertheless, during the initial physiotherapy evaluation, the motor symptoms did not fully align with the diagnosis of cervical radiculopathy. For this reason, the presence of non-motor symptoms was deeply investigated. Notably, hyperhidrosis was identified as a significant non-motor symptom, leading to the patient's subsequent referral to a neurologist, who finally diagnosed PD.*

*Conclusion: This case report underscores the fundamental role of physiotherapists in conducting independent assessments and comprehensive investigations of all patients' symptoms, even when a medical diagnosis has already been established. This is particularly crucial when there is suspicion that musculoskeletal symptoms may be indicative of neurodegenerative diseases such as PD, that is well-known for its extensive array of non-motor symptoms. Especially in women with PD, non-motor symptoms tend to emerge earlier and in a more subtle manner than motor symptoms, making diagnosis challenging. Therefore, a meticulous anamnestic data collection is essential, especially by physiotherapists operating in direct access.*

**Keywords:** Parkinson disease, Cervical Radiculopathy, Hyperidrosis, screening for referral, case report

# WHICH TYPES OF MOTOR CONTROL EXERCISES ARE MOST USED TO MODIFY PAIN IN THE SHORT TERM IN PATIENTS WITH PELVIC GIRDLE PAIN: A NARRATIVE REVIEW

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## **ABSTRACT**

*Background: Pelvic girdle pain (PGP) is a pain described in the literature as a subgroup of low back pain (LBP) that manifests itself with pain perceived between the posterior iliac crest and the gluteal folds, particularly in proximity to the sacroiliac joints. There are different intervention modalities available in the literature, however the aim of our study focused on the effectiveness of motor control (MC) exercises in reducing pain in the short term, and whether these really have the characteristics to stimulate MC.*

*Materials and Methods: The narrative review was carried out by searching various medical-rehabilitation databases (pubmed, cochrane, PEDro database, scopus, EMBASE, Web Of Science). The research was carried out taking into consideration different study designs (i.e. systematic reviews and RCTs) published between 2013 and 2023.*

*Results: Five studies were included (including 4 RCTs and 1 systematic review). From the analysis carried out, it was highlighted that the exercises used to date appear to be not very specific and structured, not following the dictates proposed by the various motor control theories.*

*Conclusions: The data currently available to us and the structuring of the various exercises not in line with the various theories do not allow us to establish with certainty their effectiveness in the short term, there will be a need for further studies in the future to investigate their real effectiveness*

**Keywords:** motor control, pelvic girdle pain, short-term pain

# TESTING OF A SPECIFIC REHABILITATION PROTOCOL FOR COORDINATION OF PARKINSONIAN SUBJECTS

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## ABSTRACT

*Objective:* To explore the effectiveness of a complex rehabilitation protocol for Parkinson's disease using the neurocognitive method.

*Design:* Longitudinal study including cognitive, motor tests, and perceptual assessments at the beginning and end of the treatment period.

*Methods:* The protocol included exercises for motor and visuomotor coordination, improvement of peripheral vision, gesture simultaneity, and walking. Patients were assessed using a specific evaluation form, which covered cognitive, motor, and perceptual aspects.

*Results:* Results showed significant improvements in general cognitive abilities, motor and visuomotor coordination, peripheral vision, and gait. An increase in accuracy and quality of movement execution was observed, with improvements in physical awareness.

*Conclusion:* The rehabilitation protocol has been shown to be effective in improving not only motor skills but also the cognitive and perceptual abilities of patients with Parkinson's disease. The results suggest that a multidisciplinary approach using the neurocognitive method can provide significant benefits in the overall treatment of the disease.

*Keywords:* Parkinson's rehabilitation, motor coordination, neurocognitive method, peripheral vision, ambulation

# THE USE OF REMO WEARABLE FOR HAND MOTOR RECOVERY AFTER STROKE: PRELIMINARY DATA

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## ABSTRACT

*The use of wearable devices in rehabilitation has been growing up, in order to provide data to the physiotherapist related to the patient's motor performance. Moreover, wearables provide immediate feedback to patients with respect to their muscle activity while performing movement. In collaboration with the company Morecognition Srl (Turin, Italy) we have developed the wearable REMO. It is composed of 8 electrodes that record surface electromyography of forearm muscles in order to control a rehabilitation interface (PC, smartphone) during the execution of hand gestures. In this study we reported preliminary data (ten patients were enrolled) from a randomized controlled trial (RCT) to test the effectiveness of REMO in hand motor recovery after stroke. The treatment consisted of 15 task-specific training sessions provided by REMO (Experimental Group, GS) or in a conventional setting (Control Group, GC). The results showed improvement in upper limb motor function in all patients (Fugl-Meyer Assessment-Upper Extremity score, FMA-UE: T0=32.4 ± 9.9; T1=40.3 ± 8.7; Δ=7.9 ± 4.8, p=0.008) but no difference in comparison between the two types of treatment (ΔFMA-UE: ΔGS=5.5±3.3, ΔGC=11.7±4.6, p=0.095). Preliminary results showed that specific functional treatment for manual recovery was effective in the stroke patients, although there was no difference in the use of REMO. Further data are needed to identify the patient who may benefit most from the treatment with REMO.*

**Keywords:** stroke, neurorehabilitation, wearable device, motor recovery, upper extremity

# SURGICAL TREATMENT OF PERIARTICULAR MUSCLESKELETAL INJURIES OF THE HIP IN PROFESSIONAL ATHLETES

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Catholic University of the Sacred Heart, Italy

**Francesco Benazzo, Professor**

IUSS University of Pavia, Italy

## ABSTRACT

*Between January 2021 and September 2023, 13 professional athletes were operated on for periarticular tendon detachment of the hip. In 6 cases it was adductor longus detachment, in 5 cases biceps femoris detachment and in 2 cases rectus femoris detachment. 8 patients were footballers, 4 sprinters from the national athletics team and 1 triathlete. The mean age of patients was 31 years. The mean duration of the intervention was 1 hour and 5 minutes. The mean follow-up was 15 months (minimum 4, maximum 36).*

*The patients were operated under spinal anesthesia, longitudinal access centered on the lesion, extended for about 10 cm, the tendon was revised with removal of the areas of degeneration and reinserted with a 4.5 mm metal anchor after bone debridement.*

*After surgery partial weight bearing was allowed to tolerance with crutches for 15 days, with immediate hip mobilization, avoiding stretching of the reinserted muscle for 20 days. At 15 days isometric strengthening exercises were started. After 3 weeks was allowed to start eccentric exercises, which increased over time. Resumption of running was granted after 1 month on average. Full resumption of sporting activity was granted on average 2.5 months after surgery.*

**Keywords:** tendon tear, sport medicine, adductor, hamstring, rectus femori

# SCHOLARLY PANEL

## INSIGHTS INTO MUSCLE HEALTH: ADVANCEMENTS IN SARCOPENIA RESEARCH

### EFFECTIVENESS OF PHYSIOTHERAPY INTERVENTIONS IN OLDER ADULTS WITH SARCOPENIA: A SYSTEMATIC REVIEW

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Štore Steel, Slovenia  
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#### ABSTRACT

*Objective/background: To compare the results of different physiotherapy interventions (PTI) on the sarcopenia diagnostic criteria in older adults. This systematic review aims to evaluate the effectiveness of physiotherapy interventions in addressing sarcopenia, a debilitating age-related condition characterized by the loss of muscle mass, strength, and function.*

*Methods: Search strategy included older adults and sarcopenia MeSh, performed at PEDro, PubMed, MEDLINE databases. . 388 studies were found. Selected studies include older adults, submitted to physical training (Intervention Group: IG) compared to control groups (CG). A meticulous literature search identified 10 studies meeting inclusion criteria, comprising randomized controlled trials and cohort studies published up to December 2023. Physiotherapy interventions encompassed a diverse array, including resistance training, aerobic exercise, balance and coordination exercises, and nutritional supplementation.*

*Results: PRISMA showed high methodological quality based on PEDro scale and CASP check-lists. Findings of included studies suggest a favourable impact of physiotherapy on sarcopenia outcomes. The included studies reported significant improvements in muscle mass, strength, and functional performance among participants undergoing diverse physiotherapy interventions such as aerobic training, resistance training functional training.*

*Conclusion: This systematic review contributes valuable insights to the current understanding of sarcopenia management, emphasizing the potential role of physiotherapy interventions. The results have implications for clinicians, physiotherapists, and healthcare providers, highlighting the importance of incorporating targeted physiotherapy strategies into comprehensive sarcopenia management plans. Further high quality studies are warranted to refine intervention protocols, investigate long-term sustainability of outcomes, and inform evidence-based guidelines for optimizing the impact of physiotherapy in the multifaceted management of sarcopenia.*

**Keywords:** systematic review, osteopenia, physiotherapy effectiveness

# PREVALENCE OF SARCOPENIA IN SLOVENIAN OLDER ADULTS: COMPARISON OF CLASSIFICATION PROTOCOLS

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**Boštjan Šimunič**, PhD, Researcher

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## ABSTRACT

*Sarcopenia is a musculoskeletal disease that affects between 20 and 27 % of the aged population, depending on the used classification protocol. To date, despite the burden of the disease, there is no unified protocol to be used in clinical practice. There are different protocols in use, for European population most used are two (2010 and 2019) from European Working Group on Sarcopenia in Older People (EWGSOP). The aim of our study is to present agreement between the two EWGSOP sarcopenia classification protocols on Slovenian older adults.*

*Our sample consisted of 623 participants (>60 years), without any acute illnesses and they have been classified into sarcopenia and its' severity according to EWGSOP (2010) and EWGSOP2 (2019) protocols.*

*EWGSOP classified 72.1 % participants as non-sarcopenic, 15.7 % as presarcopenic, 6.3 % as sarcopenic and 5.9 % as severely sarcopenic while EWGSOP2 classified 72.9 % as non-sarcopenic, 20.5 % as presarcopenic, 2.9 % as sarcopenic and 3.7 % as severely sarcopenic. Agreement between the protocols was low (Cohen  $\kappa$  = .099).*

*Even though the same group issued both classification protocols, the agreement between them was low, emphasizing the need for standardized criteria in assessing sarcopenia to ensure consistency in diagnosis and treatment.*

**Keywords:** sarcopenia, sarcopenia classification, older adults, prevalence, reliability



# CORRELATION BETWEEN TENSIOMYOGRAPHY AND SARCOPIENIA CLASSIFICATION MEASURES

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Alma Mater Europaea – ECM, Slovenia

## ABSTRACT

*Introduction: The worldwide prevalence of sarcopenia is 20-27 %, in Slovenia 6.6-12.2 %, depending on the classification protocol. Importantly, European Working Group on Sarcopenia in Older People (EWGSOP) in 2019 included muscle quality at the conformational level of sarcopenia. Muscle quality is a relatively new term, referring to both micro- and macroscopic changes in muscle architecture and composition. Because of technical limitations muscle quality remain challenging as primary parameter to define sarcopenia. However, Tensiomyography-derived parameters were previously confirmed to correlate to muscle architecture change after atrophy and to muscle fibre composition. We aimed to correlate tensiomyography-derived parameters to sarcopenia classification tests.*

*Methods: In a sample of 623 participants (> 60 years) we assessed sarcopenia classification tests (sit to stand, timed up and go, gait speed) and tensiomyographic parameters in vastus lateralis (VL), gastrocnemius medialis (GM) and biceps femoris (BF).*

*Results: We found that tensiomyographic delay time and amplitude consistently were negatively correlated to sarcopenia tests in all three muscles. Correlations were low to moderate.*

*Discussion: Tensiomyography derived contractile parameters offer promising potential for muscle quality evaluation in sarcopenia classification.*

**Keywords:** sarcopenia, skeletal muscle, tensiomyography, atrophy, TMG

# SCHOLARLY PANEL

## NEUROSCIENCE OF MOVEMENT

### NEUROMUSCULAR ADAPTATION TO DISUSE – FROM SPACE TO CLINIC

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#### ABSTRACT

*The long-term unloading of the neuromuscular system during spaceflight has detrimental functional and morphological effects. Chronic changes in the structural and mechanical properties of the musculature as well as neuroplastic changes at the spinal and supraspinal level have been identified in pivotal studies over the last decade. Deficits in sensorimotor control and atrophy of the load-bearing musculature are the most striking symptoms that demonstrate the inevitable interactions between the neural and muscular systems during adaptation to weightlessness in space.*

*Space science and medical science do not have an obvious connection although the conjunction holds the promise to drive valuable synergies: transfer effects from highly controlled space analog studies are of paramount importance to the clinical domain, and the results can be applied to hospitalized or immobilized patients following indication-specific medical treatments or surgery. Evidence generation includes a mechanistic, pathway-specific understanding of the underlying degeneration during degeneration, effects of duration and recovery that improves patient care through innovative research and countermeasure development. Transfer effects further describe the significant progress made towards the goal of minimizing the functional impact of stimuli that induce neuromuscular adaptations to spatial and clinical conditions.*

**Keywords:** neuronal, muscular, system, human, adaptation, clinics, diseases

# FEASIBILITY AND EFFECTS OF EXERGAME-BASED COGNITIVE-MOTOR TRAINING IN THE SCOPE OF INPATIENT REHABILITATION

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## ABSTRACT

*Exergaming, a technology-driven exercise approach involving video game play, demands physical activity for gameplay, rendering it an excellent tool for interactive cognitive-motor training. Cognitive-motor interventions based on exergames exhibit high enjoyment and adherence levels, with positive effects on physical and cognitive functions in healthy older adults and those with chronic diseases. Existing evidence largely relies on studies using commercial exergame systems designed for young people and recreational purposes. We hypothesize that a clinically designed exergame system may yield superior effects. Additionally, information on the feasibility of exergame training in inpatient rehabilitation settings is limited. We conducted three studies examining the feasibility and effects of exergame training using a purpose-built system in three inpatient rehabilitation clinics, focusing on geriatric, Parkinson's, and stroke patients. Exergame training proved feasible, safe, and effective in geriatric and Parkinson's patients. The study with stroke patients is ongoing. All further results will be presented at the conference.*

**Keywords:** exergaming, cognitive-motor training, exercise, rehabilitation

# DUAL-TASK BALANCE ASSESSMENT UTILIZING THE OCULUS QUEST VR HEADSET DURING A BEDREST STUDY

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**Rado Pišot**, Director of SRC Koper, Principal Research Associate

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## ABSTRACT

*Introduction: Maintaining balance while simultaneously performing a cognitive task is crucial for daily activities and has been linked to an increased risk of falls in older adults, particularly following extended periods of inactivity due to prolonged illness. In light of recent advancements in virtual reality (VR) hardware, the increased affordability and accessibility of headsets in the market have sparked interest in their potential application within clinical settings. This technology holds promise for scientific exploration, including the potential use for assessing dual-task balance. This study aims to explore the effect of a 10-day bedrest period on the dual-task balance of healthy older adults.*

*Methods: Ten older adults (average age  $67.9 \pm 2.5$ ) underwent a 10-day bedrest period, performing all activities lying down with minimal pillow support for legs and head. Passive joint mobilization occurred every other day. Using the Oculus Quest VR headset, participants completed a dual-task balance assessment before and after the bedrest period. Movement data (total head and hand sway) and cognitive task performance (time and efficiency in clicking numbered sequences) were collected at 50 Hz via a Unity game design software function (MOVIR, INCISIV Ltd., Belfast, UK).*

*Results: Building on our previous bedrest study experience, our hypothesis suggests significant alterations in both movement data (total head and hand sway) and cognitive task performance (time and efficiency) due to the bedrest period. Further elaboration on these findings, along with their significance and implications, will be thoroughly discussed and presented at the upcoming congress.*

*Discussion: This study strongly validates VR technology for accurate dual-task balance assessment, enabling the integration of diverse cognitive tasks to broaden assessment capabilities. The observed effects of the 10-day bedrest period on movement data and cognitive task performance underscore the impact of prolonged inactivity on both motor and cognitive functions.*

**Keywords:** cognitive-motor assessment, virtual reality, bedrest

# INTERGENERATIONAL COGNITIVE-MOTOR TRAINING: EXPLORING GAMES FOR ENHANCED COGNITIVE AND MOTOR FUNCTION FOR KIDS AND ELDERLY

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## ABSTRACT

*Cognitive-motor training refers to a type of exercise that involves activities that challenge both motor and cognitive functions simultaneously and aims to enhance the coordination between physical movements and cognitive processes, promoting overall cognitive functioning and motor skills.*

*The aim of this paper is to gather insights and identify meaningful and beneficial guidelines for a new integrational program comprising play activities for both older and younger individuals. We seek to derive valuable recommendations from existing programs to create an effective initiative that aligns with the advantages highlighted in these programs.*

*The intergenerational psycho-motor interventions employed diverse techniques, for example incorporating dynamic balance exercises and object control skills for seniors, as well as playful activities like jumping and rolling for children, with integrated co-creation activities fostering collaborative engagement.*

*Engaging children and the elderly in intergenerational cognitively enriched movement programs, featuring adaptable and co-creative methods, significantly improves physical activity, cognitive functioning, psychosocial well-being, and motor skill proficiency in children, as well as enhancing functional mobility in older adults.*

*The identified studies underscore the importance of integrating such programs for both young children and the elderly. I intend to provide concrete examples of this type of exercise during the presentation.*

**Keywords:** integrational play, cognitive-motor training, physical activity, children, elderly

# BETA-GAMMA PHASE-AMPLITUDE COUPLING AS AN INDICATOR OF MEDICATION LEVELS IN PARKINSON'S DISEASE: PRELIMINARY RESULTS

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## ABSTRACT

*Electroencephalographic (EEG) recordings reveal increased beta-gamma phase-amplitude coupling (PAC) over the sensorimotor cortex in patients with Parkinson's disease (PD). The magnitude of this increase is directly related to the severity of motor symptoms as measured by clinically recognized motor assessment scales. Furthermore, PAC levels reflect the medication states of patients and decrease following treatment with dopaminergic medication as well as with deep brain stimulation (DBS). We utilized a 128-channel EEG to perform 3-minute resting-state recordings in 10 healthy controls (HC) and 10 PD patients after administration of dopaminergic drug (PD\_ON), both with eyes open. The coupling strength between beta (13-30 Hz) and gamma (30-100 Hz) frequency bands recorded from electrodes placed bilaterally over the sensorimotor cortex (C3 and C4) will be compared between the HC and PD\_ON groups. The purpose of this study is to determine whether the EEG-based beta-gamma PAC levels are sufficient to distinguish patients from control subjects using recordings with two electrodes. If PAC strength is sufficient to make these comparisons, it could serve as a marker of motor parkinsonism. Preliminary findings of these comparisons will be presented.*

**Keywords:** Parkinson's disease (PD), phase-amplitude coupling (PAC), electroencephalography (EEG), resting-state, biomarker

## PHYSIOTHERAPY APPROACH OF FUNCTIONAL MAGNETIC STIMULATION FOR RELIEVING SYMPTOMS OF CARPAL TUNNEL

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### ABSTRACT

*Background:* Carpal tunnel syndrome is the most common compression mononeuropathy, which occurs in as many as one in ten people during their lifetime. The main risk factors for impingement are repetitive, monotonous movements of the wrist, and it affects women to a greater extent than men. The initial signs are numbness of the fingers, discomfort and tingling in the first three fingers and half of the ring finger. Without medical intervention, symptoms begin to appear in the evening or during sleep and there are disturbances in grasping objects.

*Methods:* We conducted an experimental study where volunteers were randomly divided into two groups. 20 volunteers participated in the research and it lasted 12 days. The physiotherapy group received functional magnetic stimulation, which included a frequency of 30 Hz, which was applied to the ventral side more affected wrist with carpal transition syndrome in combination with physiotherapy exercises and a night splint. The control group received physiotherapy exercises and an night splint. Before the beginning and at the end of the research, we filled out the Boston Questionnaire and recorded the VAS scale every day during the research.

*Results:* After 12 days of research, we recorded a statistical improvement in symptom relief in the physiotherapy group ( $AS = 2$ ) than in the control group ( $AS = 2$ ). We also recorded a statistical improvement in 9 out of 11 Boston Questionnaire symptom severity questions in the physical therapy group and 6 out of 11 symptom severity questions in the control group. However, we did not find a statistically significant difference in the functional status of the Boston Questionnaire.

*Discussion:* There is therefore a statistically significant difference with the Tesla Stym device in reducing pain and tingling, but not in improving function, as there was a statistically significant improvement in the Boston Carpal Tunnel Syndrome Questionnaire (symptom severity scale) and VAS scale in the physiotherapy group. While there was no statistically significant improvement in functional status measurements on the Boston Questionnaire. It can be concluded that functional magnetic stimulation affects the relief of symptoms of carpal tunnel syndrome.

**Keywords:** functional magnetic stimulation, carpal tunnel syndrome, relief of carpal tunnel syndrome symptoms, physiotherapy

# THE EFFECT OF THERAPEUTIC EXERCISE ON PAIN REDUCTION IN OFFICE WORKERS WITH NON-SPECIFIC NECK PAIN – A LITERATURE REVIEW

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## ABSTRACT

*Theoretical background: Musculoskeletal disorders, including neck pain, are prevalent in office workers and have a high socioeconomic impact due to reduced functional capacity. This is mainly due to prolonged sitting, the resulting increased biomechanical loads, repetitive upper limb movements and poor ergonomic design of the workstation or desk. Therapeutic exercise has been shown to be one of the possible physiotherapy interventions to reduce pain. The aim of the thesis was to investigate the effect of therapeutic exercise on pain reduction in non-specific neck pain in office workers, based on a literature review.*

*Method: The research design of the thesis is qualitative content analysis. The databases included in the review were ProQuest, PubMed, ScienceDirect and Google Scholar. The keywords used were „therapeutic exercise“, „exercise“, „neck pain“, „non specific neck pain“, „office workers“ and „secretary“. The final review and analysis includes research in English published after 2013.*

*Results: Seven studies were included in the final analysis. We have found that progressive and regular exercise is effective in reducing pain intensity.*

*Discussion: Our review of the literature found that resistance, endurance and stretching exercise are effective in reducing pain symptoms and may have secondary effects on increasing range of motion, pressure pain threshold (PPT), increasing exercise capacity (NDI) and reducing the incidence and intensity of headaches.*

**Keywords:** physiotherapy, therapeutic exercise, non-specific neck pain, office workers



# ANALYSIS OF THE EXERCISE GUIDELINES IN PREGNANCY AND POSTPARTUM

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## ABSTRACT

*During pregnancy and postpartum it is advisable to continue with exercise, if there are no contraindications. Physical activity, that is properly selected and prescribed, has a beneficial effect on health of pregnant and postnatal women. However, due to the physiological and anatomical changes in pregnancy, exercise should be done with caution. Exercise programme should be designed for each pregnant and postnatal woman. With that reason, we did a research on modern professional guidelines for safe exercise in pregnancy and postpartum. Methods: We used descriptive, comparative, analytical and synthesis methods. Qualitative content analysis was used to analyse the findings. Analysis included eight guidelines from eight different countries. Only two of them included guidelines for safe exercise after childbirth. We used PRISMA diagram to select studies. Results: After reviewing and comparing the guidelines, we found that most guidelines suggest at least 150 minutes of moderate intensity exercise per week, at least 3 times a week, with a support of a professional instructor. All the guidelines encourage exercise and include information on exercise characteristics and safe and beneficial forms of exercise in pregnancy. Six guidelines included absolute contraindications to exercise and indications for stopping exercise during pregnancy. Two guidelines introduced guidelines for safe exercise after childbirth. Discussion: We can conclude that exercise in pregnancy and postpartum is desirable and has beneficial effect on the health of pregnant woman, fetus and newly mother. Origin of the guidelines was from different developed countries therefore, it would be interesting to check the difference between the guidelines from less developed parts of the world.*

**Keywords:** physical exercise, pregnancy, postpartum, exercise, guidelines

# THE EFFECT OF TISSUE FLOSSING ON ANKLE RANGE OF MOTION AND MUSCLE STIFFNESS IN PATIENTS WITH ANKLE SPRAIN HISTORY

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Slovenia MILLEO, Sport, Tourism & Education, Mitja Gerževič s.p., Slovenia

## ABSTRACT

*The study aimed to assess the effects of tissue flossing on the mobility and stiffness of plantar and dorsal flexors. It involved 20 volunteers ( $23.6 \pm 3.0$  yrs). Participants with an ankle sprain history in the last two years were in the experimental group (EG), while healthy subjects were in the control group (CG). The intervention consisted of three sets of 2-min elastic band applications to the ankle performing active plantar and dorsal flexions at 60 bpm with 2 min of rest. Measurements of passive and active ankle ranges of motion (ROM), stiffness and pain level were assessed before applying the tape, before warm-up, immediately and 5, 15, and 30 min after the intervention. Stiffness of the ankle's plantar and dorsal flexor tendons was evaluated using the Myoton PRO device. The results revealed that the tissue flossing significantly increased plantar and dorsal flexor ROM in both groups ( $p < 0.05$ ). However, the dorsal flexor ROM in the EG was significantly lower compared to the CG ( $p < 0.05$ ). Interestingly, tissue flossing did not affect the stiffness of the ankle's plantar and dorsal flexor tendons ( $p > 0.05$ ). That suggests that the observed changes in ankle mobility may not be directly associated with changes of stiffness of the tendons.*

**Keywords:** mobility, flexibility, dorsal flexors, plantar flexors, rehabilitation, Visual Analogue Scale

# CHRONIC LOWER BACK PAIN IS ASSOCIATED WITH HIP JOINT MOBILITY AND BILATERAL ASYMMETRY OF FLEXIBILITY IN PROFESSIONAL ICE HOCKEY PLAYERS

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Živa Arko, Senior Lecturer

Mitja Gerževič, Assistant Professor  
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## ABSTRACT

*Introduction:* The aim of this study was to evaluate differences in anthropometric characteristics, hip mobility and bilateral asymmetries in hip flexibility between professional ice hockey players with and without chronic LBP as well as correlations with LBP intensity.

*Methods:* Fourteen professional ice hockey players ( $27.86 \pm 3.28$  yrs;  $1.85 \pm 0.06$  m;  $85.79 \pm 7.04$  kg) were divided into two groups, with ( $N = 8$ ) and without LBP ( $N = 6$ ). Active and passive, left and right hip flexion (FLEX), extension (EXT), internal (IROT) and external rotation (EROT), abduction (ABD) and adduction (ADD) ranges of motion (ROM) with bent (ben) and extended (ext) knee were measured, while LBP intensity was determined with the VAS. Differences between the groups were analysed using Student's T-test or Mann-Whitney U test, while the correlations were analysed with the Spearman's Correlation. Statistical significance was set at  $p$ -value  $< 0.05$  (2-tailed test).

*Results:* Subjects with chronic LBP were significantly older ( $p = 0,003$ ) and shorter ( $p = 0,049$ ). They also had significantly reduced ( $p < 0.05$ ) active hip ROM for EXTben bothsided, EXText leftsided, IROTben bothsided, EROTben rightsided, and reduced passive ROM for FLEXben bothsided, EXTben leftsided, EXText leftsided, IROTben bothsided, EROTben bothsided. Subjects with chronic LBP had also significantly higher ( $p < 0.05$ ) bilateral asymmetry for active ROM in EXText, ADDext and passive ROM in EXTben, EXText, IROTben, ABDext and ADDext.

*Discussion:* It seems that chronic LBP is more common among older and shorter ice hockey players, who have reduced hip mobility and higher bilateral asymmetry of hip flexibility.

**Keywords:** lumbar spine, mobility, bilateral asymmetry, hip range of motion, ice hockey

# CONSERVATIVE PHYSIOTHERAPY TREATMENT OF INTERVERTEBRAL HERNIA IN THE LUMBAR PART OF THE SPINE

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## ABSTRACT

*Condition in the lumbar spine, called an intervertebral hernia causes protrusion of the intervertebral disc core through the fibrous ring. It causes pain in the lower back and along the lower limb, movement restriction and loss of sensation. Physiotherapy with its techniques is one of the methods of conservative treatment. Objectives were aimed to determine which methods and techniques in physiotherapy are most effective in treating patients with intervertebral hernia at the L4/L5 or L5/S1 level, and to determine the long term effectiveness of conservative physiotherapy treatment. In the literature review were included 25 scientific works, found in six databases, published between 2013 and 2023. Results showed that compared to surgery, conservative physiotherapy treatment is effective in the long term, as patients report a lower level of pain and improved quality of life. For patients with lumbar intervertebral hernia conservative physiotherapy treatment is designed as a combination of methods and techniques. Combination of kinesiotherapy, laser therapy, ultrasound therapy, neural mobilization, manual mobilization and traction appears to be the most effective. Long term effectiveness is gained by continuing regular kinesiotherapy training program to increase the stability of the lumbar spine and by following ergonomic principles to protect the spine.*

**Keywords:** conservative physiotherapy treatment, lumbar spine, intervertebral hernia, methods and techniques, effectiveness of treatment





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# **SOCIAL GERONTOLOGY**

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# SCHOLARLY PANEL

## INVITED SPEAKER

### MEDICO-SOCIAL CARE OF ELDERLY POPULATION - DEMOCRACY AT ITS BEST

**Nenad Bogdanović**, Professor  
Karolinska Institutet, Sweden

#### **ABSTRACT**

*Aging is the normal process of time-related physical and mental changes which begins with birth and continues until death. The public's perception of older adults implicates the pessimistic view of being old. Unfortunately, a widespread ageism is dominant view against elderly in the society today. Ageism generates unnecessary fear, waste, illness, and misery as Palmer has observed almost 16 years ago. The elderly is seen as less valuable due to the fact that with the aging process there is a possibility that one may experience some form of health complications or chronic disease, as a result of the physical changes taking place in the body. Thus, older people are often assumed to be frail or dependent. Public health professionals and society as a whole need to address these ageists attitudes which use to lead to discrimination, thus it is important to give maximal opportunities to older people to experience healthy aging. Health is a fundamental human right indispensable for the exercise of other human rights according UNHR. Every elderly person is entitled to the enjoyment of the highest attainable standard of health conducive to living a life in dignity. But accessibility and affordability of health care is significantly frailer in the low and middle-income countries where social and health system remains weak. If a quality health system should be developed, it has to consider age-friendly services and comprehensive geriatric approach taking into account the diversity of older people regarding diverse health risks and medical circumstances. The good quality health system is resting on the adequate skilled, competent, and enthusiastic health workers with the knowledge in geriatric medicine.*

*Geriatric medicine concerns not only physical, but also mental, emotional, social and environmental needs at the old age as well as underlines preservation of functional independence even in the presence of multiple chronic diseases. Geriatric medicine should be able to recognize the unique features of disease presentation in older people and to treat various comorbidities. Some of the typical giants in geriatric medicine that should be assessed and managed are frailty, sarcopenia, anorexia of aging, and cognitive impairment. These conditions are the forerunners of falls, hip fractures, depression, and delirium. Expertise in geriatric medicine should not be exclusive skill of geriatrician but of primary care or family doctors who should be able to manage those giants. The geriatric health care program should be the priority in each country where hospitals should offer an acute geriatric ward, an outpatient clinic, a geriatric day hospital and internal and external liaison functions. The key to deliver good health services for older people is a multidisciplinary partnership across the whole health and social care framework in a region. For the sake of growth and prosperity the geriatric medicine, the high-quality university-driven research on ageing and education in geriatric fields is exceptionally important. Geriatric care should provide longitudinal, proactive, and coordinated care to complex patients. It should create a positive image of the elderly patient by stimulating the knowledge about this patient population through graduate, postgraduate, whole-life education curriculums, and the development of research. Every society should establish a country-specific Geriatric Health Care Program as a proof that geriatric patients and their problems have been taken seriously by the government what is an essential element of democracy.*

# VIRTUAL REALITY AND ITS USE IN CARE HOMES AND BEYOND

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## ABSTRACT

*The importance of using new technologies including virtual reality (VR) for long-term care increased during the COVID-19 pandemic and the related increased loneliness of older adults. The financial availability of VR experiences and devices, as well as the growing digital literacy of the elderly end-users, allows many care homes to offer VR as an alternative to traditional activities.*

*This paper presents a conceptual manual for using VR with older adults in care homes. The manual includes several areas that need to be taken into account in the implementation of VR in care homes, based on several studies, functional testing, and continuous collaboration with a care home activity team within the VIREAS project. These are as follows: the technical aspects of VR including design and quality aspects of the virtual experience, spatial and technical requirements for the facility and the specifics of VR in the case of various health issues; the content and form of the virtual experience including aspects of the quality and attractiveness of the virtual experiences; the communication between the activity worker and the older user including all stages of the virtual session and finally, the ethical principles of using VR and necessary competencies of the activity worker.*

**Keywords:** virtual reality, older adults, care homes, activity workers

# MEASURES TO PREVENT VIOLENCE AGAINST ELDERLY RESIDENTS IN INSTITUTIONAL CARE FOR PERSONS WITH MENTAL ILLNESSES AND INTELLECTUAL DEFICITS

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## **ABSTRACT**

*Introduction: Persons who spend most of their lives in an institution also age there and become vulnerable and fragile. As such, they can often be victims of various forms of violence. The purpose of the article is to answer the question of what forms of violence are most often exposed to residents and to present measures that could be used to protect elderly residents in institutions from the consequences of specific forms of violence.*

*Method: the scoping review was used. Sources in Slovenian, German, English and Serbo-Croatian languages were reviewed. When searching for resources, key words are used: violence, persons with mental and intellectual deficits, aging, institutional care.*

*Results: by reviewing the literature, we substantiated the need to develop a concept for the prevention of violence against elderly residents in institutional care, considering the characteristics and peculiarities of each institution and its particularly exposed organizational units, as well as the basic elements of such a concept.*

*Discussion: we note that the subject under consideration is modestly represented in professional and scientific sources, with rare transparent research. From what has been presented comes the necessity to treat the presented population in the sense of a vulnerable group within a vulnerable group.*

**Keywords:** *dignity, violence, elderly residents in institutional care, elderly persons with mental illnesses and intellectual deficits*

# DIGITAL TECHNOLOGY AS AN ALTERNATIVE TO LIVE CONTACT FOR OLDER ADULTS IN NURSING HOMES: RESEARCH IN TWO NURSING HOMES IN SLOVENIA

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## ABSTRACT

*Background:* Nursing homes or long-term care homes often cause older adults to lose contact with their surroundings or family members. Digital technology is offered as a possible alternative to replace the live social contact of older adults.

*Aim:* Investigate to what extent digital technology can serve as an alternative to live contact for older adults who are placed in a nursing home or long-term care facility.

*Methods:* Data was collected during interviews using the questionnaire. We chose two nursing homes located in Slovenia where we conducted the research with 53 respondents.

*Results:* We found that almost half (41,5%) of respondents completely reduced their loneliness by using digital technology. In general (79,2%) the respondents don't have the desire to learn (or learn better) to use digital technology. Our respondents are of the divided opinion that digital technology can replace live contact, the most answer is that it partially can replace (32,1%).

*Conclusion:* In response to the aim of this research, we can say that the use of digital technology as an alternative for older adults in the nursing home depends on the individual and opinions are divided. Further research is needed.

**Keywords:** digital technology, nursing home, older adults, social contact, live contact

# ACTIVE AGEING IN A CHANGING WORLD

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## ABSTRACT

*The population of Europe, with eighteen percent being 65 years old and over, and projected to continue to increase in the coming years, is ageing. The term active ageing, defined by the World Health Organization as 'the process of optimizing opportunities for health, participation and security in order to enhance the quality of life as people age', is being used continuously in all spheres of gerontology. Whilst active ageing has been discussed in international political organizations and among researchers as a major means for combatting the challenges of demographic ageing, the paper argues that many are still being left in the margins. The presentation will focus on how very often active ageing policies overlook the heterogeneity of older persons, hence not addressing different socio-economic status, gender, ethnicity, sexuality and disability amongst others. Moreover, the paper argues that for active ageing policies to really safe guard and maintain the quality of life of all older persons, all societies should first and foremost address age discrimination and ageism. The paper will conclude that any policies on ageing should take a life-course and human rights approach.*

**Keywords:** active ageing, older persons, quality of life, age-discrimination, ageism, life-course, human rights approach

# DIFFERENCES IN THE RESULTS OF RESIDENTS' SATISFACTION WITHIN CARE HOMES FOR SENIORS ON ISLANDS IN THE PRIMORJE-GORSKI KOTAR COUNTY

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## ABSTRACT

*Control of residents satisfaction is carried out through the E-Qalin system, system, for quality management within institutions for care and care of seniors. The key parameters that influence the satisfaction of residents are: home decoration, nutrition, activities in the care home, the attitude of employees towards residents, nurture and care.*

*The goal of the research is to determine whether there are statistically significant differences in quality between care homes for seniors on islands in relation to size of the care home and the number of accommodation capacities. The research was conducted on a sample of elderly people of both sexes placed in a care home for seniors, divided into two groups, surveyed through anonymous self-assessment questionnaires created by the Fabrika Group / Skupina Fabrika. The degree of satisfaction was assessed using a Likert scale, and data processing was done using the t-test. The results show that there are statistically significant differences in certain domains of satisfaction depending on the size of the care home for seniors and the number of accommodation facilities, with more positive responses from residents placed in a smaller care home.*

**Keywords:** care homes for seniors, quality of life, quality control, social care, user satisfaction

# IMPACT OF PHYSICAL ACTIVITY ON THE QUALITY OF LIFE OF ELDERLY PEOPLE

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## ABSTRACT

*Ageing is a natural biological process that involves the counting of physical and biological changes. Aging leads to changes in strength, mobility, appearance, and some cognitive abilities. Ageing poses challenges, but regular physical activity plays a key role in preserving the health of the elderly. Maintaining functionality becomes extremely important, and exercise contributes to maintaining strength, flexibility and balance, which are key elements of everyday activities. Physical activity also significantly contributes to the prevention of chronic diseases, including heart disease and osteoporosis, which are common at an older age. Muscle loss, common in older age, can be slowed down by regular exercise, maintaining vitality and strength. Physical activity also provides an opportunity for social interaction, either through individual exercises or group activities, reducing feelings of loneliness. It is essential to adapt the type of activity to the individual needs and opportunities of older people encouraging elderly people to exercise regularly not only contributes to physical health but also improves general well-being during ageing.*

**Keywords:** elderly people, physical activity, vitality

# THE IMPACT OF DIGITAL TECHNOLOGY ON THE QUALITY OF LIFE OF OLDER ADULTS

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## ABSTRACT

*Overall, society is aging every day, and technological advances are developing at an ever-increasing rate. Research has shown that social isolation and loneliness can have a negative impact on the health and well-being of older adults. For this very reason, various digital technology-based interventions have been created with the aim of reducing social isolation; however, few studies have been conducted to show the role of different types of technologies and their effectiveness in addressing social isolation in older adults. The quality of life of older adults can be improved without the help of digital technology, but in today's world, technology has developed to such an extent that it can be applied to many segments of older people's lives. Digital technology offers numerous opportunities to improve the quality of life of older adults by providing them with access to certain information, social interaction, health services, and opportunities for activities such as online learning or entertainment. On the other hand, challenges such as technological literacy, accessibility, and the possibility of social isolation are also very present. With appropriate support and education, digital technology can significantly improve the quality of life of older adults.*

**Keywords:** older adults, digital technology, quality of life



# DIFFERENCES IN EXPECTATIONS AND PREFERENCES FOR HEALTHCARE BETWEEN VETERANS AND THE BABY BOOMER GENERATION: A CROSS-SECTIONAL STUDY

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## ABSTRACT

*In the context of population aging, the importance of researching differences in expectations and preferences for healthcare between Veterans and the Baby Boomer generation arises from the need to tailor healthcare services to the needs of these two largest user groups. The lack of comparative analyses emphasizes the necessity for an understanding of the specificities of these populations to enhance nursing care.*

*The objectives of this research are the identification of expectations and gaining insights into the healthcare preferences of these generations, as well as finding statistically significant differences in variables. The study will be carried out as a cross-sectional research and a self-designed questionnaire will be administered in Retirement Home and Home Healthcare Institution. The result analysis will focus on identifying differences in expectations and preferences for healthcare between the groups.*

*The results are expected to provide an understanding of the needs and wishes of the examined population in order to identify key aspects that can help to shape healthcare practices. The study has the potential to shape personalized healthcare by encouraging the customization of services based on the individual needs of Veterans and the Baby Boom generation. Future practice implies enhancing the quality and efficiency of nursing care.*

**Keywords:** expectations, preferences, healthcare, Baby Boom generation, Veterans

# ATTITUDES OF STUDENTS OF THE SECONDARY MEDICAL SCHOOL BJELOVAR MAJORING IN NURSE/ GENERAL CARE TECHNICIAN ON EUTHANASIA

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## ABSTRACT

*The legalization of euthanasia is regulated by a special law in which the exact conditions and circumstances of its implementation are prescribed. In Europe, the Netherlands, Belgium and Luxembourg, Spain and Portugal were the first to introduce such a law. One of the most famous countries in the world when it comes to euthanasia is Switzerland. In Croatia, passive euthanasia, meaning refusal of treatment and advanced life support procedures, is allowed, while active euthanasia is not allowed.*

*The aim of this research is to examine the attitudes of the students of the High School of Medicine who are studying for the profession of nurse/general care technician about the implementation of active and passive euthanasia. Examination of future medical workers will be done with anonymous survey questionnaires. 100 students were included in the survey. The survey questionnaire consists of sociodemographic questions, and a part that refers to medical, ethical, moral, and spiritual issues related to euthanasia.*

*Statistical methods used in this research refer to descriptive statistics, - test (chi-square test) and graphical representations. The results of this research showed that students whose future vocation is care, nurture and tending to other people are statistically more strongly opposed to performing euthanasia.*

**Keywords:** active euthanasia, passive euthanasia, medical school students, student attitudes, life support

# THE IMPACT OF INFORMAL CAREGIVING ON CAREGIVERS' SPIRITUAL HEALTH

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## ABSTRACT

*Theoretical framework:* Around the world, populations are living longer and aging, which brings many new challenges to the provision of nursing care and care for older adults. People who are older than 65 years have associated chronic diseases, which causes them many headaches in the field of self-care in the home environment. That is why they are helped by domestic caregivers (informal caregivers), who are exposed to many stressful situations that lead to deficits in their physical, mental and social health. Good spiritual health is also extremely important, as it enables them to manage various stressors and, as a result, many stressful situations, which has a positive effect on the way of working with older adults, taking into account their dignity.

*Methodology:* A literature search was conducted in the two search databases ScienceDirect and PubMed, in the time period from 2013 to 2023. 11 studies were included.

*Results:* From the included studies, we highlighted four key points: reciprocity, intergenerational respect for dignity, the caring role of informal caregivers and stress.

*Conclusion:* Mutual cooperation between older adults with associated chronic diseases and family caregivers is essential for fulfilling the caregiving role and for preventing distress on both sides, establishing intergenerational respect and dignity.

**Keywords:** informal care, older adults, spiritual health, caregivers, home environment

# DOES THE STRENGTH OF RELIGIOUS BELIEF AFFECT HOPE IN ELDERLY INDIVIDUALS?

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## ABSTRACT

*Hopelessness is one of the main problems encountered in old age. Hope is an internal attitude that gives attention and positive feelings towards the difficulties that may be encountered in life. Being hopeful is not just an expression of wishful thinking but also an intentional cognitive process that involves goal-directed thinking, agency, and a sense of competence. Therefore, hope is also a source of coping, and it derives its power largely from faith. Religion, which is a system of meaning, promises hope for believers and increases the individual's positive expectations for the future. Hope, which is a potential mediator of the effect of religious belief on well-being and an important source of motivation for almost all religious belief systems, functions as a protective buffer for the individual's mental health, especially against pessimistic world perception. Therefore, religious belief is closely related to the concept of hope, which has an existential importance in old age. Research needs to be conducted to reveal the relationship between the two concepts.*

**Keywords:** old age, aging, religion, belief, religious belief, hope

# DIGNITY INFORMAL CARE OF ELDERLY ADULTS

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## ABSTRACT

*Theoretical framework: In the world, the need for integrated care is increasing, as the population is aging, and with aging, diseases and disabilities are also increasing. Informal caregivers of older adults with multiple comorbidities are usually family members or any other person who means a lot to them and helps them with their basic daily needs and tasks. Due to the performance of such an important role, informal caregivers are exposed to many stressors that have a strong impact on their physical, mental, social and spiritual health, which can have a significant impact on respect for the dignity of older adults with co-morbidities. Older adults with multiple co-morbidities deserve dignified care, the essential elements of which are compassion and empathy. Dignified care of older adults means harmonizing familiarity and professionalism, which, despite comorbidity, contributes to well-being and ensuring a quality life.*

*Methodology: A literature search was conducted in the two search databases ScienceDirect and PubMed, in the time period from 2013 to 2023. 18 studies were included.*

*Results: from the selected studies, we highlighted key points: maintaining the quality of life of older adults, assuming responsibility, the impact of providing care on the health of informal caregivers and a positive attitude towards older adults.*

*Conclusion: Informal caregivers are those who can provide the most effective and dignified care and support to older adults. This type of care gives older adults the feeling that they are not a burden to family and friends or their caregivers.*

**Keywords:** older adults, informal care, home caregivers, dignity

# THE CONSEQUENCES OF THE COVID-19 ON RESIDENTS IN ELDERLY ADULT'S HOME IN LJUTOMER

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## ABSTRACT

*Despite all the measures issued, the number of infected people increased day by day and thus an epidemic was declared in Slovenia on March 12, 2020 at 6 p.m (Urad vlade RS 2020). On March 27, 2020, the first residents of DSO Ljutomer were infected with the virus. Covid-19 brought with it difficult lessons in the home for the elderly, especially due to separation from loved ones, prohibition of visits, loneliness, fear, various protocols and measures with wearing masks, protective equipment, isolation and going through difficult times for residents and employees. In the empirical work, we used a qualitative research approach, which was carried out with the help of interviews. The results of the research are presented in a descriptive form regarding the experience of the consequences that cause an increase in fear and loneliness among the residents of the Ljutomer home for the elderly and the co-experience of the employees, as well as the categorization of records. In our research, we found that the global Covid-19 pandemic had a strong impact on the residents and employees of the Ljutomer home. During the time the home was closed, there was fear and loneliness among the residents due to the measures taken to contain the epidemic. The virus has had an unpredictable effect on social contacts, and especially on the social contacts of the elderly. Here the role of the social gerontologist played a very important role.*

**Keywords:** Covid-19, elderly, epidemic, loneliness, social gerontologist

# NURSING STUDENTS PRESERVE THE DIGNITY OF OLDER ADULTS THROUGH A HOLISTIC APPROACH: LITERATURE REVIEW

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## ABSTRACT

*Theoretical framework: Student nurses play a crucial role in providing holistic care to older adults, ensuring their physical, emotional, and social well-being. This article explores the importance of dignity in the care of older adults and highlights the significance of incorporating this aspect into nursing education.*

*Methodology: A literature search was conducted, limited to the period between 2013 and 2023. 3 databases were searched: PubMed, Science Direct, and Sage Journals. 9 studies were included.*

*Results: From the included studies, we defined: Encouraging nursing students to adopt a person-centered approach that prioritizes older people's preferences and values and ensures their active participation in decision-making. We meet critical needs in nursing education when we teach students how to recognize ethical issues, how to ask appropriate questions, and how to formulate their arguments and defend opinions.*

*Conclusion: Nursing students play an important role in providing holistic care to older adults, and dignity is a crucial aspect of that care. By integrating dignity-focused education into nursing curricula, students can develop the skills and attitudes necessary to provide dignified care that respects the autonomy and individuality of older adults. Future research in nursing education and social gerontology is still needed, especially in the area of training and communication skills.*

**Keywords:** nursing students, holistic care, older adults, dignity

# THE ROLE OF DIGITAL SOLIDARITY IN INTERGENERATIONAL RELATIONSHIPS

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## ABSTRACT

*Digital solidarity emphasizes the use of digital technology in connecting people of different generations and social contexts. When we consider digital solidarity within intergenerational relationships, it is most often used to maintain connections and encourage social interaction between generations.*

*The growth of the use of technology among people over 65 years of age during the last decade enabled the implementation of the concept of digital solidarity in intergenerational relations as a new domain within associative and functional solidarity. This modern approach to communication allows the elderly to keep in touch with the second generation without direct traditional contact, through virtual means such as video calls, e-mails and messages. Despite the obvious advantages, a deeper understanding of the effects of digital solidarity on intergenerational relationships is needed as a supplement to traditional contact with the elderly.*

*This paper will describe the knowledge about the impact of digital solidarity on the maintenance of intergenerational relationships, analyze the potential benefits, but also the limitations it provides to older people. The central question that will be considered is: can digital technology adequately replace traditional contact between generations?*

**Keywords:** digital technology, intergenerational relationships, communication, older people



# A DIGNIFIED OLD AGE - ENERGETICALLY SECURE OLD AGE

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## ABSTRACT

*Due to the ubiquity of the phrase energy security, which indicates the „resilience of the concept of security and its leading power“, the concern about whether energy issues are security and whether they are important in international relations is superfluous. The latest research on the key „weapons“ that will affect the balance of power in the coming decades, along with artificial intelligence and the space race, reveal the importance of energy security, which will, as always, be one of the key factors in the balance of power. In order to enable the population to live a dignified old age, we must strive for the sustainability of energy security, where all elderly people could enjoy the benefits of energy sources that are necessary for a normal and quality life. In order to reduce the problem of energy poverty, it is necessary to approach its suppression with a systematic, interdisciplinary approach, since it is affected by various sectors - from the energy sector, through the health system to the social welfare system. In terms of the awareness of citizens and decision-makers about energy poverty, we see a lot of room for improvement and consider it crucial to develop empathy for vulnerable older people and change in this area. It is important to emphasize that through individual efforts we can influence a change in the population's consciousness in order to strive to ensure an energetically secure and dignified old age of the elderly.*

**Keywords:** energy security, dignified old age, elderly people.

# THE IMPACT OF COVID-19 PANDEMIC ON NEUROPSYCHIATRIC SYMPTOMS IN PEOPLE WITH DEMENTIA AND THE ROLE OF MODERN TECHNOLOGIES

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**Barbara Lovrečič**, Assistant Professor  
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## ABSTRACT

*Background: Environmental variables can have an important impact on people living with dementia and their carers. World Health Organization (WHO) declared the outbreak as a pandemic SARS-CoV-2 on 11 March 2020, which led to the implementation of widespread restrictions (e.g., quarantine, physical/social distancing measures, lockdown) and have had a profound impact on the lives of all, especially vulnerable groups, like persons with dementia. Methods: We reviewed the literature, using PRISMA methodology, on assessment and monitoring of neurocognitive situation of people with dementia. Results: During lockdown, access to healthcare was limited, loneliness and the burden of caregivers increased. Only few researches have not shown a link between the pandemic and worsening of dementia symptoms. The proportions of worsening neuropsychiatric symptoms ranged till three fourth of cases, cognitive decline was described in more than a half cases, and in more than in fourth of cases therewas a need for pharmacological adjustment of treatment. Conclusion: The pandemic has highlighted the role of telemedicine in health care system, while other assistive technologies improved the quality of life and improved autonomy. Strategies for the development of additional support services that meet the needs of people with dementia and their caregivers are needed, especially in cases of crisis (e.g. covid-19 and other epidemics, floods, earthquakes, avalanches).*

**Keywords:** dementia, covid-19, telemedicine, assistive technologies, neurocognitive symptoms

# THE BURDEN ON INFORMAL CAREGIVERS OF PERSONS WITH DEMENTIA DURING COVID-19 PANDEMIC

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## ABSTRACT

*Introduction: The aim of the study was to assess the impact of pandemic covid-19 on the burden of caregivers of people with dementia. Methods: We reviewed the literature in PubMed database, using PRISMA methodology, regarding impact on the burden of informal caregivers of people with dementia during the pandemic. Results: During covid-19, informal caregivers faced a variety of problems when caring for people with various forms of dementia, the most prominent of which were: increased fatigue and burnout, deterioration of mental health and well-being, increased concern, difficult access to health services in various areas for people with dementia, and an increased need for support. All these factors contributed to the increased burden among informal caregivers of people with dementia. Discussion: The burden on informal caregivers of people with dementia was greater compared to informal carers for people with other chronic diseases and conditions. The pandemic has prevented many supportive, medical and educational forms of assistance from attending, leading to a worsening of the situation of people with dementia and informal caregivers not being properly educated. Conclusion: Informal caregivers were additionally facing burnout and overload during the covid-19 pandemic, requiring help in the form of emotional, informational and peer support.*

**Keywords:** dementia, informal caregivers of people with dementia, covid-19 pandemic, burden

# PALLIATIVE CARE OF OLDER ADULTS WITH NONCOMMUNICABLE DISEASE DEMENTIA THROUGH THE PERSPECTIVE OF SUSTAINABILITY AND DIGNITY

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## ABSTRACT

*End-of-life dignity older adults with noncommunicable disease is becoming an increasingly important topic in modern society. As the population ages, the need for holistic palliative care is increasing enormously. The development of sustainable models of palliative care, which include an integrated approach, education, training, individual orientation and ethical voice, is a necessary step at the global level and represents an important socially responsible task. The purpose of the literature review was to review and summarize the best empirical evidence regarding the sustainability aspect of palliative care and preserving the dignity of older adults with noncommunicable disease. As part of the systematic review, we used the PubMed, Chochrane and ScienceDirect databases. Based on the content analysis, we identified a conceptual design based on the domains of the World Health Organization: A sustainable perspective of palliative care taking into account the dynamic reciprocity of dignity. Palliative care for older adults with noncommunicable disease, through the perspective of sustainability and dignity, is critical to ensuring high-quality care at all levels of health care.*

**Keywords:** palliative care, sustainability, dignity, older adults with noncommunicable disease

# PHOTOGRAPHY AND DIGITAL DEVICES AS BASE FOR REMINISCENCE THERAPY WITH ELDERLY PEOPLE

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## ABSTRACT

*Photography among other personal belongings can be useful tool in elderly people memory and overall self-esteem in remembering. The aim is to investigate how reminiscence therapy works and what results with elderly people does it give. This review is trying to show mutual results when the reminiscence therapy is being applied. Beside good effect on elder people, positive changes are documented with professional and family caregivers work too. Studies find race influences on caregiving motivation, where traditional values, duty, care in collectivist caregiving systems and family teachings are important.*

*Technology among elderly is used as a tool to help with reminiscing. The most common is some sort of photo video program that collects personal items and makes them available to use even without constant caregiver presence. There is also development potential of digital and virtual reality technologies that are being used in some studies. The users of technology are elderly with limitations in eyesight, fine motoric and cognitive functioning so the technology should adjust to their needs. Population included in the studies vary from individuals with mild to severe dementia diagnosis, patients with Alzheimer's disease and elderly living in facilities. Creating of any kind of reminiscing program should be started at the time when elderly are still motivated to be active in it and the reminiscence therapy should be regular if positive effect is our goal. Studies are challenging to compare due to different sample sizes and methodology, so future studies should aim to improve methodological quality to bring researchers better concrete evidence of these studies. So far no negative results are witnessed but the positive ones are not so confident. As alternative to pharmacological way of treatment, reminiscence therapy has to be applied seriously, continuously, regularly and compared to control group. Only that will give us better picture of its value.*

**Keywords:** dementia, reminiscence therapy, photo diary, digital device, wellbeing, caregiver

# DIGNITY AND PRESERVATION OF COGNITIVE ABILITIES OF THE ELDERLY WITH THE HELP OF ART THERAPY - FRACTAL DRAWING

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## ABSTRACT

*The aging of the population brings with it various challenges for the elderly. The elderly are less and less involved in social activities and often find themselves on the verge of social exclusion. Loneliness is one of the main problems of the elderly. On the other hand, with an increasingly long lifespan, we are also encountering an intensive increase in the number of dementia diagnoses. This is already approaching the number of 50 million in the world. When diagnosed with dementia, we are often faced with a decline in individual dignity. Fractal drawing is a form of art therapy characterized by various positive effects. That's why we were interested in how art therapy - fractal drawing can be used to promote the cognitive development of the elderly and thus reduce the risk of developing dementia and, at the same time, reduce the loneliness of the elderly by involving them in activities. By engaging in social activities and maintaining cognitive abilities, the elderly also preserve their dignity. For this purpose, we held 8 sets of workshops for seniors aged 65 and over. 108 participants were included. The effects of participation in the workshops and independent work at home were measured before the beginning and at the end of the workshops. Whereby we focused on the field of emotional functioning, the field of concentration and attention, and the field of cognitive skills and, of course, the general state of health. We found that the condition assessments improved in all individual areas. So we can conclude that art therapy - fractal drawing helps in the development of cognitive abilities of the elderly and thus reduces the risk of developing dementia, thereby preserving the dignity of the elderly.*

**Keywords:** elderly, loneliness, dignity, cognitive abilities, fractal drawing

# THE IMPACT AND CONTRIBUTION OF INTERGENERATIONAL TOURISM

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## ABSTRACT

*The aging of the population is a phenomenon of modern postmodern society, which, despite its negative connotation, also brings new opportunities, including in the field of strengthening intergenerational relations. Already in the current modern society, we can see the increase of intergenerational groups and centers, which prove that this kind of intergenerational gatherings really have a positive effect on the psychophysical state of people, otherwise of different generations, and at the same time they encourage socialization, broadening of horizons and transfer of experiences between generations. Tourism for older adults and intergenerational tourism are also gaining more and more importance, which, with a good knowledge of the target group and taking into account their needs and wishes, represent a great potential for the tourism sector and, consequently, also for the economy, both at the local and national level. This type of touristic activity encourages active aging, and at the same time brings many psychosocial benefits and strengthens the ties between different generations, which have a significant impact on the quality of life as well as aging. In the empirical part, with the help of a questionnaire, we investigated the impact of intergenerational tourism on the establishment of closer mutual ties between grandparents and grandchildren, and at the same time we also checked how important intergenerational contacts are for the younger generation, which has different values and habits than the older generation of veterans. and the Baby Boom generation. We found that the majority of respondents have good relations with their grandparents, and at the same time, with the help of the obtained empirical results, we confirmed the set research hypothesis, since the respondents estimated that joint participation in tourist activities with grandparents has a beneficial effect on their mutual relations and on the frequency contacts and that there is a transfer of important life experiences.*

**Keywords:** older adults, intergenerational relations, tourism for older adults, intergenerational tourism, strengthening mutual relations

# INTERGENERATIONAL COOPERATION IN THE WORKPLACE

Aljaž Ozimič, Student

Urška Majcenovič, Student

Anja Hazimali, Student

Zala Vesenjāk, Student;

Jana Goriup, Professor

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## ABSTRACT

*In this paper, we will present intergenerational cooperation in the workplace, which we consider very important. In the theoretical part, we wrote about intergenerational and workplace cooperation in general, mentoring and its characteristics, intergenerational learning, generations we know and prejudices that should appear in the workplace. Due to all types of knowledge acquisition at the workplace, which have proven to be very important over time, we set the research hypothesis that the expectations regarding mentoring of the older and younger generations are consistent. In doing so, we limited the younger generation to the age of 18 to 30, and the older generation to 55 and over. In order to verify the research hypothesis, we studied the field of intergenerational cooperation in the workplace with the help of scientific literature and then carried out an empirical part. In the latter, we researched mentoring at the workplace, and 108 participants were involved. Based on all the answers we received, we found that as many as 97% of younger respondents are convinced that mentoring in the workplace is beneficial, as are 84% of older adults. On the other hand, younger people are convinced that good mentoring is conditioned by knowledge and not only by chronological age. At the same time, we found that with mentoring, stereotypes about different generations that can appear in the workplace are less pronounced. While the older generation recognizes the freshness of ideas and innovation of younger colleagues, the younger generation appreciates the experience of their older colleagues.*

**Keywords:** mentoring, mentor, collaboration, intergenerational collaboration, older adults, generations



# EXPERIENCING AN INTERGENERATIONAL PERSPECTIVE THROUGH THREE GENERATIONS

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Hana Roškar, Student

Sara Skaza, Student

Marisa Verdev, Student

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## ABSTRACT

*The enduring elements, such as the core values of any society, are language, traditions and family roles, which remain constant over time, while the very characteristics and characteristics of generations change with time and the social environment in which people live. Discontinuity in intergenerational relationships also brings conflicts, which can be resolved primarily through open communication and intergenerational mentoring. Intergenerational collaborations contribute to the expansion of solidarity and the integration of society. Such collaborations are key to the transfer of knowledge between generations and the establishment of bonds between generations. At the same time, we were interested in different generations and understanding the differences between them. We have focused on intergenerational traumas that are passed down from generation to generation and that manifest as the consequences of emotional wounds and difficulties in expressing emotions and the abuse of older adults by family caregivers, which is one of the very serious problems that requires attention. We know several forms of abuse (physical violence, psychological violence, material damage, and active and passive neglect). At the same time, in the empirical work, we focused on researching the intergenerational aspect, namely how the experience of it differs from the perspective of different generations and how this affects their values and mutual relations. We found that the older and the youngest generations are received very positively, while Generation X contributes the most to coexistence and mutual understanding. The majority, i.e. as much as 95% of those surveyed, are convinced that intergenerational cooperation is important. When caring for older adults, there are many ways in which we can ensure their well-being and connect them to each other or integrate them into the community. It is also important to understand individual needs and wishes and adapt activities accordingly. We can conclude that the power of intergenerational cooperation is manifested in the combination of knowledge, experience, and energy of different generations.*

**Keywords:** values, learning, intergenerational cooperation, generation, intergenerational trauma

# SCHOLARLY PANEL

## DIGITALISATION AND ICT USE AMONG OLDER ADULTS

### ICT USE AND DIGITAL LITERACY AMONG OLDER ADULTS THE IMPORTANCE OF COGNITIVE FUNCTIONING

**Voyko Kavcic**, Professor

**Peter Seljak**, Assistant Professor

**Barbara Grintal**, Assistant Professor  
Alma Mater Europaea – ECM, Slovenia

#### ABSTRACT

*Introduction: In information and communication technology (ICT), accelerated development can be detected, which also has a significant impact on the use of ICT and digital literacy among older adults. Internet use and digital literacy in older adults are particularly dependent on cognitive aging, i.e. age-related declines in an individual's cognitive abilities, as they find it more difficult to learn and develop new skills related to new technology and complex operational procedures. The purpose of the research was to determine the connections between the internet use and cognitive abilities in older adults.*

*Methods: The research was based on a quantitative methodological research approach. In the processing, we included data from the 8th wave of the longitudinal Survey of Health, Aging and Retirement in Europe (SHARE), which is a panel database of microdata on health, socioeconomic status and social networks of people over 50 years of age in Europe. The data analysis was related to dependent variables in the field of Internet use and independent variables in the field of cognitive capacities in persons over 60 years of age in Slovenia. In the research, we used logistic regression analysis, with which we evaluated the connections between Internet use (dependent variable) and cognitive abilities (independent variables) and in connection with the control variables: gender, age, education and living environment.*

*Results: The results of the research show that there is a strong relationship between Internet use and cognitive abilities, with working memory, as determined by the numeracy test, having a greater association than short-term memory, as determined by the 10-word immediate repetition test.*

*Discussion and conclusions: Based on the results, we can conclude that both in older adults, their cognitive abilities in individuals use the Internet. We can also point out that individuals with reduced cognitive abilities predict a lower use of the Internet. These findings are thus important for intervention designers to improve digital literacy among older adults.*

**Keywords:** older adults, SHARE, ICT use, digital literacy, cognitive abilities

# ICT USE AND DIGITAL LITERACY AMONG OLDER ADULTS AN IN-DEPTH QUALITATIVE ANALYSIS

**Barbara Grintal**, Assistant Professor

**Peter Seljak**, Assistant Professor

**Voyko Kavcic**, Professor

Alma Mater Europaea – ECM, Slovenia

## ABSTRACT

*Introduction: The use of information and communication technology (ICT) is subject to accelerated development. On the one hand, such rapid development represents certain positive social effects, but on the other hand, it increases the digital divide and digital exclusion of some social groups, which may include older adults. The purpose of the research was to determine the life experiences of older adults in the use of modern technologies and their impact on their quality of life and social inclusion.*

*Methods: The research was based on a qualitative methodological research approach, in which we used the interview method. Data were collected through in-depth structured interviews. The questions in the interview were formulated on the basis of theoretical starting points. We conducted interviews in the months from June to December 2023 with 17 people over the age of 60. In the research, we used the method of descriptive statistics and the method of five-level text analysis, in which we took into account the approach of social construction theory.*

*Results: The results show that there are large differences in ICT use and digital literacy among older adults, influenced by a number of external and internal factors. ICT users rate their digital literacy well and often use ICT for various purposes. They see the reason for using ICT as a long-standing habit, because of their own interest and interest. Non-users of ICT, despite the fact that they have encountered ICT in the workplace in the past, do not see the need, interest or necessity for its use. Both point out that they do not perceive the accelerated digitalization process as social pressure.*

*Discussion and conclusions: Based on the results, we can conclude that the use of ICT and digital literacy are not important factors for older adults for their better quality of life and social inclusion. However, a large digital gap can be detected between users and non-users of ICT, and it only deepens with time.*

**Keywords:** older adults, ICT use, digital literacy, quality of life, social inclusion





# **SOCIAL INFRASTRUCTURE**





# SCHOLARLY PANEL

## PLANNING SMART SILVER VILLAGES AS AGE-FRIENDLY COMMUNITIES IN EUROPEAN RURAL AREAS

David Bogataj, Professor  
Alma Mater Europaea – ECM, Slovenia

### ABSTRACT

*Smart Silver Villages is the sub-theme of the broader European thematic research on Smart and Competitive Rural Areas. The European care strategy published last year highlighted the need to develop age-friendly housing and community care services in rural areas, with a dispersed population and large distances between LTC users. Ageing, poor mobility, and an increasing need for assistance with daily activities have made the development of facilities and access to person-centred integrated care services a significant area of social policy and spatial planning in rural areas. We developed a decision support model for planning the development of various care settings in Smart Silver Villages dependent on given demand dynamics. The paper presents the goal programming model for forecasting demand for different care settings on the 40 years horizon. To know the demand for various specialised housing solutions on this horizon, we created demographic projections of persons needing different intensities of care. To determine these probabilities, we examined the different age groups regarding their preferred type and location of care settings, including Baby Boomers and Silent and Government or General Issued Generation. The results indicate significant differences across the generational age groups regarding housing and logistics. We determined the optimal construction of facilities and capacities of care networks in Smart Silver Villages of selected NUTS3 regions related to expected demand, considering changing preferences and the impact of digital literacy on these changes.*

**Keywords:** social infrastructure, integrated care, age-friendly, housing, smart silver villages

# SOCIAL INFRASTRUCTURE OF RURAL AREAS

**Marija Bogataj**, Professor  
INRISK Institute, Slovenia

## ABSTRACT

*This paper delves into the critical examination of the social infrastructure within rural areas, highlighting the key components that underpin social well-being and cohesion in these communities. Social infrastructure, encompassing educational institutions, healthcare facilities, social services, and recreational venues, serves as the backbone of rural societies, fostering community resilience and quality of life. Through a qualitative analysis of various rural settings across different geographical locations, this study identifies the prevailing challenges that hamper the effectiveness and accessibility of social infrastructure in rural areas. These challenges include limited funding, inadequate staffing, physical remoteness, and often, the digital divide that exacerbates social exclusion. The paper also sheds light on the innovative practices and policies that have been implemented to strengthen rural social infrastructure, including community-led initiatives, public-private partnerships, and the integration of digital technologies to bridge service gaps. The findings underscore the importance of a holistic and participatory approach to developing social infrastructure, ensuring that it is responsive to the evolving needs of rural populations. By drawing on case studies of successful interventions, the paper proposes a framework for enhancing the social infrastructure in rural areas, emphasizing the need for sustainable investment, collaboration across sectors, and the adoption of technology-driven solutions. The study concludes with policy recommendations aimed at empowering rural communities, enhancing social connectivity, and ensuring equitable access to essential services, ultimately contributing to the socio-economic development of rural areas.*

**Keywords:** infrastructure, rural areas, long-term care



# PERCEPTION OF RESIDENT OF OLD AND NEW NEIGHBOURHOODS REGARDING SOCIAL INFRASTRUCTURE

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**David Bogataj**, Professor  
Alma Mater Europaea – ECM, Slovenia

## ABSTRACT

*Facilities for education, health and housing, which represent the core of urban social infrastructure, are of utmost importance for the development of the human capital of residents. The paper presents a study regarding access to social infrastructure in Kosovo's old and new neighbourhoods. The migration trend from rural to urban areas has influenced the urban development of cities. Spatial planning of new neighbourhoods in Kosovo does not prioritize access to social infrastructure, such as access to green spaces, general and specialized medical services, kindergartens, primary and secondary schools, markets and shops, security of neighbourhoods, access to facilities for the elderly and public transport. Based on the survey, we found that residents of new neighbourhoods are dissatisfied due to a lack of access to social infrastructure in new neighbourhoods. In this paper, we present the attitude of the residents regarding access to social infrastructure as the main priority in the urban development of the cities. As a case study, we use the cities of Ferizaj and Gjilan in Kosovo.*

*As part of the city's identity, the old neighbourhoods have developed social infrastructure since the former Yugoslavia, and some residents are satisfied with the urban design and routine services they receive every day.*

*As case studies, we present three neighbourhoods: the New Neighbourhood area in Ferizaj, the Balec Neighbourhood area in Gjilan, and the Zenel Hajdini Neighbourhood in Ferizaj. These examples illustrate social infrastructure development and its impact on residents' satisfaction*

**Keywords:** *new neighbourhoods, old neighbourhoods, urban plan, social infrastructure*

# HOW TO DEVELOP A MODEL FOR MEASURING SOCIAL VALUE OF SOCIAL INNOVATIONS IN LONG-TERM CARE – THE CASE OF PHYSIOTHERAPY (REINTEGRATION IN COMMUNITY)

**Suzanna Mežnarec Novosel**, Lecturer, PhD Candidate  
Alma Mater Europaea – ECM, Slovenia

**Marija Bogataj**, Professor  
Institute INRISK, Slovenia

## ABSTRACT

*In the Green Paper on Aging, the European Commission emphasizes that the development of care services in the community takes priority over the development of capacities for institutional care. When organizing care in the community, it is particularly important to statistically monitor the number of people who need health and social care by category of care, because to provide care within the framework of each category, it is necessary to plan financial expenditures for long-term care (LTC). The study is based on determining the social value of LTC services, specifically home care. We will limit our study to the economic effects and highlight the benefits of physiotherapy in reintegration into the home environment.*

*To measure social value over a longer period, an actuarial approach with knowledge of the transition matrix of transitions between individual states of functional abilities and capabilities is required. This, however, is different for different long-term care services, as indicated by the estimates of the percentage of transitions to a higher or lower category of care and thus approximations of the probability of transitions. This, in turn, affects the differences in the required amount of funding for long-term care services. In this paper, we present the starting points for the preparation of guidelines for the unification of the methodological approach to data processing, based on the results of the LTC project, which was co-financed by the European Commission. As a method of measuring the economic efficiency of new services in integrated LTC, we present for modern integrated LTC a current method of actuarial mathematics - Multiple transition model, which measures the social value of various solutions in LTC.*

**Keywords:** home care, social value, economic effect, multiple transition model, physiotherapy

# CASH FLOW GENERATED BY SOCIAL INFRASTRUCTURE OF RURAL AREAS

Valerija Rogelj, Assistant Professor, Researcher  
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## ABSTRACT

*This study explores the intricate relationship between social infrastructure development for older adults in rural areas and its subsequent effect on local economies, particularly through cash flow generation. Social infrastructure, encompassing health care facilities, senior centers, accessible transportation systems, and digital connectivity solutions, is crucial for enhancing the quality of life for older adults. However, its economic implications, especially in terms of generating cash flow within rural communities, remain underexplored. Through a mixed-methods approach that combines quantitative financial analysis with qualitative case studies, this research investigates how investments in social infrastructure contribute to the economic vitality of rural areas. It examines various models of social infrastructure development, from government-funded programs to public-private partnerships, and their capacity to create jobs, stimulate local businesses, and attract additional investment. The paper also evaluates the direct and indirect benefits of improved social infrastructure for the older adult population, including increased spending in local economies, enhanced access to services, and the potential for innovative eldercare solutions. Findings indicate that strategic investment in social infrastructure not only improves the well-being of older adults but also acts as a catalyst for rural economic development, generating significant cash flows through various channels. The study concludes with policy recommendations for maximizing the economic benefits of social infrastructure investments, ensuring sustainable development, and fostering resilient rural economies supportive of their aging populations.*

**Keywords:** social infrastructure, retirement villages

# DESIGNING LIVING ENVIRONMENTS FOR OLDER ADULTS: DOES THE LEGAL FRAMEWORK CONTRIBUTE TO APPROPRIATE QUALITY?

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University of Maribor, Faculty of Civil Engineering, Transportation Engineering and Architecture, Slovenia

**Nataša Čuković Ignjatović**, Professor

**Dušan Ignjatović**, Professor

University of Belgrade, Faculty of Architecture, Serbia

**Nataša Šprah**, PhD, Researcher

University of Maribor, Faculty of Civil Engineering, Transportation Engineering and Architecture, Slovenia

**Novak Đukić**, Researcher

University of Belgrade, Faculty of Architecture, Serbia

**Vanja Skalicky Klemenčič**, Professor

University of Maribor, Faculty of Civil Engineering, Transportation Engineering and Architecture, Slovenia

## ABSTRACT

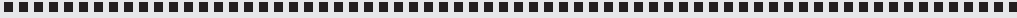
*Although the life expectancy of the population has increased in many developed countries worldwide in recent decades, life expectancy in Slovenia and Serbia is significantly lower in the indicator category of healthy life years compared to the EU-27 average. Given the phenomenon of an ageing population and simultaneously low healthy life expectancy, the need for immediate and effective measures to improve the quality of life is an important task for modern society. To achieve the latter, a wider range of different measures can be made available to older people. In addition to measures that promote their social and those that contribute to high-quality social and health care, an important task can be seen in improving the quality of the living environment for older adults. This depends to a large extent on national social care systems and also on binding legislation for the construction and design of long-term care facilities.*

*This paper highlights the parts of national regulations that concern the nursing home buildings, highlighting only those articles that relate to the architectural features of these living environments. The countries included in the study are Slovenia and Serbia. In the second phase, the regulations are compared with the guidelines for the design of living environments for the elderly in order to identify missing requirements in both national legal frameworks. The shortcomings of the existing national regulations are highlighted with the aim of validation and comparative criteria analysis of the architectural design elements. The aim of the project is to provide a basis for rethinking the national framework for the design of living environments for older adults, and consequently to encourage the provision of high quality living environments in both countries, Slovenia and Serbia.*

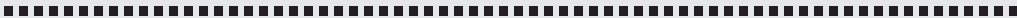
**Keywords:** *living environment quality, nursing home, architectural features, legal framework, architectural design guidelines*







# MEDICINE







# SCHOLARLY PANEL

## NEUROSURGERY AND NEUROSCIENCE: BRIDGING THE GAP FOR BETTER PATIENT CARE

### THE EVOLUTION AND FUTURE OF NEUROMODULATION IN TREATING NEUROLOGICAL CONDITIONS

**Tadej Strojnik**, Professor  
Neurosurgical Institute, Slovenia  
Alma Mater Europaea – ECM, Slovenia

#### **ABSTRACT**

*Neuromodulation, a rapidly advancing field at the intersection of neuroscience and technology, has witnessed transformative developments in the treatment of neurological conditions over the past few decades. This presentation explores the evolution of neuromodulation techniques, examining milestones and accomplishments in this field from early attempts at electrical stimulation to the advent of sophisticated neurostimulation devices. Development has been marked by significant strides in understanding and manipulating the complicated neural circuits underlying various neurological disorders. The discussion will extend to the promising future of neuromodulation. Emerging technologies, such as closed-loop systems and advanced brain-computer interfaces, hold the potential to revolutionize treatment paradigms, providing personalized and adaptive solutions. Moreover, the integration of artificial intelligence and machine learning in optimizing stimulation parameters and predicting patient responses opens new frontiers in precision medicine. By unravelling its evolution and anticipating upcoming advancements, this presentation aims to expedite collaboration and innovation, with the goal of enhancing the lives of individuals with neurological disorders.*

**Keywords:** *neuromodulation, neurological disorders, emerging technologies*

# NEUROSURGICAL VIEW ON THE EUTHANASIA

Vinko V. Dolenc, Professor  
Slovenian Academy of Sciences and Arts (SASA)

## ABSTRACT

*The personal view of a Neurosurgeon will be presented on the cases of traumatic brain injuries. When brain trauma lesions are irreparable and when the patient may become a candidate as a donor of the organs? Who can define them with certainty? The problem is the unconscious patient, who can not partake at all?*

*The next group of patients are patients with stroke and/or hemorrhage following SAH and who became severely handicapped. What is the meaning of saying: „I do not like to live!“ Personal experiences on different cases, and different pathologies will be presented and discussed.*

**Keywords:** euthanasia, unconscious patient, brain trauma

# THE EFFECTS OF CANNABINOIDS ON GLIOBLASTOMA STEM CELLS

**Tamara Lah Turnšek**, Professor

**Metka Novak**, Assistant Professor

**Barbara Breznik**, Assistant Professor

**Bernarda Majc**, PhD, Lecturer

Department of Genetic Toxicology and Cancer Biology, National Institute of Biology, Slovenia

**Andrej Porčnik**, PhD Candidate

**Roman Bošnjak**, Professor

Department of Neurosurgery, University Medical Centre Ljubljana, Slovenia

**Jernej Mlakar**, PhD

Faculty of Medicine, Institute of Pathology, University of Ljubljana, Slovenia

## ABSTRACT

*Glioblastoma is the most aggressive among brain cancers with increasing incidence and high mortality. As early relapses are unavoidable, despite novel treatment modalities by irradiation and chemotherapy, cannabinoids alone or in combination, have been suggested as complementary treatment. Binding to several cell membrane associated receptors, e.g. CB1, GPR55 and TRPV, all highly overexpressed in glioblastoma, the cannabinoids signalling leads to reduced cell viability, invasiveness, induced autophagy and apoptosis in GBM cells. As psycho-activity of THC hampers its medical applications, here we replaced it by cannabigerol (CBG), first assayed here on GBM and its stem cells (GSCs), the latter being the root of therapy resistance. We have optimized the combination of CBD: CBG to 3:1 molar ratio, being twice as cytotoxic to GSCs than GBM cells. Furthermore, we demonstrated that selected receptors genes correlated to (GSC) gene markers, and both were significantly overexpressed in GSCs compared with differentiated GBM cells.*

**Keywords:** Glioblastoma, therapy, cannabinoids

# MYTHS & REALITIES ABOUT THE BASAL GANGLIA

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## ABSTRACT

*The basal ganglia are a series of interconnected subcortical nuclei consisting of the striatum (caudate and putamen), the globus pallidus (internal and external), the subthalamic nucleus, and the substantia nigra (pars reticulata and pars compacta). They work in close collaboration with other brain structures, including the cortex, thalamus, and limbic system and are classically understood as forming intricate circuits with interconnected brain regions. For example, the cortico-basal ganglia-thalamo-cortical loop is associated with the motor control, while the mesolimbic pathway connecting the basal ganglia with the limbic system, with motivation and reward processing. The basal ganglia are evolutionarily conserved: their basic anatomy and connectivity are preserved across most vertebrates. The function and dysfunction of these nuclei have been studied intensively in motor control, but more recently studies implicate the basal ganglia in a broad spectrum of functions beyond movement - in cognition, motivation, in affective control and in reward processing. Dysfunctions in the basal ganglia can lead to disorders like Parkinson's disease, Huntington's disease, and obsessive-compulsive disorder, which manifest with both motor and non-motor symptoms. In this talk, we will explore the myths and facts surrounding the basal ganglia, particularly emerging critique of the classical model and the non-motor function of the basal ganglia.*

**Keywords:** Basal ganglia, connections, dysfunction, non-motor function

# DBS IN UNRESPONSIVENESS WAKEFULNESS SYNDROME - ETHICAL ISSUES

**Darko Chudy**, Professor, Head of Neurooncology and Functional neurosurgery Department  
School of Medicine, University of Zagreb  
University Hospital Dubrava, Zagreb, Croatia

## **ABSTRACT**

*Patients with disorders of consciousness are still on the margins of the vast majority of public health systems in the world. However, this did not eliminate the problem of continuous medical care and therapy of such patients. In the attempts of new therapies, especially those that are invasive, some specific ethical problems appear, the fundamental problem of which is who decides about changing of medical therapy on behalf of patients who are not aware and are not able to see the possible risks as well as the benefits of medical intervention.*

**Keywords:** disorders of consciousness, DBS, ethical issues

# EFFECTS OF VIRTUAL REALITY TRAINING ON THE MOTOR FUNCTIONS OF THE UPPER LIMB IN PATIENTS AFTER EARLY STROKE - PRELIMINARY RESULTS

**Tadeja Hernja Rumpf**, Assistant Professor  
Alma Mater Europaea – ECM, Slovenia  
University Medical Centre Maribor, Slovenia

## ABSTRACT

*Introduction:* Stroke is a leading global cause of death and disability. Effective rehabilitation for optimal recovery of upper limb motor functions is crucial. Integrating virtual reality (VR) with standard therapy (ST) shows promise in addressing post-stroke challenges.

*Objective:* A pilot study aimed to assess the efficacy of combining VR with ST for early stroke patients, focusing on upper limb functionality.

*Methods:* We included patients after stroke admitted to the neurology department of the University Medical Centre, undergoing early neurorehabilitation. The study randomly assigned participants to experimental (VR + ST) or control (ST only) groups. The program involved two weeks of one-hour physiotherapy and occupational therapy sessions. The experimental group received an additional 15 minutes of Bimeo PRO VR training, involving tasks like reaching and navigating a labyrinth. Outcome measures included Fugl-Meyer Assessment-Upper Extremity (FMA-UE), Wolf Motor Function Test (WMFT) scores, NIH Stroke Scale (NIHSS), modified Rankin Scale (mRS), MMSE, and dynamometry, assessed pre- and post-rehabilitation.

*Results:* 37 patients with stroke (22 % hemorrhagic and 78 % ischemic) were included with an average age of 65.9 years ( $SD = 12.72$ ) and 53 % males. Significantly greater improvements were observed in FMA-UE motor function ( $p = 0.03$ ), FMA-UE sensation ( $p = 0.003$ ), and dynamometry ( $p = 0.000$ ) in the experimental group (VR + ST).

*Discussion and conclusion:* Both groups demonstrated improvement over the two-week observation period. Notably, the experimental group exhibited more significant enhancements in FMA-UE motor function, FMA-UE sensation, and dynamometry. Our results suggest that integrating VR with ST appears promising for enhancing stroke rehabilitation, suggesting a multifaceted therapeutic approach could advance rehabilitation outcomes.

**Keywords:** virtual reality, early stroke, motor function of upper limb

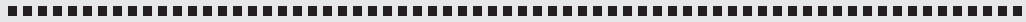








# HEALTH SCIENCES





# SCHOLARLY PANEL

## POSSIBILITIES OF USING ASSESSMENT INSTRUMENTS IN THE NURSING CARE OF THE ELDERLY PATIENTS WITH MENTAL HEALTH ISSUES

**Nataša Štandeker**, PhD, Lecturer  
Alma Mater Europaea – ECM, Slovenia

### ABSTRACT

*Introduction:* With the rapid development of gerontopsychiatry, gerontopsychiatric nursing is also developing rapidly alongside it. An adequate assessment of the condition and needs for gerontopsychiatric care represents the first step towards effective planning of care interventions aimed at ensuring safety and dignity, as well as preserving and restoring the individual's abilities.

*The paper's purpose is to present the instruments proposed in the literature for determining the level of defined dangers in geronto-psychiatric treatment.*

*Method:* A scoping literature review has been used.

*Results:* tests and scales are presented in the appendix, for which it follows from the review literature that it is reasonable and useful to use them to assess potential dangers for an individual, due to the deterioration of physical and cognitive functions, and the appearance of certain mental states characteristic of later lifetime period.

*Discussion:* many validated instruments to assess the risk and condition of patients in gerontopsychiatric nursing are available. But the question is, if the registered nurses are aware of the possibility of using the presented instruments and their benefits for planning nursing care, but also, what are the options for implementing these instruments in the nursing process?

**Keywords:** assessment instruments, nursing care of the elderly patients, mental health issues

# NURSING HOME CARE: A COMPREHENSIVE REVIEW

Zamira Shabani, Professor

Arketa Guli, PhD, Lecturer

University of Shkodra "Luigj Gurakuqi", Faculty of Natural Sciences, Department of Nursing, Albania

## ABSTRACT

*A nursing home, also known as a skilled nursing facility or long-term care facility, is a residential facility that provides 24-hour nursing care and assistance to individuals who require significant medical and personal care. It aims to provide a comprehensive analysis of various factors that impact the care provided to residents, identify challenges and gaps, explore innovative approaches, and offer recommendations for enhancing nursing home care. The main objective of this systematic review is to evaluate the effectiveness and quality of nursing home care. To conduct this systematic review, we identified and retrieved relevant research studies from various academic databases including PubMed, Embase, and Google Scholar, to identify relevant articles. The review identifies several key findings and also examines the effects of nursing home care on resident outcomes. The review identifies challenges such as staff burnout and retention, communication and collaboration issues among caregivers, and the need to understand and meet the diverse needs of residents. This review can contribute to enhancing the quality of care provided in nursing home settings. It aims to guide policymakers, caregivers, and healthcare professionals in implementing changes that prioritize resident well-being and improve the overall care experience.*

**Keywords:** home care, nursing, patient satisfaction, quality of care, safety measures

# THE ROLE OF REHABILITATION PROFESSIONALS IN THE CONTEXT OF INCLUSIVE EDUCATION

**Milda Gintiliene**, Lecturer

**Daiva Baltaduoniene**, Associate Professor  
Kaunas Higher Education Institution, Lithuania

**Auste Gintilaite**, Student  
Lithuanian Health Sciences University, Lithuania

## ABSTRACT

*Rehabilitation professionals' services reduce behavioral, social, and physical problems that can cause difficulties in the school environment. Research analyzed and summarized scientific publications that examine rehabilitation specialists' role in inclusive education.*

*A review of the scientific literature included all full English-language articles available in databases under 10 years old and addressed inclusive education and the role of rehabilitation professionals. PubMed (MEDLINE), EBSCO Publishing and Google Scholar databases were used during the search, using keywords and their combinations.*

*The analyzed literature indicates that interdisciplinary collaboration, including health and education professionals, is fundamental in providing inclusive education services. Rehabilitation professionals involved in inclusive education aim to improve the child's academic and functional achievements, provide guidance to parents and encourage active participation in and out of the classroom. Effective collaboration between healthcare professionals, the child's parents, and teachers is essential to the model.*

*Insights: Intersectoral cooperation is an effective method for including all rehabilitation professionals to work successfully in schools, solving problems corresponding to their competence. To play important roles rehabilitation professionals should be absorbed into the Education Service as resource persons. The analysis of rehabilitation practices of inclusion in the educational process suggest that the current situation of inclusion need to be further modernized and optimized, following the best domestic and foreign practices*

**Keywords:** *inclusive education, rehabilitation, positive learning*

# SPIRITUAL WOUNDS

**Suzana Vuletić**, Professor

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## ABSTRACT

*In the contemporary medical approach, increasingly focused on the reductionist treatment of biological/physical symptoms, the holistic consideration of complementary anthropological dimensions is being neglected. Prolonged chronic pain can dramatically and diagonally impact the psychological and spiritual distress of the patient, their relatives, and healthcare workers.*

*Under the prolonged pressure of global/total pain, existential suffering, psychological anxiety, depressive anxiety, and life uncertainty, patients are also confronted with a gradual degradation of bodily functions, loss of dignity, and dependence on others, causing spiritual wounds that need to be acknowledged and incorporated into integrative care.*

*The question arises whether healthcare workers are sufficiently educated in this educational segment. Do they even have enough time to understand this element of a holistic approach? Are caregivers or healthcare professionals themselves grappling with a certain professional burnout due to years of exposure to the anxious monitoring of chronic patients?*

*Spiritual wounds are also noticeable in the patient's relatives. In the absence of „compassionate relief,” insufficient social support, excessive empathic immersion in the sensitive care of the patient's relative, neglect of their own basic needs, these gradually develop into chronic spiritual wounds. In the absence of developed defense mechanisms, professional supervision, expert monitoring, rotations of demanding positions, spiritual and psychological support, and „palliative relief,” spiritual wounds in all stakeholders can take the form of chronic pain.*

**Keywords:** *personalistic treatment, holistic approach, chronic pain, spiritual wounds, palliative relief*

# CASE REPORT OF A PATIENT SUFFERING FROM ALZHEIMER'S DEMENTIA - MONITORING OUTCOMES, HEALTH CARE AND COURSE OF TREATMENT

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## ABSTRACT

*The World Health Organization has published data that more than 55 million people in the world suffer from dementia, the most common of which is Alzheimer's. Alzheimer's dementia is a neurodegenerative disorder and a progressive disease that affects the brain, characterized by personality changes, memory loss, and reasoning abilities. An early sign of Alzheimer's dementia is forgetfulness. The population equates forgetfulness with aging, which is the most common problem of late disease detection, thus we lose the opportunity to start the treatment process in time. Timely diagnosis and treatment is necessary to prevent the progression of the disease. The main treatment of Alzheimer's dementia includes pharmacological and non-pharmacological treatment. The US Food and Drug Administration (FDA) has approved cholinesterase inhibitors (ChEI) and the N-methyl-d-aspartate (NMDA) antagonist memantine as drugs for the symptomatic treatment of the disease (improving cognition and reducing loss of independence...). With non-pharmacological treatment, psychotherapies are organized, where it is discovered what was the trigger for the onset of the disease, and the adaptation of behavioral interventions in the environment, and nursing care is planned, which is carried out already at the patient's admission. The staff caring for the patient monitors non-verbal communication, tries to communicate in such a way that sentences and questions are short and clear, requiring a simple answer. In a combination of pharmacological and non-pharmacological treatment, the symptoms can be significantly alleviated and the progression of the disease can be reduced. In recent decades, we have witnessed the growth of diseases, which is why intensive efforts of researchers are needed to develop better clinical tools and therapy. Development of new classes of drugs that act on different neurotransmitter systems, both for the treatment of cognitive deficits and for the treatment of behavioral disorders. The aim and purpose of this case report is to describe the manner of occurrence, causes and factors of the disease, treatment, planning and implementation of nursing interventions, and to describe the prevention of the occurrence of the disease and clarify the pathology and pathophysiology.*

**Keywords:** Alzheimer's disease, dementia, elderly, treatment

# OPENING OUR EYES TO THE IMPLICIT BIAS IN NURSING

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## ABSTRACT

*Purpose: Implicit biases are biases that are embedded deep in our subconscious. They strongly influence our judgments and decisions, also in the field of nursing, where they can have detrimental effects. Our paper aims to provide the latest findings and raise awareness of this topic, which is rarely addressed in Slovenian nursing. Methods: A rapid literature review was performed using the PRISMA model. Articles were searched in Google Scholar for the period from 2020 to 2023 using the keywords implicit bias nurse OR nurses OR nursing (all in the title). A number of inclusion criteria (English language, general view on the topic, scientific article) and exclusion criteria (limitation to specific angle of the topic) were applied. Results: From an initial 37 articles, we reduced the number to 14 by reading the titles. A further 11 articles were eliminated by reading the abstracts. Finally, 3 relevant articles were identified that addressed general aspects of implicit bias in nursing. Conclusion: Nurses' implicit biases may be related to ethnicity, sexuality, age, health status, mental health, substance use and other factors. They are a barrier to equity in health care, potentially leading to poor patient outcomes and other consequences. The main categories of mitigation strategies are self-awareness, self-reflection, knowledge and skills development. Educational institutions and health care agencies have an important role to play in guiding nurses towards equitable care.*

**Keywords:** bias, nurses, health inequity



# ASSESSMENT OF NURSING CARE PROVIDERS ON THE QUALITY OF NUTRITION OF OLDER ADULTS IN A HOSPITAL ENVIRONMENT

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## ABSTRACT

*Introduction: A balanced diet is one of the factors that significantly impacts the health of older adults. Therefore, it's important for healthcare providers to have knowledge about a balanced diet. The purpose of this research was to determine the assessment of nursing care providers about the quality of nutrition for older adults in a hospital environment.*

*Methods: We used a quantitative, descriptive research method. Our study included a non-random, convenience sample of 40 nursing care providers working in the field of nursing for older adults and palliative care. We conducted the research using a survey questionnaire as a measuring instrument, which we developed based on a literature review. The data were analysed in the IBM SPSS 25 program.*

*Results: The research showed that the working time of nursing care providers affects their assessment of the quality of nutrition offered to older adults in a hospital environment ( $p=0.001$ ). Also, the age of nursing care providers affects their assessment of nutrition offered to older adults in a hospital environment ( $p=0.001$ ). Most of nursing care providers surveyed (80 %) believe that they do not have sufficient knowledge about the nutritional problems faced by older adults. 70 % of the surveyed nursing care providers believe that nutritional support for older adults in the clinical environment is inadequate.*

*Discussion: In clinical practice, insufficient attention is paid to a balanced diet. We found that healthcare providers lack the knowledge to provide nutritional care support for older adults. Nursing practitioners cite the need to improve hospital nutrition to provide balanced nutrition for older adults.*

**Keywords:** nutrition, older adults, palliative care, nurse

# THE APPLICATION OF BIOELECTRICAL IMPEDANCE IN THE ANALYSIS OF BODY COMPOSITION IN OBESE ADOLESCENTS

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## ABSTRACT

*Childhood obesity is one of the most significant public health issues in the 21st century, contributing to the development of various metabolic complications. The World Health Organization has initiated a series of preventive programs aimed at reducing the rate of childhood obesity. One possible method of analyzing body composition in obese children is the use of bioelectrical impedance analysis (BIA). This is a fast and simple way of determining body composition. Unlike body mass index, BIA can estimate both body fat (BF) and muscle mass, as well as the amount of fluids in the body, differentiating between intracellular and extracellular water using regression equations and parameters of resistance (R), reactance (Xc), and phase angle (PA). The BIA method is based on passing electrical currents through the body and differences in electrical conductivity between the fatty and watery components of the body. It is clinically important to select the most accurate equation for an individual to ensure that clinical interpretations and recommendations reflect the actual body composition. This paper will provide an overview of research results that have used bioelectrical impedance analysis in obese adolescents. For the purposes of this study, a literature review was conducted (PubMed, Scopus, Cochrane Library), including published studies up to December 2022.*

**Keywords:** bioelectrical impedance, body composition, obese, adolescents

# PUSH AND PULL FACTORS FOR GOING TO WORK ABROAD AMONG MEDICAL STAFF: RESEARCH ON STUDENT NURSES IN CROATIA

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## ABSTRACT

*Recognizing the pivotal role that medical professionals play in ensuring the well-being of society, the research titled „Push and pull factors for going to work abroad among medical staff: research on student nurses in Croatia“ delved into the critical issue of healthcare workforce migration . Through a survey method involving 154 final-year students from medical high schools and nursing faculties in Croatia, the study investigated the multifaceted factors influencing the decision of medical staff to seek employment abroad. The statistical analysis encompassed working conditions, salary, education, career advancement opportunities, and system fairness, considering the socio-demographic characteristics of the participants. The research outcomes not only enhance our scientific understanding but also hold substantial practical relevance, shedding light on the complexities of population policy and human resource management within the healthcare system. In a global context where healthcare professionals are increasingly drawn to opportunities beyond their home countries, this study contributes valuable insights to the ongoing discourse on the challenges and implications of healthcare workforce migration.*

**Keywords:** medical staff, health system, emigration, push and pull factors

# EPIDEMIOLOGICAL CHARACTERISTICS OF NEONATES ADMITTED TO GENERAL HOSPITAL PULA WITH NEONATAL JAUNDICE

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**Mladen Jašić**, Assistant Professor  
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## ABSTRACT

*Neonatal jaundice is the clinical manifestation of hyperbilirubinemia which affects 50 % of term and 80 % of preterm neonates. Jaundice can be physiologic and pathologic. The aim of this study was to present the clinicopathologic features of 208 neonates (term and preterm) diagnosed with newborn jaundice and hospitalized at the Department of Pediatrics, Division of Neonatology, General hospital Pula, from January 1st 2016 to December 31st 2018. Statistical analysis showed that newborn jaundice was more common in male newborns (61 %), it was unconjugated in all cases, and the most common comorbidities were insufficient food intake, excessive weight loss and prematurity. Phototherapy and phototherapy combined with i.v. infusion successfully treated newborn jaundice in our patients. The median length of hospital stay was 4,7±5,5 days and the cost of the stay was 720,7±578,8 euros.*

**Keywords:** neonatal jaundice; phototherapy; unconjugated hiperbilirubinemia

# NURSES' ROLE IN PROVIDING QUALITATIVE AND EFFECTIVE HEALTH CARE SERVICES. AN EVALUATION OF HOSPITAL NURSING SERVICES BASED ON QUALITY AND SAFETY HOSPITAL STANDARDS

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## ABSTRACT

*Nursing has existed for centuries and has considerably evolved. Referring to the WHO structured education, clinical standards and nurse professional associations emerged in the 1800s, progressively raising the quality, competencies and working conditions of the nursing profession (1). The nursing workforce faces different challenges, including adequate numbers, equitable distribution and retention, quality education, effective regulation, quality and efficiency within universal health coverage (2–4). The nursing role is very important for the quality and safety of health care services. The aim of this study is to present an evaluation of the nursing health services delivery based on approved criteria for quality and safety hospital standards. Materials and Methods: Data collection and analyze of the nurse health service criteria based on the external evaluation of some hospitals in Albania. Results & Conclusions: After analyzing the evaluations of 18 criteria that are previously set for the quality of nurses' health services, it resulted for regional hospitals (RH) the fulfillment of these criteria with 91 % for RH No1, 88 % for RH No2, and 100 % for RH No3, and for the municipality hospitals (MH) it resulted 89 % MH No1, 74 % for MH No2 and 98 % for MH No3.*

**Keywords:** nursing, health services

# EYE BIOMETRY OF HEALTHY ADULT PREPRESBYOPIC PEOPLE IN ZAGREB, CROATIA

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## ABSTRACT

*Introduction: The biometrical characteristics of human eye differ among various populations and are known to change throughout the life time as a consequence of physiological ageing processes.*

*Aim: The aim of this study is to measure near emmetropic healthy eyes biometrical values of healthy middle aged (prepresbyopic) people in Zagreb County using modern technologies and to compare these data with data obtained by previous technologies.*

*Participants and Methods: Subjects from Zagreb County, aged 18-39 years, were recruited for this prospective study. They underwent complete ophthalmic examination prior to inclusion in the study and only those having normal visual acuity were included.*

*Results: 152 females (aged 22+/-5 years and 84 males (aged 25+/-6 years) were included in the study. AL was 23.65mm in males and 23.45in females. CCT was 568µm in males and 546 µm in females. ACD was 3.12 mm in male and 3.06 mm in female. LT was 3.62 mm in male and 3.65 mm in female. K1 was 42.77 D in male and 43.14 D in female, K2 was 43.50 D in male and 43.95 D in female. Minimal macular thickness was 223 µm in male and 222 µm in female.*

*Conclusion: This is the first survey of biometrical properties of healthy adult human near emmetropic presbyopic eyes in Zagreb County measured by optical instruments. These data will contribute to better understanding in ocular morphology and ocular diseases.*

**Keywords:** *biometry, eye, cornea, lens, macula lutea*

# VIRTUAL STANDARDS OF BEAUTY: HOW SOCIAL MEDIA AND TELEVISION SHAPE DECISIONS ABOUT AESTHETIC PROCEDURES

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## ABSTRACT

*Social media, television and a growing awareness of aesthetics are shaping how people see themselves, encouraging consideration of aesthetic treatments. On social networks like Instagram, Facebook and Twitter, idealized looks influence the perception of beauty. Television sets standards of beauty through shows, commercials and movies. This combination of factors creates a complex environment that affects the perception of appearance. Pressure from the media can cause insecurity, while the availability of information can educate about options to improve one's outlook. This dynamic makes aesthetic procedures more attractive, encouraging informed decisions according to personal needs. The goal of the research is to determine how social media and television shape decisions about aesthetic procedures. One general and two auxiliary hypotheses were set: H0: Social media and television are key factors that encourage decisions about aesthetic procedures; H1: There are statistically significant differences in the assessment of the role of social media and television in shaping decisions about aesthetic procedures in relation to the gender of the respondents; H2: There are statistically significant differences in the assessment of the role of social media and television in shaping decisions about aesthetic procedures in relation to the age of the respondents. The research conducted in Pula and Rovinj included 120 patients who underwent aesthetic procedures. The scaling technique was used in the research part of the work. The instrument that was constructed for the purposes of this research is the Scale for assessing the influence of media factors on decision-making about aesthetic procedures. Based on the research results, we can conclude that all three hypotheses have been confirmed. The obtained results indicate the importance of media factors in making decisions about aesthetic procedures and provide a deeper understanding of the influence of social media and television on the perception and decision-making of individuals regarding aesthetic procedures.*

**Keywords:** *aesthetic procedures, beauty, social media, standards, television*

# BRAIN INFORMATION PROCESSING ANALYSIS USING ARTIFICIAL INTELLIGENCE METHODS

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**Bahareh Rahmani**, Associate Professor

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## ABSTRACT

*The human brain is a complex organ that processes millions of neurons and transmits information through billions of synapses. Here, we perform a quantitative analysis of a fluorescent reporter of synaptic vesicle release in synapses to gain insights into the underlying patterns of synaptic transmission. In these experiments, dissociated rat hippocampal neurons expressing the reporter were electrically stimulated with field potential, and fluorescence signals were recorded. We observed a positive correlation between the resting intensity level after stimulation and resting intensity level before stimulation, peak value, and time interval to peak. These findings provide valuable insights into the response of individual synapses to electrical stimulation and uncover important features of synaptic transmission.*

**Keywords:** brain, neurons, synapses, fluorescence intensity, electrical stimulation, statistical analysis, regression



# BOOSTING CHILDREN'S MOTOR-COGNITIVE SKILLS IN AN ENRICHED ENVIRONMENT: AN ANALYSIS OF BRAIN PROJECT WORKSHOPS AND SPORT CAMPS FOR AGES 3-10

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## ABSTRACT

*Introduction: Children's motor-cognitive development benefits from a multisensory environment that challenges their perception and adapts to various environmental stimulations. Limiting children to basic stimuli hinders their reception and learning across multiple sensory pathways. By adopting enriched environments during diverse educational activities, we can promote multisensory integration. The BRAIN project aims to immerse children in activities within such enriched settings, allowing them to optimize their motor-cognitive skills to their fullest potential. Through multisensory integration, these environments aim to amplify learning outcomes, enhance memory retention, improve cognitive capacities, and enrich the acquisition of motor experiences.*

*Methods: The Consortium, comprising Alma Mater Europaea (Slovenia) and AETOI Thessaloniki (Greece), successfully submitted the BRAIN project in response to the Erasmus+ Sport 2022 call. Within this initiative, workshops and sports camps were held in Slovenia and Greece with dual objectives: first, engaging children in activities within enriched environments; second, educating trainers, sports teachers, educators, and other professionals to autonomously conduct activities in a multisensory environment. To assess the effectiveness of these activities, a questionnaire was administered to the children's parents and all professional staff, aiming to qualitatively evaluate the acquired knowledge.*

*Results: The professional staff commended the workshops for its clarity, effectiveness, and engaging activities. They found it highly beneficial for their work with children, gaining valuable insights and practical strategies. The interactive sessions ensured a comprehensive understanding of the materials. Parents observed their children's enthusiasm and positive experiences during the activities, emphasizing the enriched learning and overall experience acquired.*

*Discussion: The programs introduced foster the exploration and development of children's motor-cognitive potential. Engaging in challenging motor tasks within enriched settings activates essential executive functions crucial for early literacy and academic achievement. Through the BRAIN project, we effectively promote awareness among preschools and stakeholders about the crucial role of multisensory environments in enhancing children's motor-cognitive skills.*

**Keywords:** curriculum update, motor-cognitive development, multisensory environments

# EPIDEMIOLOGICAL CHARACTERISTICS OF CHILDREN WHO UNDERWENT THE OBSERVATIONAL PROTOCOL FOR THE DIAGNOSIS OF AUTISM (ADOS-2) AT THE ORTHOPEDIC AND REHABILITATION HOSPITAL "MARTIN HORVAT" ROVINJ-ROVIGNO, CROATIA

**Mladen Jašić**, Assistant Professor

**Renata Peharec**, Expert

**Dina Dežmar**, Expert

**Ivana Frančula Modrčin**, Lecturer

**Marinko Rade**, Professor

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## **ABSTRACT**

*ADOS-2 is an observational protocol that represents the „gold standard“ in the diagnostic process of autism spectrum disorders and is intended for a wide age range of participants (from 12 months to adulthood). It enables standardized assessment of communication skills, interaction, play and overall general behavior of individuals, and structured coding of the same.*

*We present epidemiological characteristics of 83 patients who underwent ADOS-2 protocol at our hospital.*

**Keywords:** *ADOS-2, autism, pervasive developmental disorder*

# EXPERT PANEL

## CRITICAL THINKING, CLINICAL REASONING AND DECISION MAKING

**Peter Kamničar**, Lecturer  
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### **ABSTRACT**

*Sweeping changes in health care and in nursing education – many driven by information technology and research on best practices that improve safety, quality, and learning while reducing costs – are revolutionizing the way we think, learn, and give patient care. Although the amount of change we deal with on a daily basis can sometimes feel overwhelming, we somehow have to keep up with it. We will cover everything necessary for critical thinking, clinical reasoning and decision making, and success in the 21st century practice and education. Critical thinking, clinical reasoning, and decision making are terms used interchangeably in the literature to represent the cognitive process that supports safe and effective patient care.*

*Critical thinking is our ability to focus our thinking to get the results we need – makes the difference between whether we succeed or fail. It makes the difference between keeping us and our patient safe and being in harm's way.*

*Clinical reasoning and decision making refers to the process we use to think about patient problems in the clinical setting. Nursing education requires long-term perspectives and strategies for promoting nursing students critical thinking, clinical reasoning, and decision making skills competence. Nursing education needs teaching and learning methods that enhance problem solving skills in clinical situations and ways that improve self-efficacy.*

**Keywords:** *critical thinking, clinical reasoning, decision making, patient care, patient safety*

# HEAD INJURIES IN THE PRESENCE OF ALCOHOL IN THE BLOOD IN AN EMERGENCY DEPARTMENT

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## ABSTRACT

*Introduction: In the emergency department, head injuries represent a large proportion of treatments. As such, injuries are a leading cause of severe morbidity and mortality worldwide. From the literature, we can understand that there is a strong connection between alcohol poisoning and an increased risk of all types of injuries, so head injuries are no exception. In Europe, it has been proven that alcohol in the blood accompanies as many as 24-25% of patients with a head injury. Data from the NIJZ show that even in Slovenia alcohol use begins very early in adolescence, as a fifth of 11-year-olds already consume alcoholic beverages. Head injuries in the emergency department require multidisciplinary treatment and intensive and continuous monitoring of the patient. However, the results of treatment are not always encouraging. Many of the injured are younger and their outcome is often death.*

*Methods: We used a systematic review of the literature to review the literature and create theoretical starting points. To obtain information from the clinical environment, we will use an already existing database with the help of which, after obtaining the consent of the ethics commission of the UKC Maribor, we will systematically analyze the data. We will analyze the number of treatments for head injury patients with the presence of alcohol in the blood.*

*Results: Research and consensus building are ongoing. Conclusion: research in progress.*

**Keywords:** alcohol, cohort study, intoxication, neurotrauma, traumatic brain injury

# ANALYSIS AND CORRELATION OF WORK LOCUS OF CONTROL AND LIFE SATISFACTION AMONG HEALTHCARE WORKERS IN THE REPUBLIC OF CROATIA

**Marija Arapović**, Lecturer

**Anica Kuzmić**, Lecturer

**Nikolina Zaplatić Degač**, Lecturer

**Vesna Hodić**, Lecturer

University North, Croatia

## ABSTRACT

*The work of healthcare professionals is often demanding and stressful, directly impacting their emotional, physical, and mental well-being. Life satisfaction among healthcare workers is considered crucial as it can influence the quality of healthcare provision. They are compelled to adapt daily to changing work demands and new tasks, requiring significant effort and dedication. This adaptability stems from their „locus of control.“ Individuals perceiving a higher degree of internal control and believing in their ability to manage daily work tasks achieve better results.*

*To analyze and compare the locus of control with the level of life satisfaction among healthcare workers in the Republic of Croatia.*

*The research was conducted using an anonymous questionnaire containing participants' socio-demographic information and standardized scales: Spector's Work Locus of Control Scale and the Life Satisfaction Scale. A total of 102 healthcare workers participated in the study, conducted in November in the Republic of Croatia. Non-parametric tests, including the Mann-Whitney U test and the Wilcoxon W test, were employed for data analysis.*

*The results indicated that healthcare workers tend to have an external locus of control, and those with an internal locus of control exhibit higher levels of life satisfaction.*

*Healthcare professionals, in addition to their extremely stressful jobs, often juggle roles as parents and spouses, making it challenging to strike a balance between work and family. All these factors highlight the need for further research to shape activities aimed at enhancing the level of satisfaction among healthcare workers and promoting an internal locus of control.*

**Keywords:** Locus of control, life satisfaction, healthcare workers

# THE ROLE OF THE NURSE IN NEONATAL RESPIRATORY DISTRESS SYNDROME AND THE USE OF NON-INVASIVE MECHANICAL VENTILATION

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**Šefik Salkunić**, Lecturer, PhD Candidat  
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## ABSTRACT

*Theoretical background: Respiratory distress in newborns is an urgent condition that often affects premature babies and newborns, otherwise less often newborns who have completed 37 to 42 weeks of gestational age. It is an emergency and quick action is important. In this, the performance of the nurse plays an important role, who must have good knowledge to recognize typical signs and act correctly in the event of respiratory distress in a newborn.*

*Methodology: A quantitative method was used with the processing of analytical data. The survey included 45 nurses, midwives and doctors from the Neonatal Intensive Care and Therapy Unit and the Paediatric Intensive Care and Therapy Unit at the Maribor University Clinical Center. The data we collected were processed with the help of graphs and tables, and we used the IBM SPSS program for data analysis.*

*Results: The questionnaire was distributed to 45 nurses, midwives and nurses. In the research that we analysed, we found that 97,7 % of the majority nurses have the correct measures and offer help to the newborn in case of respiratory distress. 100 % of respondents answered correctly and have very good knowledge to recognize the typical signs that indicate respiratory distress in a newborn. The majority nurses who participated in the survey agree with additional training and education.*

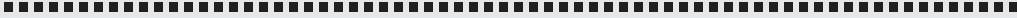
*Discussion: The research answered the research questions and confirmed two of the three hypotheses. With the help of the results of the survey, we found that nurses' medical knowledge in the field of respiratory distress of newborns is good. Nurses want additional education and training in the research concept of newborn respiratory distress. We found that nurses with many years of experience in intensive care and therapy units do not have more knowledge and are not more qualified to solve the respiratory distress of a newborn.*

**Keywords:** newborn, respiratory distress of the newborn, non-invasive mechanical ventilation, the role of the nurse in the newborn

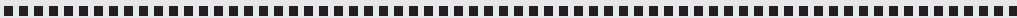








# HUMANITIES





# SCHOLARLY PANEL

## HOW TO CREATE A MORE SUSTAINABLE MACRO-ECONOMIC CONCEPT FOR THE FUTURE EUROPEAN SOCIETIES – AN INSPIRATION FROM THE RENAISSANCE

### WELCOME ADDRESS

## THE NEW EUROPEAN RENAISSANCE AND OUR FUTURE

**Andraž Ivšek**, Expert  
Slovenian Science Foundation, Slovenia

### ABSTRACT

*My contribution traced the emergence of the New European Renaissance from the starting point, the preparation of the New European Renaissance Manifesto as a founding document through the 'Towards a New European Renaissance, It's About People 2023' conference of 17 March 2023, organised by Alma Mater Europaea, to the present day. I mentioned the main themes of the New European Renaissance and the expected impact of the concept on Europe and the world, with an emphasis on human dignity, fundamental values and a European way of life that puts the human in the centre.*

*What Europe needs now is inclusiveness and sustainability, and to prepare for the major changes brought about by the green transition, technological evolution and globalisation. It needs to develop a strategic action plan and strengthen its capacity to act autonomously in a way that protects its values and way of life. With this strategic plan, it could also help shape the global future for all of us. Europe is capable of leading the response to global challenges by leading the way in the fight against climate change through the promotion of sustainable development and through the promotion of a distinctive model of cooperation. Today's global challenges require complex solutions, which is why we need new, outstanding know-how and, above all, courage, which are fundamental values of the Renaissance.*

*The new European Renaissance is a concept of a new architecture, a high responsibility to address climate change and global energy challenges, a new way of (co-)existence, and the use of new digital technologies that are wise and humane, including artificial intelligence. There is a growing number of experts who believe that developments around the world are calling once again for a new ethical approach at all levels of society. What we need is a humanist vision of Europe and of the world as a whole, and this is where the inspiration of the Renaissance can serve us well.*

*At the beginning of the New European Renaissance, a manifesto for a New European Renaissance was created as a guideline for the rebirth of Europe and a message of humanism and Renaissance for today and for our common future. The manifesto in its first sentence reads: The situation in the world today is critical in many ways and calls for a responsible and well thought out response. For perhaps the first time in history, we are witnessing the realization that all human beings are bound to the same destiny on our common planet Earth ...*

**Keywords:** *new European renaissance manifesto, global challenges, human dignity, global future, sustainability*

# HOW TO CREATE A MORE SUSTAINABLE MACRO-ECONOMIC CONCEPT FOR THE FUTURE EUROPEAN SOCIETIES – AN INSPIRATION FROM THE RENAISSANCE

Janez Potočnik, PhD, former European Commissioner for Science and Co-chair UNEP International Resource Panel (IRP), Partner SYSTEMIQ and Member Club of Rome

## ABSTRACT

*Our consumption and production patterns, designed and championed by industrialised world, are wasteful and unjust. If we do not change them, we will face increasingly severe environmental impacts, while not having even basic human needs met.*

*GRO24 is a ground-breaking scientific document, a guide to a sustainable and just world. IRP research is showing that the unsustainable resource use is driving the triple planetary crisis. In total, global material use has increased by over a factor 3 since 1970. It is projected to grow from approximately 100 billion tons in 2020, to 160 billion tons in 2060. Our research is showing that we need a fundamental systemic shifts in how we use resources. In high-income countries absolute decoupling should be the aim: decreasing material use, while maintaining or improving wellbeing outcomes. In low and some middle-income countries relative decoupling should be the aim.*

*GRO24 is setting the order right. We propose to focus on most resource intensive provisioning systems - built environment, mobility, food, and energy, which represent 90% of global material demand. Supply side polices, currently receiving most of the policy attention, should be complemented with demand and consumption related policies. And resource efficiency policies should be complemented with resource sufficiency optic. Our report in a Sustainability Transitions scenario shows pathway how we can improve environmental outcomes and raise equality. Decarbonisation and decoupling must go hand in hand. We need consistency among how we try to solve climate and other environmental and social targets and challenges. We are indebting future generations, financially and by depleting the Nature. Apparently, we humans are the most intelligent species on this planet. It is high time to prove it. More than an economic or a technological choice, this is indeed a moral choice. The future will be green or there will be no future.*

**Keywords:** GRO24, planetary crisis, IRP research, sustainability transitions scenario, decarbonisation, decoupling

# QUALITY-LED GROWTH, LIBERAL EDUCATION, AND THE 'NEW CLASS'

Teun J. Dekker, Professor  
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## ABSTRACT

*Europe is currently facing a number of economic challenges, including anaemic growth, low productivity, and a dearth of successful entrepreneurs. This is worrying. To understand the issue, it is helpful to distinguish between 'quality-led' growth (growth based on developing new products and solutions) and 'quantity-led' growth (growth based on producing existing products more efficiently and in greater volumes). While the Renaissance was characterised by quality-led growth, the Industrial Age was marked by a shift to quantity-led growth. This resulted in a huge increase in economic prosperity. However, quantity-led growth has now reached its limits, and so a shift back to quality-led growth is required. This can be facilitated by educational reform. While quantity-led growth requires single-disciplinary, teacher-centred education that is focused on efficiency, this education is unsuited for fostering the kind of innovation and creativity that quality-led growth requires. Such economic development requires a more liberal education that is characterised by multidisciplinary, student-centred learning and relational conceptions of academic community. Educational reform along these lines is essential to achieving a second Renaissance that will enable Europe to compete in a globalised economy.*

**Keywords:** quality-led growth, quantity-led growth, liberal education, educational reform

# TOPIC: LANGUAGE, GLOBALIZATION AND CULTURAL LINGUISTIC DIVERSITY

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**Besnik Rama**, PhD, Lecturer

Specialist at the Ministry of Education and Sports, Albania

## ABSTRACT

*During the last decades, the demographic changes in our country have significantly increased the cultural diversity of the student population in pre-university education institutions.*

*The basis of our thesis is the importance of the role and work of educational institutions for the acceptance, registration, respect and integration of every child, regardless of his background.*

*The methodology of this paper is based on the literature of the Ministry of Education and Sports, as well as in the Pre-University Education Curriculum of the Republic of Albania . National Education Strategy-Albania (2021-2026 ) on observations and research of many years of personal experiences in the field of teaching in pre-university education ( inclusion according to age groups, according to educational levels with codes 0, 1, 2 and 3 ( with code 0), education preschool; with code 1", primary education; with code 2", lower secondary education; with code 3", upper secondary education.)*

*The paper aims to answer questions such as: How much and how is cultural diversity reflected in our curricula ? How prepared are teachers, especially those with initial training, to manage teaching practices against discrimination.*

*Coming to the conclusion that; the main challenge is overcoming obstacles and finding educational opportunities to achieve success. Acceptance and recognition of the cultural background of the students, enriching the educational teaching content where the role of school partners creates the maintenance of a positive attitude towards quality learning at school.*

*The professional development of teachers should include training programs in the multi-cultural reality.*

**Keywords:** language, globalization, linguistic diversity, national minority, curricular framework

# THE ALBANIAN VALUE SYSTEM, THEIR APPROACH TO DEMOCRATIC VALUES AND THE ROLE OF JUSTICE

Adriana Anxhaku, Assistant Professor

Klara Sula, PhD Candidate  
University of Tirana, Albania

## ABSTRACT

*The Democratization studies, conceived as an analysis of the processes of changing political systems and the rights they provide, are inevitably linked to a concept and reality such as society's values. The fall of non-democratic regimes and the transition to democracy is accompanied by the real demand for the existence of democratic values in the population in order to obtain democratic institutions. Even the consolidation of democracies has a permanent conditioning on the values of the population and the conformity of the main values of politics with the democratic values but at the same time with the traditions of the communities.*

*Within this wide universe of problems, the study of democratization, as the process of transition to democracy in Eastern Europe is called, occupies a special place. This is so because, together with the successor states of the Soviet Union, the states of Eastern Europe shared a common political ideology from which they came out and which left a strong imprint on the middle generation of transition citizens. The formation of a democratic state with a set of rights became one of the goals of many citizens in these countries.*

*The apparent inability of these societies to free themselves from these various challenges and to face them has also been determined by the tradition of a traditional value system, significantly complicating the future. Especially the evaluative attitude of the citizens towards mainly state politics requires a harmonization of the basic values of the politics with those of the citizens. That is, the expectations of the citizens from the state should not be different from those of the politicians who come to power.*

*The issues that will be discussed are: What are some of the typical Albanian values in the historical tradition, the connection with the politics of these values? How have they changed during the transitional dictatorship? What are some ways of aligning traditional values with democratic values? The necessity of combining political values with those of citizens. The role of justice as a regulation of interest and conflict of values. Albanian value system, their approach to democratic values and the role of justice.*

**Keywords:** democratization, transition, historical tradition, political values, traditional values

# STRENGTHENING CYBERSECURITY IN THE WESTERN BALKANS: THE ROLE OF THE WESTERN BALKANS CYBER CAPACITY CENTRE (WB3C)

Tal Pavel, PhD

The Institute for Cyber Policy Studies, Israel

## ABSTRACT

*The Western Balkans face emerging cyber threats that generally mirror global threats with increasing incident reports received by national authorities. The attacks have become much more sophisticated and tailored mainly by cybercriminals for economic purposes, alongside emerging cyber threats by nation-state hackers.*

*Such ongoing and even emerging cyber threats by different malicious actors raise the need for determined, coordinated countermeasures, locally and regionally.*

*One such initiative is the Western Balkans Cyber Capacity Centre (WB3C), initiated in November 2022 by France, Slovenia, and Montenegro, which granted the status of an international organisation in October 2023. The main aim of the new centre is to strengthen the operational and structural capacities of the Western Balkan countries in the fight against cybercrime, aiming to provide training for regional experts on cybersecurity, cybercrime, cyber diplomacy and personal data protection.*

*The paper analyses both the WB3C initiative, aim, context and activities while looking into the future of expanding the role of WB3C in enhancing cyber capacity in Western Balkans and the contribution of Slovenia to the current, ongoing and future regional cyber resilience activities.*

**Keywords:** WB3C, Cybersecurity, Resilience, Slovenia, West Balkans



# THE EVOLUTION OF THE JOURNEY METAPHOR IN ALBANIAN POLITICAL DISCOURSES ON EUROPEAN INTEGRATION

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University of Elbasan „Aleksander Xhuvani“, Albania

## ABSTRACT

*Political discourse heavily relies on metaphor usage to frame how the public views or understands political issues by eliminating alternative points of view. One of the most common usages of metaphors is to positively represent future scenarios that are constructed as solutions to existing problems thus conceptualizing an ideal Utopia or the good projected in some remote space in time. Through the activation of unconscious emotional associations metaphors contribute to the “creation” of a desired story and politicians have to tell the right story in order to persuade the public opinion and serve their ideological purposes. Since the fall of communism, Albanian politicians have mainly relied on the JOURNEY metaphor to conceptualize Albania’s EU accession process. This particular metaphor frame is very frequent in public debates as well as in everyday language use. It is part of a system of JOURNEY/TRANSPORT metaphors that pervades our conceptualization of processes extending over a period of time.*

*Through a corpus of speeches collected during the last five years this paper aims at analyzing how Albanian politicians use the JOURNEY metaphors to shape their political and ideological objectives. Even though different usages of the metaphor are noticed, it mostly implies an imperative for the country to learn, mature and transform during the EU integration process.*

**Keywords:** conceptual metaphor, framing, persuasion, political discourse, Albania

# JOSEPH OF EGYPT: QUEER ELEMENTS OF PATRIARCH'S NARRATIVE

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## ABSTRACT

*The story of Joseph, who was sold into slavery by his brothers in Canaan, and after various twists and turns in a foreign land than becomes the saviour of Egypt and the surrounding peoples (including his own clan), is one of the better-known biblical narratives. At the centre of paper are ambiguous elements of the story that point to transcending a narrow heteronormative interpretation of the Biblical person. Joseph receives a special tunic from his father (Hebrew: ketonet passim). Judging by the reaction of the brothers, it is obviously a garment of prestige and distinction, an undeserved choice for inheritance (as is Joseph's ability to interpret dreams and his ascension to power). It is difficult to determine what is special about this tunic. The Hebrew text uses the same phrase only in one other place, in 2 Sam. 13:18-19, where it could be understood as a princess dress. The Greek translation LXX refers to it as 'a robe of many colours', but it is hard to decipher the exact meaning. It could be a tunic with long sleeves, or one that reaches the ground. It could also be an especially fine fabric, very translucent. In particular, the latter interpretation could be linked to erotic connotations and feminine attributes. Similarly, the categories of activity and passivity that in antiquity correspond to masculinity and femininity are reflected in the narrative. For the most part of the story, Joseph is presented as passive: his brothers overpower him, then sell him to traders, and Potiphar delivers him to prison. Therefore, Joseph is constantly in a passive role. Men have power over him. And also, women, exactly: Potiphar's wife, who performs masculine deeds in taking active position in wanted intercourse. In this sense the personality of Joseph has a strong queer gesture.*

**Keywords:** Bible, queer, theology, dress code, antiquity

# AN ANALYSIS OF B. MALAMUD'S PROSE FROM THE PERSPECTIVE OF I. KANT'S MORAL PHILOSOPHY

Shpetim Madani, Professor  
Academy of Armed Forces, Albania

## ABSTRACT

*This paper seeks to examine the prose of Jewish American writer Bernard Malamud (1914-1986) through the moral philosophy of Immanuel Kant, a towering Enlightenment figure that has had a tremendous impact on intellectual circles to date. Based on qualitative research, the study begins with a brief introduction into Kant's ethical outlook, which is deontological rather than utilitarian. In other words, for an action to be deemed morally right it has to be primarily motivated by duty, not personal desire or goal. The duty-based ethics is manifested through the categorical imperative, considered as the universal law, whereby motives for a certain act are assessed. In this regard, there exists a significant similarity between Kant's ethical beliefs and those of Malamud, whose fiction highlights the embrace of moral values and one's moral responsibility toward others, in a world governed by greed and self-interest without showing consideration for one's fellow beings. Following a close analysis of Malamud's major works, it is concluded that the transformation of the Malamudian hero from an initially egotistical and self-indulgent individual to an altruistic and self-sacrificing person materializes in the manner of Kant's moral philosophy.*

**Keywords:** Kant, moral philosophy, duty, Malamud, moral responsibility

# CHALLENGES OF WOMEN REFUGEES IN MALAYSIA: MULTIPLE STAKEHOLDER PERSPECTIVES

Suhaini Muda, PhD, Lecturer

Laila Suriya Ahmad Apandi, Associated Professor

Nur Syakiran Akmal Ismail, Professor

Norhafezah Yusof, Professor  
Universiti Utara Malaysia, Malaysia

Norsuhaily Abu Bakar, Associated Professor  
Universiti Sultan Zainal Abidin, Malaysia

## ABSTRACT

*Being one of the countries that has not yet having legislation that granting asylum or refugee status in accordance with the 1951 UN Convention relating to the Status of Refugees and its 1967 protocol has given negative impact to the image of Malaysia internationally. At the same time, the arrival of the refugees and asylum-seekers to this country are bringing together with them the culture from their countries that is not appropriate here as well as suffering a lot of traumatic experiences along the way to come here. They are also being seen as liability to the country. Employing the qualitative research of in-depth interviews, this study aims to discover the real issues of women refugees from the multiple stakeholders perspectives including the experts, authorities, practitioners, and the refugees themselves to lead further research to empower women refugees in the country. The findings mainly provide information for the researchers and those involve in the field, of the refugees challenges and also government limitations in dealing with that.*

**Keywords:** women refugees, women refugees challenges, UN Convention, multiple stakeholder perspectives

# EXPERT PANEL

## THE ROLE OF THE UNITED NATIONS GENERAL ASSEMBLY IN THE CODIFICATION AND PROMULGATION OF THE PRINCIPLES OF FRIENDLY RELATIONS AMONG STATES

Uroš Popadić, Expert

European Center for Peace and Development, Serbia

### ABSTRACT

*The Paper traces the evolution of the principle of friendly relations between states as an integral part of international law in the United Nations General Assembly. From the first codification in 1970 until today, this idea that states should attempt to be part of a friendly global community has contributed to the wider understanding of human dignity and worth. There is no greater value than peace, and the UN has been the driving force behind a general and global peace for almost 8 decades.*

*The paper examines the contribution to international relations and international law which this codification has had. The paper uses a qualitative and descriptive narrative and ideographic methodology to examine the concept of friendly relations and its evolution through time. The first part examines the very codification and the first resolutions of the General Assembly that promote this idea. The second part follows the evolution of the concept in the GA and the Security Council over the following decades. The third part analyzes the conduct of states which have accepted this principle, and the results which they got from applying the principle in practice.*

**Keywords:** *United Nations, general assembly, friendly relations, international law, legal codification*



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# **CULTURAL FORMATIONS**

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# SCHOLARLY PANEL

## FILM: SUBVERSION OF LIGHT AND SOUND

**Uroš Zavodnik**, Assistant Professor  
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### **ABSTRACT**

*Film is a play of light, which is projected on a big cinematographic screen, as well of sound, which supports this play. It appears a unique subversion, as the light turns off in a cinema theatre, a play with the spectator the film author creates it – a director together with his team of diverse authors (screen writer, actors, set designers, dop etc.). More the director is capable of awareness, how powerful the film art is through that kind of subversion, more he is capable to integrate the spectator into his narration, which he creates on the set foremost on a visual level, as well through the sound. He is capable to direct the spectator into his-director's vision, which can or should be limitless. The limitations are in production design (cinematic technique), also on a level of imagination, yet the computer animation and VFX effects are erasing the limits and making impossible possible. Here is still the subversion on a light and sound level inside the dark cinema theatre, where the big white screen is to find together with the sound system in it. Here the spectator is alone with the 'play' on the big screen, which the film author cannot predict in its whole dimension.*

**Keywords:** film art, cinema, subversion of cinema, film director

# SUSTAINABILITY AND DIGNITY IN THE FACE OF THE DESTRUCTION OF CULTURAL HERITAGE

Anja Hellmuth Kramberger, Assistant Professor  
Alma Mater Europaea – ISH, Slovenia

## ABSTRACT

*Cultural heritage is a fragile, non-renewable resource. It is increasingly threatened by a variety of factors, including natural geological processes and climatic changes, but also anthropogenic threats in the form of construction activities or development and agriculture. A further dimension of the threat to cultural heritage is represented by wars, armed conflicts and, in this context, the targeted destruction of monuments and sites, looting of museums, illegal trade in artefacts and illegal excavations. These are problems that have been threatening cultural heritage for decades, particularly in the Middle East, the cradle of civilization – Mesopotamia. On the one hand, the presentation is intended to provide an overview of the cultural formations of the ancient Near East as the cradle of civilization, and on the other hand to point out existing threats in the affected regions as well as strategies for the sustainable handling, use and protection of threatened cultural heritage.*

**Keywords:** *destruction of cultural heritage, Near East, Mesopotamia, protection, sustainability*

# BERCHTESGADEN IN THE SHADOW OF A DARK HERITAGE: REMNANTS OF NATIONAL SOCIALISM THROUGH FIELDWORK

**Daniel Siter**, Research Assistant, PhD Candidate

Alma Mater Europaea – ISH, Slovenia

Researcher, International Research Centre for Second World War Maribor, Slovenia

## ABSTRACT

*In December 1924, Hitler went to Berchtesgaden on the border with his native Austria. In Obersalzberg, in a small wooden cabin („Kampfhäusl“), he continued with the second volume of Mein Kampf. Later, he arranged the famous and majestic Berghof, initially renting an alpine holiday cottage under the coordination of Martin Bormann. Berghof is still often confused with the Eagle's Nest, Hitler's teahouse on the towering peak of the Obersalzberg mountain range. Berghof, now reduced to ruins, bricks, stones, pits, telecommunications wiring, protruding wires, support pillars, walls, and a few pieces of asphalt from the access road in the overgrown forest, served Hitler as an alpine retreat for rest and withdrawal but, as the author will demonstrate, actually became the second seat and nerve centre of Nazi Germany (Hitler spent more time only in Berlin). It was the focal point for the highest-ranking Nazi officials and politicians. Berghof was where the most crucial military, political, and economic decisions of the Third Reich were made, including the planning of Operation Barbarossa. At the war's end, it was planned that the Wehrmacht, along with the leadership of Germany, would retreat to the so-called „Alpine Fortress,” from where the last resistance would be conducted. The entire Obersalzberg and the wider surroundings were crisscrossed with underground systems of heated, electrified, well-ventilated tunnels, living spaces, bunkers, machine nests, and storage facilities for weapons and essential supplies. In the end, the megalomania of the Nazi utopia was extinguished in the underground bunker in Berlin.*

*In his paper, the author will methodologically rely on field research conducted in previous years, as well as primary archival and museum documents (letters, postcards, correspondences, reports, and visual materials) from the Documentation Center Obersalzberg and the Memorial Educational Center of World War II Obersalzberg. The analysis will also include reference literature and published memoirs.*

**Keywords:** Berchtesgaden, Obersalzberg, Berghof, Mein Kampf, Alpine Fortress, National Socialism

# PROFESSIONAL ETHICS AND DIGNIFIED TREATMENT OF HUMAN REMAINS IN ARCHAEOLOGY

## MUSEUMS AND THE DIGNITY OF HUMAN REMAINS: THE CASE OF THE SMELL OF MUSEUM OBJECTS

Mojca Ramšak, Professor  
University of Ljubljana, Slovenia

### ABSTRACT

*The handling of human remains in museums is a complex and sensitive issue that raises important ethical and cultural questions. The dignity of human remains is a central concern in discussions about the display, storage, and examination of such remains in museums and other institutions. Ethical issues are crucial when considering human remains. This means that the ICOM Code of Ethics, the E.C.C.O. Professional Guidelines in Conservation-Restoration, recommendations on the conservation-restoration of cultural heritage, and the principles of ethical research should be strictly followed.*

*Museums and cultural institutions are increasingly seeking to balance the preservation of human remains for research and educational purposes with respect for the dignity and cultural significance of these remains to the communities from which they originated.*

*However, not all issues have been resolved. New ways of presenting museum objects, such as the historical smells or their appropriation, and the demands of capital, as in the tourism industry, raise new ethical questions about how to preserve the dignity of the deceased.*

**Keywords:** *dignity, museums, human remains, smell of museum objects, ethics*

# HUMAN REMAINS, SUBJECT OR OBJECT? ETHICAL ISSUES IN ARCHAEOLOGICAL RESEARCH AND MUSEUM PRESENTATION OF HUMAN REMAINS

Verena Perko, PhD, Lecturer  
University of Ljubljana, Slovenia  
New University, Nova Gorica, Slovenia

## ABSTRACT

*In the field of archaeological research and museum exhibitions, it has become noticeable that the ethical approach to human remains is losing its relevance, which could be understood predominantly in the context of postmodern society. The ethical requirements for respectful treatment of human remains have been interpreted in different ways. Because of the time gap, archaeological research on human remains constitutes a special chapter and often the main reason for a laconic explanation or even neglect of ethical postulates. This is probably not due to the vagueness of professional codes of ethics or the lack of publications on the subject. The paper assumes that the reason is buried deep under the cover of constant questions of objectification of human remains. It lies in the understanding of the essence of a respectful attitude towards the person and, in the same measure, to parts or the persons' remains. This is the position presupposed in principle by both archaeological and museum professional codes of ethics, which do not explain the substance of this request. Ethics evades the competences of the empirical sciences, as it involves questions of human transcendence and falls within the field of philosophy. It is rooted in the values of Greco-Roman antiquity and the Judaeo-Christian world.*

*An interdisciplinary method will be used to shed light on traditional ethical attitudes, grounded in human personal and social needs through a phenomenological approach. The paper will be interdisciplinary and will try to shed light on the importance of respecting ethical codes in excavations, research and in museum presentations of human remains.*

**Keywords:** professional ethics, archaeology, museums, exhibitions, research

# DOES ARCHAEOLOGICAL HERITAGE CONVEY ETHICAL VALUES?

**Jelka Pirkovič**, Assistant Professor  
University of Ljubljana, Slovenia  
New University, Slovenia

## ABSTRACT

*Since the turn of the 19th and 20th Centuries, heritage values have stood at the centre of heritage theory and practice. On the other hand, archaeology primarily focuses on past material culture and seems more hesitant when archaeological heritage values are in question. To better understand heritage values in general and the specificities of archaeological values, the presentation focuses on intrinsic, i.e. essential or ethical heritage values, considering value propositions developed in philosophy, ethics and social sciences. In recent decades, the evaluation of (archaeological) heritage rests on the postmodern paradigm while rejecting the perspective of intrinsic values based on general considerations. In parallel, archaeological theory and praxis started to connect past evidence with the needs and expectations of present-day societies and have become primarily interested in social issues beyond their historical or scientific significance. We argue that incorporating intrinsic values in evaluation methods and practice supports public co-participation in assigning values in archaeological heritage conservation and management.*

**Keywords:** archaeological values, value theory, public co-participation

# BETWEEN THE "CURSE OF THE PHARAOH" AND INDIANA JONES - ON THE PROBLEM OF AN ADEQUATE REPRESENTATION OF ARCHEOLOGY IN POP CULTURE AND MEDIA

Anja Hellmuth Kramberger, Assistant Professor  
Alma Mater Europaea – ISH, Slovenia

## ABSTRACT

*Since the late 19th and early 20th centuries, archeology and in particular the study of ancient burial sites has concerned not only researchers but also the public. With the discovery of the tomb of Pharaoh Tutankhamun in 1922 by Howard Carter, an „Egyptomania“ arose and mysterious deaths within the excavation team led to the creation of the narrative of the „Curse of the Pharaoh“. Adventurous discoveries of ancient artifacts, graves and temples also form the core of the stories about the popular character Indiana Jones and continue to shape the image of “the” archaeologist to this day. This stereotype is often used in the media as a stylistic tool to convey archaeological content. Archeology as a scientific discipline seems to be confronted with the problem that, on the one hand, it emerges increasingly from the ivory tower of science and shares its research with the public, but on the other hand, quickly runs the risk of using clichés as a marketing strategy. The presentation will be about prejudices and clichés regarding the profession of archaeology and its representation in pop culture and media, as well as the question of how stereotypes and sensationalism can be avoided when communicating archaeological content.*

**Keywords:** *archaeology, stereotypes, sensationalism, popular culture, media*

# THE CHALLENGES OF LONG-TERM PRESERVATION OF HUMAN REMAINS IN MUSEUMS

**Maša Saccara, PhD**  
Koper Regional Museum, Slovenia

## **ABSTRACT**

*At the PMK, we store a large number of human skeletons, primarily excavated in the urban area of Koper in the last 50 years. The material is stored in crates, mostly in refusion. The storage space for the majority of this material is humid and difficult to access. Over all these years, since the acceptance of the material after the completed excavations, no one has dealt with it. Concerns arise about potential, health-harming organisms that may have developed due to moisture during this time. The material has not been musealized, and the excavation documentation is also incomplete. In the year 2024, efforts are being made in the archaeological department to organize this material, but numerous questions arise in the process.*

**Keywords:** *long-term storage of human bones, Coastal Museum Koper, storage facilities*



# THE ETHICAL HANDLING OF HUMAN REMAINS IN MUSEUMS AND OSTEOLOGICAL COLLECTIONS

**Barbara Teßmann**, Researcher  
Museum für Vor- und Frühgeschichte Berlin, Germany

## **ABSTRACT**

*In recent years, museums and osteological collections have increasingly been subjected to claims for the restitution of human remains. In most of these cases, a colonial context is involved. These inquiries need to be considered carefully, a process in which historical research on the original collectors and circumstances is as important as anthropological examinations of the human remains themselves. Until a few years ago, the acquisition contexts of these osteological collections were only rarely subjected to critical review. However, in the course of requests from indigenous communities of origin for the repatriation of human remains from the collections, a sensitization and thus a change in the handling of the human remains began.*

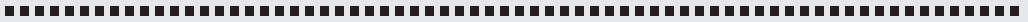
*For this reason, the German Museums Association published its first guidelines on handling human remains in 2018. Since then, numerous other guidelines and recommendations on handling human remains in collections, museums, and depots have been published in German-speaking countries. The lecture will present the various recommendations, with a focus on archaeological finds. When do we start talking about archaeological finds? How should human remains be excavated and subsequently stored? Which invasive examination methods are appropriate? Is it ethically justifiable to display the skeletons in an exhibition? Or should the skeletons be reburied after examination?*

**Keywords:** indigenous communities of origin, human remains, ethical treatment, museum, restitution





# LAW





# SCHOLARLY PANEL

## ENERGY POVERTY, JUSTICE AND FUNDAMENTAL RIGHTS

### ENERGY ISSUES BEFORE HUMAN RIGHTS COURTS

**Gábor Kecskés**, Associate Professor  
Hungarian Academy of Sciences, Centre for Social Sciences, Hungary

#### **ABSTRACT**

*The speech focuses on the human rights approach and fundamental rights aspects of energy issues with some special regards to the ecological considerations. The focal centre of the subject has a gravitation point around the right to life, the right to property and the right to a healthy environment. The panel speech will give an overview of the relevant global and regional (mainly Council of Europe-based) legislations and the judicial practice (such as the practice of human rights courts or treaty monitoring bodies) as well. The relevant UN-based and regional initiatives on rights and energy justice are also touched upon.*

**Keywords:** human rights, basic needs, ecology, equitable share

# ENERGY POVERTY, GREEN TRANSITION AND BASIC VALUES IN SLOVENIAN CULTURE

Luka Martin Tomažič, Assistant Professor  
Alma Mater Europaea – ECM, Slovenia

## ABSTRACT

*The present research will analyse the connection between the notions of energy poverty and the green transition in light of the basic values. As per the Finnish natural law framework, the chosen values at the centre of the analysis will be life, knowledge, play, practical reasonableness, friendship, aesthetic experience and religion. The interplay of green transition and its consequences for disenfranchised individuals can be understood more deeply by discussing the philosophical and value underpinnings on the normative level beyond the legal order and public policy. This is more acutely relevant considering the potential implications of the incommensurability of values. A particular emphasis will be given to the Slovenian culture and its consequences for understanding energy poverty and green transition.*

**Keywords:** energy poverty, green transition, natural law, basic values, Slovenian culture

# RISING LEVEL OF POVERTY AS THE MAIN OUTCOMES OF THE GERMANY ENERGY CRISIS?

**Rigels Lenja**, PhD Candidate  
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## ABSTRACT

*Following the Russian attack on Ukraine, Germany is one of the countries most impacted by the high energy prices. Energy price for household has risen for oil by 25 %, gas by 52 % and electricity by 26.2 %. Germany was compelled to invest more than 200 billion euros to contain inflation and stabilize energy prices. The May 2023 report by the Federal Office revealed that around 17.3 million Germans, 21% of the entire population, are experiencing social exclusion or poverty in one way or another, with energy prices being a major cause.*

*These indications often apply to people who are unable to buy goods or services considered standard for society. Five major groups have been affected the most: students, women living alone, pensioners, people with an emigration background, and single parents.*

*Among the results are: firstly, the widening gap between the rich and the poor in the country. In 2023, around 50% of income was spent on housing, energy and maintenance, up from 40% the year before.*

*Many families are compelled to cut costs on food purchases, their children's education, leisure activities or travelling. Secondly, expensive energy prices risk deindustrialization, the loss of well-paid jobs and Germany's competitiveness on a world scale. Thirdly, energy prices skyrocketed, after the Russian attack on Ukraine, immediately followed by sanctions from the West, which has created an ideal environment for right-wing extremism/populism to flourish in Germany. Leaders of right-wing populist party AfD (Alternative for Germany) had labelled sanctions against Russia as nonsense and called for an urgent return to buying cheap Russian gas, ignoring the outrageous Russian crimes in Ukraine.*

*The radicalization went to another degree a few weeks earlier when senior members of the AfD met to consider how to solve the country's problems with remigration, even for those who hold a German passport.*

**Keywords:** *poverty, energy price, cost of living, right-wing-extremism, standard of living*

# SCHOLARLY PANEL

## NEW CONSTITUTIONAL FEATURES IN THE POST-COVID PERIOD: THE IMPACT OF SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT IN THE CONTEMPORARY CONSTITUTIONAL AND LEGAL CRISIS MANAGEMENT

### THE EMERGING ROLE OF CRISIS MANAGEMENT IN THE CONTEMPORARY LEGAL SYSTEMS: A CASE STUDY FROM HUNGARY

Fruzsina Gárdos-Orosz, Professor

Kitti Mezei, Research Fellow

Hungarian Research Network, Centre for Social Sciences, Institute for Legal Studies, Hungary

#### ABSTRACT

*As is well known, the effects of the coronavirus pandemic have been treated differently in various European countries. Among the diverse national strategies, special attention has been paid to the situation in Hungary, where the executive branch has been given unprecedented emergency powers without the guarantee of effective parliamentary and constitutional control. As the country, due to the systematic backsliding of the rule of law, has been a black sheep of the European Union for years, many believe that by introducing the special legal order Hungary has become a full-fledged autocracy. In contrast, according to the Hungarian Government, the means of crisis management introduced to fight the pandemic are among the most democratic by international standards.*

*The presentation assesses Hungary's reaction to the pandemic, and how that, in turn, has affected constitutional democracy and the special legal order regulation, which was completely transformed during the pandemic by an amendment to the Fundamental Law. For this purpose, in the first part, I examine what crisis management options were available in the Hungarian legal system before the pandemic. After that, I will describe the chosen solution - the so-called 'state of danger' as a type of special legal order - and then analyse the crisis management within this framework, which also included the introduction of a new special legal order regime in Chapter V of the Fundamental Law.*

**Keywords:** state of danger; constitutional adjudication, constitutional justice in emergency



# LEGAL COVERAGE OF TECHNOLOGICAL DEVELOPMENT IN THE POST-COVID PERIOD

**Boldizsár Szentgáli-Tóth**, Senior Research Fellow

**Kitti Mezei**, Research Fellow

**Dorottya Deáki**, PhD Candidate

Hungarian Research Network, Centre for Social Sciences, Institute for Legal Studies, Hungary

## ABSTRACT

*Technological developments, which have a fundamental and often disruptive impact on the society and economy of our time, have a particular challenge for the legal system and directly affect its functioning. The Covid-19 pandemic has particularly enhanced the role of digitalization (e.g., cashless payment solutions, e-administration, and digital justice). Therefore, the potential and legal risks of using modern technologies need to be increasingly considered (e.g., protection of fundamental rights, data protection, and cybersecurity) in a post-Covid society. The new technologies will affect many areas and vital services that need to be made more efficient and accessible, such as healthcare, finance, public administration, and justice. Our presentation will explore some regulatory challenges in these fields and will put forward alternative legal solutions to tackle the most paramount issues raised.*

**Keywords:** artificial intelligence, Covid-19 pandemic, law and technology, digitalization, legal resilience

# CERTAINTY IN LAW AND THE ARGUMENTS OF OTHER DISCIPLINES

**Viktor Olivér Lorincz**, Junior Research Fellow

Hungarian Research Network, Centre for Social Sciences, Institute for Legal Studies, Hungary

## **ABSTRACT**

*The incorporation of scientific findings into legal argumentation has several basic issues like the probabilistic nature of scientific relations versus the quest for certainty in law, or the correlation-causation debate in science and its implications on legal causality. The Covid-19 pandemic took this to a higher level. Untested hypotheses and not peer-reviewed researches also influenced the regulations and policy. This lowered trust even in normal science. In this paper, we examine how the different logic and argumentation of various fields of science can be used in law. Focusing not only on new evidences still debated by the scientific community, but also on well established scientific proofs used in contradicting legal arguments. We analyse the translation of scientific correlations into causality, and the biased perceptions of these relations in law.*

**Keywords:** argumentation, legal theory, interdisciplinarity, legal certainty

# NATURAL SCIENCE ARGUMENTS IN CONSTITUTIONAL LAW

**Nora Bán-Forgács**, Research Fellow

Hungarian Research Network, Centre for Social Sciences, Institute for Legal Studies, Hungary

## ABSTRACT

*In the context of the Covid-19 pandemic, thousands of new constitutional and other court cases have been published in the international arena, and much of this work has begun to be published in national and international academic journals and workshops.*

*The present paper/presentation examines a specific aspect of constitutional law: the necessity and proportionality of limiting constitutional rights. Our hypothesis is that the necessity-proportionality test used by most European constitutional courts is 'infiltrated' by a scientific reasoning. In our view, this shift has led to changes not only de lege lata but de lege ferenda in the field of public health and environmental protection.*

*In the argument of this paper/presentation, it is stated that the field of environmental and public health, measurable data influences the need for a fundamental rights restriction that can be expressed in the language of natural science. For example, in times of epidemics, a special situation (with or without a special legal regime) has resulted in a fundamental rights restriction. In such cases, for example, when imposing a curfew (as a restriction on freedom of movement) or compulsory wearing of masks or mandatory vaccination, the severity of the epidemic, the number of victims, the speed of transmission of the disease, and thus the measurable consequences of the infection, are relevant in determining the proportionality of the need. (Necessity and proportionality test).*

**Keywords:** balancing test; constitutional review; natural science arguments

# IT IS NOT (PRIMARILY) ABOUT CONTROLLING TECHNOLOGY, NOT EVEN ABOUT CONTROLLING ITS OWNERS – IT IS ABOUT (RE-)GAINING BEING HUMAN

Peter Herrmann, Research Associate  
Human Rights Center, Law School at the Central South University, China

## ABSTRACT

*Discussions about digitization and artificial intelligence are commonly concerned with the question if and when machines take over and develop life on their own. Another, more immediate, concern is the concentration of the control of new technologies in the hands of a few (e.g. GAFA and BAT) respectively. However, even formulating the core question in a concise way is too often missed: what does being human actually mean and in which way can this be maintained or even restated?*

*The proposed presentation is part of an ongoing research, investigating how new ecological-technological developments redefine the meaning of being a human, and looking for the role humans play in a future ecological-social-economic formation of which we can see the contours today.*

*We are not (only) confronted with the alternative, for instance expressed by Edelbauer: 'We want to bring computers and humans into harmony - a really difficult task; the human brain is terribly complex. But there is a second option: not to make the computer human-shaped, but to make society computer-shaped.' (Edelbauer: Dave). Instead, it is about developing a relational approach, allowing to determine the possibilities of a cooperative setting. Such reflections will not least challenge the understanding of Human Rights.*

**Keywords:** Human beings, artificial intelligence, subject, governance

# SDGS AT HALFTIME – LESSONS LEARNT AND THE WAY AHEAD

Gábor Kecskés, Research Fellow

HUN-REN Hungarian Research Network, Centre for Social Sciences, Institute for Legal Studies, Hungary

## ABSTRACT

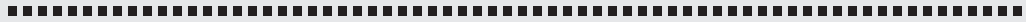
*In 2023, the timeframe for achieving the 2015 Sustainable Development Goals has reached a milestone, since 7 and half years have passed and the same 7 and half years remained for the application and the progress within the 17-goals umbrella policy of the United Nations and for its member states. At halftime, it is worth observing the progress of the relevant goals. The work is focusing on the green goals (as the ecological pillar of sustainability), their targets and indicators by reflecting on their proportional global implementation and the Central and Eastern European aspects, as well.*

**Keywords:** sustainable development goals, soft law, ecological pillar





# **POLITICAL SCIENCE**







# SCHOLARLY PANEL

## ROUND TABLE ON THE LINKAGE BETWEEN VOTER TURNOUT AND PARTY SUPPORT

**Mark Franklin**, Professor  
Trinity College, Connecticut, US

### **ABSTRACT**

*This round table was organized to provide professional feedback and suggestions for improvement to a proposal to unify the two subfields of political science that study, on the one hand, voter turnout and, on the other hand, party choice. The approach taken is time-serial. It has often been thought that turnout stands at an equilibrium maintained by a balance of forces – an equilibrium that is itself in constant motion as turnout rises or (more generally) falls. So turnout has often been seen through a lens that compares the level of turnout at any given point in time with turnout at an earlier or later time-point. But what keeps these turnout levels at successive elections at a long-term equilibrium?*

*The balance of forces that maintains an equilibrium rate of party support can be seen (greatly simplifying a much more complex reality) as involving a feedback loop that “corrects” political parties’ policy positions that drift away from preferences of voters who might support the party. This correction occurs because party leaders are motivated to alter their party’s policies to the point where, at a later election, voters will again find the party’s policies attractive, leading to increased support for that party that restores an earlier equilibrium.*

*There is an obvious link between falling party support and falling turnout to the extent that, while party supporters who become dissatisfied with their previous party choice may switch their support to another party, some of these previous supporters may not find another party they like better and fail to vote at all. More difficult is to identify a force that corrects falling turnout in the way that changing party policies can correct falling party support. Identifying the corrective mechanism that operates for voter turnout was the main focus of discussion at the Round Table.*

# COMMENTS ON MARK FRANKLIN'S PAPER

Cees van der Eijk, Professor  
University of Nottingham, England

## ABSTRACT

*Mark Franklin's paper is an important attempt to bridge ubiquitous divides in the study of elections. Yet, it also gives rise to a variety of concerns, of which five are presented here. The first is about the logic of the model, which does not specify how voters relate to other parties than the one they vote for at a given election. A second concern pertains the validity of party-level data such as their perceived positions. It appears that these do not allow proper comparisons over time because they are based on samples from segments of the population that (unlike birthyear cohorts) change with the electoral fortunes of the parties in question. A third problem concerns the statistical analysis which does not account for the inherent correlations between parties' vote shares, and which therefore risks systematic bias of the estimated parameters of the model. A fourth problem concerns party positions. Other researchers (Dalton and McAllister) using the same survey data demonstrated that the great majority of parties hardly move at all from election to election. This risks that the results presented in the paper may be largely driven by just a small number of influential cases. A final concern is about the measurement of party support in an all or nothing-at-all way, based on vote choice. This excludes that voters may not vote for a party while being highly congruent with it, as well as that they may vote for a party in spite of low congruence. Much more in line with the ideas behind the theorising would be the use of so-called PTV measures for party support, which reveal degrees of support.*

**Keywords:** feedback models, party choice, turnout, voter-party congruence, party positioning

# COMMENTS ON MARK FRANKLIN'S ESSAY AND ANALYSIS

Christopher Wlezien, Professor  
University of Texas at Austin, USA

## ABSTRACT

*There is a great deal to like about Franklin's paper. The scope is huge and the ambitions are too. He builds on the existing research in the relevant scholarly subfields, and yet charts a path forward both theoretically and empirically. Theoretically, Franklin's model identifies the main actors from previous research, namely, voters' general policy positions and those of the different political parties, and highlights the role of elections in providing important feedback. By contrast with the previous research, however, Franklin focuses not only on voters' party support and explicitly considers voter turnout itself, which scholarship has largely ignored. It is important because voters' decisions to actually participate (obviously) matter for what happens on Election Day, and those decisions depend in part on what parties do in between elections. In one sense, what Franklin offers is an idealized model, a portrait of how voters and parties should behave in a representative democracy that works, where voters reward and punish parties based on whether (and to what extent) they represent voters and the parties respond, effectively anticipating (and averting) punishment at the polls. Reassuringly, the empirical analyses provide evidence that these expectations are not just theoretical but actually obtain, even as the system does not work perfectly – there often is a need for effective “error correction” by voters on Election Day. The analyses also probe these connections. The research thus makes a real contribution. To be sure, there is more to do, both in the development of the theoretical model and empirical analysis, particularly as regards the role that voter turnout plays. I look forward to seeing those next steps. For now, the paper takes an important first step and changes how we think about voters and political parties in modern representative democracies.*

**Keywords:** systems model, public preferences, political parties, turnout and party support, thermostatic feedback

# REFLECTIONS ON THE LESSONS LEARNED FROM ROUND TABLE

**Wouter van der Brug**, Professor  
University of Amsterdam, Netherlands

## ABSTRACT

*As a moderator of the Round Table, I was not in a position to share my personal comments on Mark Franklin's paper. So, I welcome this opportunity to share some thoughts about the wider topic of the paper, on the basis of my own reading of the paper, as well as the discussions in the roundtable. The paper by Franklin is highly ambitious and can be an inspiration to be further developed in two directions. One direction would be how a party system arrives at an equilibrium through thermostatic responses by parties and voters. There is already quite some work in this field, but none of them have included turnout levels. Introducing turnout levels in these models is a major contribution. It seems possible to study these mechanisms at the party level. When doing so, my recommendation would be twofold. The first is that Franklin should make use of the vote recall question, to assess whether indeed a party has lost votes because it moved away from the preferences of its previous voters. Second, to find a way to include new parties in the analyses. Without the ability to include these kind of essential changes at the supply side, the model seems mainly applicable to the US case.*

*A second direction in which the paper could be taken further would be to develop a model that integrates party choice and turnout in one model. Previous research has mainly focused either on explaining voters' party choice, or explaining voter turnout, as if these are two separate decisions. To further develop the model in this direction, I believe it will be essential to test the different parts of the model at the individual level. The panelists seem to agree on this and several suggestions were made to do so. One option would be to build upon previous work by Franklin, van der Eijk and me, which models electoral decisions as a two stage process. In sum, the main conclusion of the panel was that Franklin wrote a very challenging paper, which is likely to be a source of inspiration for much future research.*

**Keywords:** party system change, turnout, party support, public opinion, thermostatic models

# FROM TURNOUT TO VOTE CHOICE AND BACK TO TURNOUT: REFLECTIONS ON MARK FRANKLIN'S DYNAMIC FEEDBACK LOOP MODEL

Elias Dinas, Professor  
European University Institute, Italy

## ABSTRACT

*Mark Franklin's chapter constitutes a rigorous attempt to incorporate both turnout and actual vote choice in the same dynamic model. Borrowing on insights from prior work to which the author has also contributed, this study builds on the idea of a feedback loop going from turnout to actual voting. As voters lose track of their party's ideological stances, they abstain which then leads the party to re-adjust and then brings turnout back to its prior levels. The challenge now is to put this idea into the test and for now the efforts to do so have been only partly successful, not least because it is unclear what the unit of analysis should be. I suggest the unit of analysis remains the party-level but would even go further to suggest the country\*year level, showing how and why negative shocks that take place occasionally and affect turnout do not materialise into broader and more significant political crises. This framework would also allow one to explain variation in turnout levels over time as well as on other indicators of political stability, assessing the role of party adjustment in this process. I would also suggest to look at the work by van de Rijt on how given shocks play out in the long-run.*

**Keywords:** turnout, ideological proximity, time-series, party-system, party preferences



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**ARCHIVAL SCIENCES**  
**9<sup>th</sup> INTERNATIONAL**  
**SYMPOSIUM OF ARCHIVISTS**

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# SCHOLARLY PANEL

## SUSTAINABILITY AND DIGNITY IN THE CONTEXT OF DIGITALISATION AND ARTIFICIAL INTELLIGENCE IN ARCHIVAL SCIENCE

### THE RIGHT TO BE REMEMBERED: FROM A LEGALISTIC TO A HUMANITARIAN PERSPECTIVE

**Charles Farrugia**, Professor

University of Malta, Faculty of Media Knowledge Sciences, Malta

**Rosette Farrugia Bonello**, Deputy Director

International Institute on Ageing United Nations-Malta (INIA)

#### **ABSTRACT**

*Much has been written about the Right to be Forgotten and the archival community has involved itself in innumerable discussions on how the obligations of such right will affect the future of archives. This paper takes a completely different perspective. It argues that as much as there are rights of those who do not want to be remembered in future documentation, there are others who wish to have their interaction with society documented and preserved. This is even more necessary in the current realities of an increase in ageing populations and of the unprecedented numbers of persons living with dementia.*

*The presentation will be divided into two. The first will discuss the treat to individual and community memories due to conditions such as dementia. The speaker will discuss the trends and issues of dementia and the challenges that it presents.*

*The second part of the presentation will explore how archives are and can provide new services to safeguard the Right to be Remembered. It does not advocate legal mechanisms to do so. It rather proposes awareness and initiatives by archivists and archival institutions to embark on projects that make it possible for individuals in societies to have their wealth of knowledge and experiences documented and remembered if so they wish.*

**Keywords:** archives, dementia, documentation, older persons, rights

# CONTENT CHALLENGES IN THE OPTIMIZATION OF DOCUMENTARY AND ARCHIVAL MATERIAL

**Dimitrij Reja**, PhD Candidate  
Alma Mater Europaea – ECM, Slovenia

## **ABSTRACT**

*New technologies allow us a wide variety of data processing options. For processing purposes, it is necessary to collect a variety of data. The variety of data is also hindered by its quantity. When collecting data, it is also necessary to take into account the limitations represented by the human factor. With the help of the latest technologies, we can make entering and processing data much easier. A plastic representation of optimizing the collection and use of the collected data is the main goal of our paper.*

**Keywords:** big data, optimization, AI

# DEMOCRATIC BY DESIGN: LEVERAGING ENHANCED ACCESS TO ARCHIVES VIA 3D MODELING TECHNOLOGY AT THE FASHION INSTITUTE OF TECHNOLOGY-STATE UNIVERSITY OF NEW YORK (USA)

**Karen Trivette**, PhD Candidate  
Alma Mater Europaea – ECM, Slovenia

## **ABSTRACT**

*In this presentation and subsequent paper, the author will discuss and demonstrate how the use of relatively simple 3D technology (Matterport) can open highly-restrictive areas of the archives within her care and administration literally to the world. The rationale behind this effort is to level the academic landscape for researchers with little to no resources and truly create archives access for all.*

**Keywords:** archives, access, 3D, security

# SPEAKERS WHO ALSO PRESENTED CONTRIBUTIONS AT THE 9<sup>th</sup> INTERNATIONAL SYMPOSIUM OF ARCHIVISTS

## WELCOME ADDRESSES

**Luciana Duranti**, Emeritus Professor  
University of British Columbia, Canada

**Erik Ketelaar**, Emeritus Professor  
University of Amsterdam, Netherlands

## TOWARD ENVIRONMENTALLY SUSTAINABLE DIGITAL PRESERVATION

**Erik Ketelaar**, Emeritus Professor  
University of Amsterdam, Netherlands

## ISO 9001 QUALITY MANAGEMENT IN ARCHIVES

**Dieter Schlenker**, Assistant Professor  
Alma Mater Europaea – ECM, Slovenia  
Director of the Historical Archives of the European Union

## SUSTAINABILITY AND DIGNITY IN ARCHIVAL SCIENCE

**Peter Pavel Klasinc**, Associate Professor, Archival Councilor  
Alma Mater Europaea – ECM, Head of Study Programs of Archival Science, Slovenia  
Director of the International Institute of Archival Sciences Trieste-Maribor

## CHALLENGES AND PITFALLS OF CONTEMPORARY ARCHIVAL THEORY AND PRACTICE IN THE AGE OF APPLIED ARTIFICIAL INTELLIGENCE

**Miroslav Novak**, Assistant Professor  
Alma Mater Europaea – ECM, Slovenia

## **DIGITIZING ARCHIVAL DOCUMENTS: INCREASING ACCESS OR PROTECTING PRIVACY AND INTELLECTUAL PROPERTY**

**Zdenka Semlič Rajh**, Assistant Professor  
Alma Mater Europaea – ECM, Slovenia

## **THE EFFECTS OF EMOTIONS ON CERTAIN SEGMENTS OF WORK IN ARCHIVES**

**Mojca Horvat**, PhD Candidate  
Alma Mater Europaea – ECM, Slovenia

## **THE IMPORTANCE OF THE HUMAN FACTOR FOR THE SUCCESSFUL OPERATION OF A PUBLIC AUTHORITY THROUGH THEIR COMPETENCES AND SKILLS**

**Tanja Ribnikar**, Expert  
Alma Mater Europaea – ECM, Slovenia

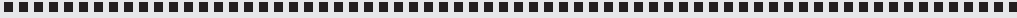
## **ARCHIVAL RECORDS RISKS AND THEIR MANAGEMENT BY SLOVENIAN CREATORS**

**Iva Katarina Rimele**, Expert  
Alma Mater Europaea – ECM, Slovenia

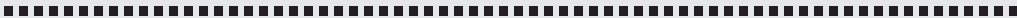
## **ARTIFICIAL INTELLIGENCE IN CULTURAL HERITAGE INSTITUTIONS (YOUTUBE)**

**Luka Hribar**, PhD Candidate  
Alma Mater Europaea – ECM, Slovenia





# **DANCE ART**







# SCHOLARLY PANEL

## COPPÉLIA'S BOOK: DELIBERATION, TRUTH, TRUST & HOPE

**Tatjana Christelbauer**, Founder and Director  
Agency for Cultural Diplomacy Vienna, Austria

**Alice Siu**, Senior Research Scholar  
Stanford University, United States  
Associate Director, Stanford's Deliberative Democracy Lab

### ABSTRACT

*This presentation endeavors to explore the intricate relationship between tradition and innovation in the domain of dance arts, bolstered by the transformative capabilities of AI tools, with a focus on ethical considerations rooted in sincerity. Recognizing the pervasive influence of the arts in various scientific and societal realms, we delve into the catalytic power of artistic engagement, nurturing interdisciplinary collaboration and holistic understanding.*

*Drawing inspiration from the enchanting tale of the ballet Coppélia, we delve into the evolving interplay between human, natural, and artificial realms, illuminating the nuanced dynamics within this complex relationship. Employing a deliberative pooling method, our objective is to facilitate a comprehensive dialogue that highlights the seamless integration of tradition, innovation, and the evolving landscape of AI-driven artistic expression.*

*Through our discourse, we seek to reimagine traditional narratives and push the boundaries of artistic exploration, emphasizing the distinctive interplay between artificial replication and the profound authenticity of human expression. Deliberative pooling, as a collaborative decision-making process, encourages the harmonization of diverse perspectives and expertise, fostering a collective consensus.*

**Keywords:** AI, deliberative pooling, dance arts, innovation, tradition

# THE BALLET PERFORMANCE BETWEEN TRADITION AND INNOVATION

Simona Somacescu, Professor

I.L. Caragiale National University of Theatre and Cinematographic art, Romania

## ABSTRACT

*The theme of my scientific presentation entitled: "The ballet performance between tradition and innovation", I must confess that it was inspired by my students. More specifically, their question that they asked me in one of the courses I teach: why do contemporary choreographers such as: Mats Ek, Mathew Bourne, Jean Christoph Maillot or Akram Kahn choose to recreate shows from the classical ballet repertoire? Indeed, the question is justified if we remember that the 20th century began with the birth of modern dance, by taking up an opposition to classical ballet and its tradition of over three centuries. Surprisingly, at the end of the same century, great established contemporary dance choreographers are reviving the titles of classical ballets in a modern version. This phenomenon, we might say, brings the question: what is it that fascinates these creators, and audiences alike, about these choreographic creations, for surely there is no lack of inspiration here? During the lecture I will analyze both the specific structure of classical ballets, the socio-cultural context of the 19th century, which represents the peak of their creation, as well as their universal value that crosses the centuries until now, even in the conditions of the augmentation of the choreographic vision with effects specific to modern technology multimedia.*

**Keywords:** ballet performance, classical ballet, ballet tradition, ballet innovation, dance

# CLASSICAL BALLET AS SYSTEM OF SYSTEMS

**Simona Noja-Nebyla**, Ballet Educator and Researcher  
Cultural Foundation „Simona Noja“, Austria

## ABSTRACT

*This paper delves into the intricate interplay between tradition and innovation within the realm of ballet education against the backdrop of the 21st century. Drawing upon the author's extensive experience as a ballerina, pedagogue, ballet school director, and researcher, the narrative unfolds through the lens of her doctoral thesis. The thesis underscores the imperative to broaden the academic foundations for investigating ballet, positioning it as a dynamic field bridging art, science, and lifestyle. Advocating for a systemic approach, the paper explores the embodiment of diverse concepts from philosophy, mathematics, physics, neuroscience, and psychology. Examples include the utilization of social psychology's field theory (Lewin) as a study framework and the incorporation of the threshold concept of transformational learning (Land, Meyer, and Baillie) for identifying pivotal points.*

*Invaluable tools such as integrating specific ballet repertoire into the ordinary movement repertoire (Calvo-Merino), leveraging experiential learning (Kolb-Kolb), and examining perception, mental representation, and movement control processes (Schack) shed light on understanding deficiencies at the canonical level. Additionally, principles from mathematical functions deepen awareness of the intrinsic structure of ballet systems and their extrinsic potential to interconnect with other systems.*

*This paper underscores the urgency of redefining the purpose of ballet education.*

**Keywords:** field theory, embodiment, system of systems

# THE FUTURE OF DANCE-CROSSING SOCIAL BORDERS

**Yoriko Maeno**, Choreographer, Artistic Director  
Member of the International Dance Council of UNESCO, Germany

## ABSTRACT

*Yoriko Maeno is a Japanese dance theatre director and choreographer based in Berlin. Over the past 15 years, Maeno has crossed and blurred the boundaries between dance and other art media, dance and society, and the local and global. Through her projects, she has committed herself to local communities, opening up new perspectives for both these communities and the dance theatre scene.*

*In this talk, Maeno introduces her two most recent projects related to local communities: "AMA-Perlentaucherin" (2020-22), about the culture of the Ama ("women diver") in Japan, and her series of projects about dementia (2019-2021), using a creative process based on research, which in these cases she undertook in a small Ama village in Mie Prefecture and at a day-care centre in Berlin. She will also discuss the advantages of the digital technology we became used to during the pandemic.*

*Maeno will share her thoughts about the potential ecosystem for dance theatre, and further possibilities for it to tackle current issues facing humanity globally, such as divisions in society, sustainability of human and nature and the use of AI.*

**Keywords:** *dance and media, dance and society, 360°camera, dementia, women diver*

# THE CHALLENGES OF BALLET EDUCATION IN THE 21ST CENTURY

Ana Germ, Student

Dance Academy, Alma Mater Europaea – ECM, Slovenia

## ABSTRACT

*While concepts like holism, inclusion, integration, awareness and reflection are long known concepts and approaches of teachers in contemporary dance field, the ballet education seems to still struggle with the traditional – autocratic, teacher-centred ways of teaching. Although various teachers use individual methods, the command style seems to still be mostly used among ballet teachers, especially in former socialist countries which according to their socialist and conservative ideology have long been following traditional forms and narrative repertoires. Nowadays, ballet companies around the globe require versatile ballet dancers with the capacities to adapt to different styles and working methods (improvisation, creative tasks, co-authorship). Accordingly, ballet teachers need to develop and apply teaching methods that prepare the dancer in the ballet classroom for the evolving modes of performance and choreographic practices in the field. Additionally, ballet's negative reputation of dance teachers who (subconsciously) physically or mentally damaged their students by following the teaching patterns and practices of their former teachers needs to be transformed through specific and reflective pedagogical, physiological and psychological knowledge for teaching and learning in the 21st century. Contemporary times require continuous learning abilities (an independent learner) and request contemporary teaching-learning approaches where the focus turns to the how instead of what the students will learn. The teacher therefore has to use different modes, approaches and teaching styles to create situations in the class for different kinds of learners, personalities and interests (Theory of Multiple Intelligences).*

**Keywords:** ballet education, ballet teachers, teaching methods, traditional, contemporary teaching-learning approaches

# IMPORTANT EDUCATIONAL ASPECTS IN TEACHING AND LEARNING DANCE ART

Jerneja Omahen Razpotnik, Choreographer and Dance Pedagogue, Slovenia

## ABSTRACT

*The paper aims to shed light on the role of dance in education, how and why it is placed in the system in the way we witness it in modern times and what the role of dance art is in the general education of children and adolescents. It presents an overview of Howard Gardner's theory of multiple intelligences, and connects its components with dance education and learning and teaching dance. Further, the paper deals with the questions and challenges of educational process of teaching dance as art. By analysing the educational process, the relationship between student and teacher, and different educational styles in relation to the specifics of dance technique and the body, the paper examines and evaluates the field of teaching dance. The purpose of a broader dance education is described to show why in-depth professional dance training is important in higher education studies. It aims to offer possibilities for educating critical, proactive and responsible individuals within the school system and throughout dance education.*

**Keywords:** *dance art, dance in the educational system, learning process, integrated - midway model of teaching dance, multiple intelligences*

# EXPERT PANEL

## FLAMENCO DANCE IMPROVISATION: AN EXPANDED PERSPECTIVE

Juan Carlos Lériða, PhD Candidate  
Institut del teatre, Spain

### ABSTRACT

*This study focuses on examining the different uses on flamenco dance improvisation, observing the different configurations that have developed. As well as traditional and contemporary approaches to the body and its relationship with time, rhythm and space.*

*The methodology used in this study was based on an empirical approach and participant observation to establish a content analysis based on the collection of bibliographical data and interviews.*

*Three main types of improvisation related to flamenco dance have been identified: improvisation in, with and from flamenco. The improvisation in flamenco is constructed through established structures and rules, with functional objectives and specific results.*

*In contrast, improvisation with flamenco involves recognising established codes, and in turn re-configuring them through boundary displacements.*

*However, improvisation in flamenco expands and blurs the boundaries by using a language that cuts across other artistic disciplines.*

*In conclusion, improvisation in flamenco employs predefined limits and structures, while improvising with flamenco allows one to explore within these structures and redefine the margins. Finally, improvising from flamenco applies and extends an additional language transcending space and aesthetics. In short, improvising in flamenco conforms to the rules, improvising with flamenco plays with them, and improvising from flamenco uses it as a further influence in a wider context.*

**Keywords:** improvisation, dance, flamenco, margins, structures, Lego.

# FORMING AN INDIVIDUAL PATH WITH TRACES OF CONTEMPORARY DANCE

Johanna Rebecca Greiner, Student  
Dance Academy, Alma Mater Europaea – ECM, Slovenia

## ABSTRACT

*Considering the importance of following one's own path, while bearing reference to the bigger picture in an academic education, this article summarizes the research made for the diploma thesis "Built from Traces", which included the theoretical and practical work with selected traces of contemporary dance. The chosen traces were the expressionist dance, Flying Low technique, the Humphrey / Limón tradition, contact improvisation and the Judson Dance Theatre. The author took a look at the connection of her work as a choreographer and dancer in connection to past and present creators. Because of the ongoing scientific progress there is an undeniable historical context for each new art work, that adds on to the tradition of passing on knowledge from person to person. Therefore even though contemporary dance has an innovative and reformative nature a collection of knowledge and principles that exists throughout history in form of techniques, appearing in certain periods and approaches to bodies. With each creation phase of the graduation piece "Underneath the Clouds" the author elaborated different methods and approaches to the moving body aiming to transform them into unique shapes and forms. The result of the research was, that using the selected traces of contemporary dance to create "Underneath the Clouds" did not lead to new forms in a unique movement language, but to the expression of a personal matter through the forms of merged traces of contemporary dance. The research revealed that through a consistent and conscious work with certain techniques and approaches to the moving body one can express their individual concerns in a sustainable and dignified way. Hence, allow personal experiences to shape and inform an academic process.*

**Keywords:** traces of contemporary dance, individual path, choreographer, dancer, movement language



# CONTEMPORANEITY IN FLAMENCO DANCE

**María de los Ángeles Cenizo Salvago**, Dance Pedagogue  
Conservatory of Dance María de Ávila, Spain

## ABSTRACT

*Flamenco dance is increasingly in contact with contemporary dance, whether in technical, aesthetic, conceptual, thought, etc. aspects. There are many artists who dare to experiment in their creations with tools more typical of contemporary dance in a search for their own creative universe, far from flamenco orthodoxy. The article will reflect on the concept of contemporaneity in flamenco. However, we must not forget that flamenco is an impure art by nature, born from the mixing of cultures, a characteristic that it has not abandoned during its historical evolution. This aspect will also be developed throughout this article, since there have been artists throughout the history of flamenco who innovated in their time. Simultaneously, reflections by choreographer Andrés Marín on these aspects will be provided thanks to an interview that he gave us for the preparation of this article. In addition, it will end with a brief review about Israel Galván. Both choreographers, considered great innovators of the current flamenco scene, since, without abandoning their flamenco roots, they risk seeking other paths, entering the unknown terrain of contemporaneity.*

**Keywords:** Andrés Marín, Israel Galván, contemporary dance, contemporaneity, contemporary flamenco.

# THE EVOLUTION OF THE UNIVERSAL BODY OF FLAMENCO IN A ROOM OF ONE'S OWN

Ana Pandur, Lecturer

Dance Academy, Alma Mater Europaea – ECM, Slovenia

## ABSTRACT

*The present study examines the phenomenon of contemporary flamenco dance practices forming outside of Spain and their connection to the premise that historically, the female dancer's body in flamenco has been a tool of women's emancipation ever since the genre's existence. Parting from the perspective that historically, the female dancer's body - although culturally rooted in a deeply patriarchal society - in flamenco has not been directly submitted to the male body nor does it function as the sole object of the male gaze and for the male gaze, since it has been allowed to have sound and a voice and function as a subject. Therefore, it has not functioned as the Second Sex in the terminology of Simone de Beauvoir. It has been given the possibility of evolving in what Virginia Woolf calls "A room if one's own" with the possibility of personal space and autonomy intrinsically linked to the necessity to communicate with and around the music that enables the genre itself.*

*Examining the motivations of the practitioners who lack the cultural and historical environment where flamenco is rooted, we note that these practices arise from the practitioners need to expand their individual performative and choreographic horizons while choosing to continue the use of flamenco vocabulary, considering the very nature of the genre as inherently alive and ever evolving. The quest to transcend the cultural appropriation and cultural appreciation results in specific subcultures that have been forming semi - independently from the established field, offering new perspectives and reflections on the subject of flamenco itself. The vocabulary of contemporary flamenco becomes a performance tool that outgrows genre frames and acquires the dimension of an independent performance language. These contemporary practices often end up existing in an unknown territory that doesn't belong to either of the two worlds it tries to connect - the world of flamenco and the world of contemporary performative practices.*

*The research implements a combination of cultural, feminist and performance studies to rethink the connections between contemporary flamenco practices outside of Spain and specifically, the universal nature of the genre itself as an evolving performative practice.*

**Keywords:** contemporary flamenco, feminism, emancipation, performance practice





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# **SUSTAINABLE DEVELOPMENT**

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# SCHOLARLY PANEL

## HARNESSING TECHNOLOGY FOR THE PLANET: BLOCKCHAIN AND AI AS CATALYSTS FOR SUSTAINABLE CHANGE

Pan Theo Grosse-Ruyken, Professor

Ágúst Berg Arnarsson, Lecturer

PTGR AG, Switzerland

### ABSTRACT

*In the rapidly evolving digital landscape, PTGR AG stands at the forefront, harmonizing technological advancement with sustainable practices and educational empowerment. This slide deck, tailored for the „It’s About People 2024“ conference, encapsulates our holistic approach to integrating blockchain and AI technologies into the realms of environmental stewardship and academia.*

*Our presentation commences by exploring PTGR AG’s core philosophy, which emphasizes the synergy between technological innovation and ecological sustainability. We delve into the transformative roles of blockchain and AI in fostering sustainable practices, highlighting how these technologies are pivotal in ensuring transparency, efficiency, and accountability in environmental initiatives.*

*A significant portion of the deck is dedicated to our educational endeavors, particularly our collaborative programs with Alma Mater Europaea. These initiatives underscore our commitment to preparing current and future generations for the demands and opportunities of a digitalized, sustainable world. The inclusion of case studies and interactive models in our presentation illustrates the practical application and impact of our educational programs.*

*The deck further outlines PTGR AG’s diverse service spectrum, with a special focus on carbon project management. This segment showcases how our state-of-the-art platform simplifies the management of carbon projects, thereby contributing to global carbon neutrality efforts.*

*In our conclusion, we emphasize the global impact of our initiatives. Through detailed descriptions and visual representations, we portray how PTGR AG’s services not only lead the way in the digital finance and blockchain arenas but also significantly contribute to a sustainable and equitable future.*

*This presentation is not just an exposition of our services and achievements; it is an invitation to collaborate, innovate, and journey with us towards a sustainable digital era. We aim to inspire a dialogue about the potential of technology in shaping a world where sustainability, security, and dignity are intertwined with the digital evolution.*

**Keywords:** blockchain technology, artificial intelligence (AI), sustainability digital transformation

# HARMONIZING HUMANITY AND INDUSTRY: ORCHESTRATING INDUSTRIAL TRANSITION FOR SUSTAINABLE PROSPERITY

**Maja-Marija Nahod**, Professor  
Faculty of Civil Engineering, University of Zagreb, Croatia

## ABSTRACT

*In an era where the dynamic interplay between technology and society shapes our future, the concept of industrial transition has evolved beyond mere economic metamorphosis. This paper delves into the narrative of industrial transition with a focus on the symbiotic relationship between people and the evolving industrial landscape. Embracing a modern and trendy perspective, the research explores how this transition is not only about technological advancements but also about fostering sustainability and preserving human mindset. The intersection of innovation and societal well-being is one of the core pillars of managing industrial transition success. The paper examines the nuanced dimensions of this transition, emphasizing the role of inclusivity, ethics, and human-centric approaches. It transcends the conventional discourse by addressing the imperative of aligning industrial progress with the values of sustainability and dignity. The research employs a multi-disciplinary lens to analyze state of the art, emerging trends, and transformative technologies, offering insights into crafting a future where industries thrive in harmony with humanity. The paper aims to provoke thoughtful discourse and inspire collaborative efforts towards a future where industrial transition becomes a beacon of progress, fostering not only economic growth but also the well-being of individuals and the sustainability of our planet.*

**Keywords:** industrial transition, mindset, technology and society, sustainability



# STARTUPS AS AN INNOVATIVE CONCEPT OF SUSTAINABLE ENTREPRENEURSHIP

**Veronika Tóthová**, PhD, Lecturer  
Newton University, Slovakia

**Milan Fila**, Lecturer  
College of Applied Psychology, Ltd., Czechia

## **ABSTRACT**

*A big topic resonating in society in recent years is sustainable development, which covers all areas of society's life, such as social, political, ecological, and entrepreneurial areas. But to make sustainability an essential part of our lives, it is necessary to abandon the usual concepts and focus on a different view of things and innovations that precede any change. Based on the knowledge about startups, which defines them as disruptors of old concepts, we can assume that startups, with their innovative approaches to solving issues, will play a crucial role in the sustainable development of society. When we analyze the startup ecosystems, we can see that there are many leading startups in the eco scene, which are often at the forefront of innovation, so they can use their unique approach to making a positive impact on the environment and thus attract more people interested in the topic of sustainable development.*

**Keywords:** startup, sustainable development, entrepreneurship, innovation, environment

# ALTERNATIVE MEDIA AS AN AWARENESS-RAISING TOOL FOR SUSTAINABILITY AND CLIMATE: A CONTEXTUAL ANALYSIS OF “IKLIMHABER.ORG”

Nur Emine Koc, Associate Professor

Aysegül Akaydin Aydin, Professor  
Istanbul Aydin University, Turkey

## ABSTRACT

*Among the 17 articles under the Sustainable Development Goals, Article 13 focuses on climate action. Within this framework, increasing knowledge and raising awareness is one of the main responsibilities of the media. In this context, thematic news websites have been established, especially on alternative media platforms. In this study, the focus will be on alternative and thematic news about clean water, climate and environment, and raising social awareness in Turkey. For this reason, the news website “iklimhaber.org” is selected as the sample. The site will be analyzed using the content analysis method and numerical data will be obtained according to the determined categories. Content analysis will be conducted in the light of the determined categories to reveal to what extent the website provides information on these issues and how it shapes social awareness. This study provides an important example to understand the role of a media platform focusing on climate action and to evaluate the dynamics of communication in this field. This analysis can provide valuable insights into how the media can contribute to sustainable development goals.*

**Keywords:** clean water, climate and environment, clean energy, sustainability

# PRESENTING THE SUSTAINABILITY MODEL OF CONSTRUCTION PROJECTS: A META-SYNTHESIS APPROACH

**Mohammad Roozbeh**, Expert  
Tarsim Dade Afzar Co., Iran

**Hossein Safari**, Professor  
Faculty of Management, University of Tehran, Iran

**Mohsen Moradi-Moghadam**, PhD, Expert  
Mobile Communication Company of Iran (MCI), Iran

**Mohammad Mahoud**, PhD, Researcher  
3M-CEPM R&D Institute, Iran

## ABSTRACT

*Prioritizing sustainability in construction has become a common goal among governments, industry professionals, and academics. The main objective of sustainable construction is to minimize the negative impact of construction on the environment and promote a better quality of life while paying attention to economic issues. This research aims to present a sustainable model for construction projects, considering the economic, social, and environmental dimensions. To achieve this goal, the study has conducted a qualitative analysis of the research results in this field. By applying the meta-synthesis method, we analyzed 45 out of 257 identified articles for this purpose. Our study identified 139 indicators to assess the sustainability of construction projects. Of these, 36 indicators pertain to the environment, 44 to the economy, and 59 to social factors. Among the identified indicators, safety on the site was the most frequently mentioned (22 repetitions), followed by hygiene (16 repetitions), energy efficiency (16 repetitions), employee training and development (16 repetitions), and water consumption and conservation (15 repetitions). Among the current research, innovations are identifying indicators and dimensions of sustainable construction using the meta-synthesis qualitative research method.*

**Keywords:** sustainability, sustainable development, sustainable construction, Meta-Synthesis, construction projects

# SUSTAINABLE GRAPHIC DESIGN IN THE CASE OF WORKING WITH THE URBAN IMAGES

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University of Maribor, Faculty of Civil Engineering, Slovenia

**Daria Mustić**, Assistant Professor  
University of Zagreb, Faculty of Graphic Arts, Croatia

## ABSTRACT

*One of the fundamental characteristics of sustainable graphic design is its durability. Sustainable graphic design involves the use of images that are aesthetically timeless and ensure that products remain relevant over time, avoiding the cycle of trends that lead to premature disposal. Design ideas can be found everywhere: in literature, in music and also in the environment. Images of cities are today an integral part of the visual repertoire. They appear on everyday products (packaging) as well as on products with a specific purpose (advertising or information) in both physical and digital form. In today's sustainable society, the selection of images based solely on intuition is no longer appropriate. In design practice, we are faced with the challenge of finding a relevant image that conveys the message of quality urban living. The primary goal of designers is to select those that are recognizable, associated with positive emotions and consistent with the individual's spatial identity. To achieve this goal, it is necessary to apply a structural approach based on systems theory. This paper presents a systematic approach for the selection of images within an urban matrix based on the identification of Pillars of Spatial Identity (PSS points).*

**Keywords:** sustainable graphic design, pillars of spatial identity, image of the city

# SUSTAINABLE FLOODS DISASTER RECOVERY

**Franc Vidic**, PhD, Lecturer  
Alma Mater Europaea – ECM, Slovenia

## **ABSTRACT**

*Sustainability is becoming increasingly important. It is no longer all about the environmental aspects but also the social and economic aspects, which can only be achieved by achieving an effective balance between these three aspects.*

*The goal of sustainable disaster recovery is to craft long-term solutions and resiliency for communities across the globe. Storms, floods, landslides are a risk we face. Due to the abundant rainfall and rapid runoff of rainwater, torrential and flat waters rise and cross river bed.*

*Floodwaters are associated with erosion, landslides, the carrying away of soil on riverbanks, as well as deposits of material carried by swollen rivers. Raging waters cause a lot of damage to agriculture. Rapid response and remediation of the damage caused, as well as financial compensation, help to reduce the consequences and the continuation of the activity. In this paper author explain the importance of effective responses to flood risk. It is a major challenge, including: public expectations; health, welfare and security; environmental impact minimization. Interventions must be sustainable.*

*This paper is prepared by conducting a series of relevant literature reviews in the field of land subsidence and flooding, and the analysis of several damage cases in the Gorenjska area during heavy rainfall in August 2023.*

**Keywords:** sustainability, flood, landslides

# CLIL ROBOTICS - A PROGRAM TO PROMOTE ROBOTICS AND COMMUNICATION SKILLS

Gerald Hühner, PhD, Researcher  
Institute Discimus Lab Trzec, Slovenia

## ABSTRACT

*The presentation will focus on CLIL robotics, that is dedicated to the opportunities and challenges of robotics/AI. It combines the promotion of robotics and foreign language skills for the use and expansion of communicative competences with a special focus on ethical aspects. "CLIL" stands for "Content and Language Integrated Learning", with the content "robotics" and the explicit option of offering all (foreign) languages. For this purpose, the Discimus Lab institute has developed the concept "CLIL robotics from kindergarten to profession", to address social issues and needs of the topic at an early stage and in a sustainable manner, initially in a playful way, so that it can then be systematically built upon. In addition, Discimus Lab organizes the annual Slovenian and Croatian CLIL Robotics Championships, which have already been successfully held several times in both countries. Mixed teams of primary and secondary school pupils/students take part and compete to achieve synergies within the education vertical. Teachers for STE(A)M and Foreign languages are trained regularly to support their students and contribute to a sustainable implementation into the education landscapes in both countries. Plans to start an "International CLIL-Robotics Champions League" exist.*

**Keywords:** CLIL, education, robotics, communication, ethics

# WHO AM I? AN EXAMINATION OF GIG EMPLOYMENT STATUS FROM THE PERSPECTIVE OF E-HAILING DRIVERS IN MALAYSIA

Laila Suriya Ahmad Apandi, Lecturer

Mohd Dino Khairri Shariffuddin, Lecturer

Salwani Arbak, Professor

Universiti Utara Malaysia, Malaysia

## ABSTRACT

*Technological disruptions have significantly changed the landscape of labour employment. The Fourth Industrial Relations enables the creation of platform economy and gig economy which resulted into new form of labour; gig labour. However, the position of gig labour is uncertain. It could be either informal or gig employment. This also resulted into the circumstances of disguised employment. That is, the supposed gig labour should be informal or gig employment; however, gig labour could be considered as formal employment because of some rules imposed by the platform companies. This somehow affects the dignity of gig workers. It also jeopardises the sustainability of these workers in gig economy.*

*Henceforth, the paper examines the perception of e-hailing drivers in Malaysia on their respective employment status as gig workers.*

**Keywords:** *fourth industrial revolution, gig economy, platform economy, sustainable development, human dignity*

# FUNDAMENTAL MODELING FOR SUSTAINABLE SYNGAS PRODUCTION THROUGH WASTE GASIFICATION

**Marko Šetinc**, Assistant Professor  
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Geopolis d.o.o., Slovenia

## **ABSTRACT**

*Waste gasification is a process that transforms waste material into fundamental components, primarily synthesis gas (syngas), which is a precursor for methanol synthesis and other hydrocarbons production. This method effectively converts waste into a clean raw material - syngas. Modeling this process involves documenting and verifying the fundamental mass and energy balances, serving as a foundation for further design and optimization of individual processes. The model is constructed using mathematical formulations that delineate the material and energy transformations occurring throughout the process.*

**Keywords:** waste, gasification, syngas, modeling



# WHAT IS SUSTAINABLE DEVELOPMENT AND IS IT ACHIEVABLE?

Laurence Hewick, Associate Professor  
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## ABSTRACT

*The abstract describes what sustainable is by definitions accepted by the UN. What are the needs of people from a perspective of the natural environment, our economy and our civic society with a brief description of each as it relates to today's problems. Further it describes the three pillars on which sustainable development concepts were built and what we know about these concepts. It further looks at where the UN's 2030 sustainable development goals are at today and why they are not being met. It ends with recommendations for all countries to 'get back on track' and concludes with what we as people must do if we are to become sustainable.*

**Keywords:** sustainable development, inclusive society, economic, environmental stewardship

# THE UNITED NATIONS GENERAL ASSEMBLY AS THE CONSCIENCE OF THE WORLD: A CONSTRUCTIVIST ANALYSIS

**Uroš Popadić**, Researcher

Pax Research Center of the Americas, the Institute for Strategic Risk Management, the Protect Our Planet Movement

## **ABSTRACT**

*The paper deals with the idea of the General Assembly (GA) as a moral conscience of humanity. It undertakes to understand to what measure this idea is true, and how the desire of the GA as an institution to be a moral compass influences the attitudes and behavior of the members. At the same time the members internalize this idea and purpose of the institution, and act in ways supportive of it.*

*The construct of the GA both influences its members, and is influenced by them, as it is a reactive and constantly evolving construct. The article attempts to explain the causal relationship by which states use the GA to stress their ideas and concerns, and how the GA in turn informs their views of the world. The first part will put the GA into perspective through a constructivist prism. The second part will examine the role and function of the GA in relation to ethics in international relations. The third part will give a historical overview of this role for the GA. The method is informed by the constructivist theory of International relations, and is focused on the case study of an institution (the GA) through empirical analysis.*

**Keywords:** *constructivism, moral conscience, international ethics, General Assembly, global community*

# SUSTAINABLE TOURISM PLANNING TO ENSURE THE QUALITY OF LIFE OF LOCAL RESIDENTS

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Doba fakulteta, Slovenia

Arctur d.o.o., Slovenia

**Petra Škodlar**, Senior Project Manager

**Vesna Kobal**, CTO

**Katarina Ceglar**, Deputy Head of Tourism 4.0

Arctur d.o.o., Slovenia

## ABSTRACT

*The tourism industry faces a critical challenge: balancing economic growth with environmental protection and social well-being. Sustainable tourism planning, which prioritizes local residents' quality of life, offers a promising path forward. This article explores the integral role of innovative tools and data analytics in this process.*

*Innovative technologies can effectively monitor tourism's impacts, ensuring informed decision-making that minimizes negative environmental and social consequences. They enable the development of smart tourism systems that optimize resource use, reduce negative impacts and enhance visitor experiences. Furthermore, they empower collaboration among different stakeholders, including local communities, businesses, and government administration, fostering inclusive and sustainable tourism development.*

*This article explains how innovative tools and multiple data sources can be leveraged to gather real-time and other (e.g. historic, statistical etc.) data on tourist flows, in order to plan efficiently and make informed decisions. By integrating technologies and data analytics into sustainable tourism planning frameworks, destinations can create a future where tourism not only thrives economically but also protects the environment, enriches local communities, and fosters a high quality of life for residents.*

**Keywords:** *sustainable tourism planning, quality of life of local residents, innovative technologies, data analytics, informed decision making*

# THE CHALLENGES AND BARRIERS IN CROSS-FUNCTIONAL COLLABORATION BETWEEN THE PMO AND SMO TO EFFECTIVELY ACHIEVE ORGANIZATIONAL SUSTAINABILITY DEVELOPMENT GOALS

**Mario Protulipac**, PhD Candidate  
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Okviri znanja d.o.o., Croatia

## ABSTRACT

*With the growing importance of sustainable development in all spheres of life, sustainability has become a critical topic in project management. In a holistic view, the focus is not only on the relationship between individual constructs and their impact on sustainability but also on cross-functional cooperation within the organizational structure necessary to achieve sustainability goals.*

*The Project Management Office (PMO) is responsible for establishing project management methodologies and standards. In its work, the PMO collaborates with various departments and functional units of the organization, including the recently established and rapidly growing Sustainability Management Office (SMO). The purpose of this study is to analyse and compare the responsibilities of the PMO with those of the SMO and identify areas of potential collaboration from the perspective of achieving sustainable development goals, taking a pragmatic interpretive approach.*

*A list of key responsibilities of a PMO and SMO was formed based on an analysis of relevant literature. The research results show partial compatibility of functions that can positively impact organizational sustainability goals and open new questions related to organizational theory.*

**Keywords:** *project sustainability, Project Management Office, Sustainability Management Office, PMO, SMO*





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# **WEB AND INFORMATION TECHNOLOGIES**

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## TOWARDS TRUSTWORTHY AUTONOMOUS SYSTEMS FOR A SAFER SOCIETY: REFERENCE TAXONOMY AND DIGITAL TWINS

**Francesco Flammini**, Professor

University of Applied Sciences and Arts of Southern Switzerland (SUPSI), Switzerland  
Dalle Molle Institute for Artificial Intelligence (IDSIA USI-SUPSI), Switzerland

### ABSTRACT

*The rapid evolution of autonomous systems has the potential to redefine the way our society functions. Autonomous vehicles, drones, and industrial robots, among others, are poised to deliver unprecedented efficiency, productivity, and safety benefits. Yet, to fully embrace these autonomous innovations, ensuring their trustworthiness is paramount. This paper presents a comprehensive reference taxonomy for assessing the trustworthiness of autonomous systems and explores the integration of Digital Twins to further enhance their safety and dependability.*

*The reference taxonomy offers a standardized framework for evaluating and classifying autonomous systems, addressing crucial dimensions such as safety, security, reliability, and ethical considerations. Key elements include sensor technologies, decision-making algorithms, human interactions, and adaptability. By establishing a common terminology and a structured approach to assess trustworthiness, this taxonomy aims to facilitate communication among researchers, engineers, policymakers, and various stakeholders.*

*Digital Twins, virtual representations of physical autonomous systems, play a pivotal role in this framework. By enabling continuous monitoring and simulation of real-world counterparts, Digital Twins provide valuable tools for proactive fault detection, scenario testing, and adaptive learning. Their integration equips autonomous systems with the ability to self-improve, thus bolstering their safety and reliability.*

*This paper explores the practical implications of implementing the proposed reference taxonomy and Digital Twins across a range of sectors, including transportation, manufacturing, healthcare, and emergency services. It also addresses the ethical and operational challenges that arise as autonomous systems become more integrated into our lives.*

*In conclusion, achieving trustworthy autonomous systems is essential for a safer and more efficient society. The reference taxonomy and the integration of Digital Twins, as presented in this paper, represent a significant stride towards this goal. By embracing a standardized approach to evaluating trustworthiness, we can harness the transformative potential of autonomous systems while minimizing risks and uncertainties.*

**Keywords:** autonomous systems, trustworthiness, reference taxonomy, digital twins

# EMPOWERING ACADEMIC FUTURES: BLOCKCHAIN-BACKED DIGITAL CREDENTIALING FOR SUSTAINABLE DEVELOPMENT

**Mirjana Ivanuša**, Lecturer  
Alma Mater Europaea – ECM, Slovenia

**Tony Lenko**, PhD  
Edvance Digital Solutions, Australia

## ABSTRACT

*Alma Mater Europaea is proudly launching „Sustainable Academic Futures,” a groundbreaking pilot initiative introducing a blockchain-backed digital credentialing platform from March 2024 together with Edvance Digital Solutions company from Melbourne, Australia. This transformative platform not only provides students with access to verifiable digital credentials but also champions sustainability at its core. By decentralizing identity trust systems, our approach minimizes the environmental impact associated with traditional credentialing processes. This shift not only enhances security and transparency but significantly reduces paper usage, contributing to the university’s commitment to environmental responsibility.*

*This initiative embodies the conference’s commitment to leveraging technological advancements for the service of humanity. By facilitating secure, transparent, and decentralized credential verification, we contribute to sustainable development, ensuring the inherent worth of each individual. Our presentation invites academics, researchers, and practitioners to explore the transformative potential of our platform in fostering intergenerational and intragenerational equity, sustainable use, and developmental needs.*

**Keywords:** Sustainable Academic Futures, blockchain-backed digital credentialing, sustainable development, intergenerational and intragenerational equity

# PROMOTING HUMAN DIGNITY AND LEARNING SUSTAINABILITY WITH SUPPORT OF WEB3D RESOURCES: A USE CASE

**Jorge Ferreira Franco**, Professor

Advanced Studies of The University of Sao Paulo (IEA-USP), Brazil

Institute of Arts, Paulista State University 'Júlio de Mesquita Filho' (IA-UNESP), Brazil

## ABSTRACT

*This educational work's materials, practices and results have covered a lack in information related to long-term effects of individuals using Web3D-based advanced information communication and visualization technologies since Primary Education's territory. The implementation's proceedings have combined action research work, qualitative research, including educators and students formative processes related to media education. In the context of a primary school, within a metropolitan city's suburban area, in a developing country, Web3D and information production and visualization (IPV) technologies have been applied through participatory hands on and reflective learning experiences, working in service of promoting learning trajectories and human dignity with sustainability. Evidences of such applications and results have been registered via this researcher's archives as photos, computer programming source code and its three-dimensional (3D) symbolic representation, e-mails and social media information. These archives have supported to present this use case, in which a former student has learned, (co)created and shared knowledge referent how to utilizing Web3D and IPV resources at k-12 Education levels and beyond. He graduated in Computer Science, worked as 3D modeller and has done postgraduate courses, becoming an educator who has applied web-based technology for teaching. Throughout inside and outside school learning projects, our dialogic human computer interactions (HCI) have supported in service educators and students' cognitive and technical preparation for dealing and authoring content with Web3D and IPV technologies. Individuals' hands on and reflective experiences have enhanced their digital, spatial, visual and conventional literacy skills. Hence, the experiences have inspired citizens' research, lifelong learning, volunteering and professional attitudes. So, this use case has contributed for identifying individuals' lifelong outcomes with human dignity as a result of dialogic and participatory learning and using of Web3D-based and IPV resources since K-12 Education levels.*

**Keywords:** education, coding literacy, human dignity, co-creation, Web3D technology

# EXPERT PANEL

## SECURING THE DIGITAL FRONTIER: CYBERSECURITY CHALLENGES AND OPPORTUNITIES IN THE BALKANS

### ENHANCING CYBERSECURITY COLLABORATION AMONG WESTERN BALKANS SIX (WB6) THROUGH COMMON POLICIES, STANDARDS, AND JOINT INITIATIVES

**Igli Tafa**, General Director

National Authority on Electronic Certification and Cyber Security of Albania (NAECCS), Albania

#### **ABSTRACT**

*Proposal delineates a comprehensive framework aimed at bolstering cybersecurity measures across the Western Balkans Six (WB6) nations through the adoption of common policies, standards, and collaborative initiatives. Central to this framework is the establishment of a baseline for cybersecurity, shared among National Computer Security Incident Response Teams (CSIRTs), targeting the protection of critical and important infrastructures. The framework emphasizes mutual support in the enactment and implementation of cybersecurity laws and bylaws, aligning with EU Directives such as the Digital Operational Resilience Act (DORA) and the Cyber Resilience Act. It also focuses on the collective identification of critical and significant infrastructures across various sectors within the WB6, enhancing cross-border cybersecurity resilience.*

*A key component of the proposed framework includes participation in joint EU projects like the Digital Europe Programme (DEP) and investment in national crown jewels applications, pivotal for national security and economic vitality. Furthermore, the paper highlights the importance of exchanging expertise in various cybersecurity domains among the WB6 countries, aiming to elevate the region's collective cybersecurity posture. The establishment of a WB6 CERT, comprising experts from the six Western Balkan countries, and a high-level WB6 cybersecurity board, are proposed as mechanisms for strategic oversight and operational coordination. This board, consisting of the General Directors of cybersecurity from each country, is envisioned to facilitate regular interaction and decision-making, thus ensuring a cohesive regional cybersecurity strategy.*

*Additionally, the framework proposes the organization of quarterly workshops and conferences to foster knowledge sharing and collaboration among cybersecurity experts and managers from different sectors across the WB6. These gatherings, slated to occur in various locations, aim to keep stakeholders abreast of the latest trends, challenges, and solutions in cybersecurity.*

*Further, the framework addresses the safety of online environments for children across the WB6 and advocates for the involvement of universities in cybersecurity education. By integrating cybersecurity topics into university curricula and enhancing the expertise of professors, the initiative aims to contribute to the long-term development of cybersecurity skills in the region.*

*In conclusion, the proposed framework seeks to establish a comprehensive, collaborative approach to cybersecurity in the Western Balkans, enhancing the region's resilience against cyber threats through shared standards, policies, and joint initiatives.*

**Keywords:** Albania, cybersecurity collaboration, Western Balkans, national computer security Incident Response Teams







**STRATEGIC  
COMMUNICATION  
MANAGEMENT**







# SCHOLARLY PANEL

## THE INFLUENCE OF FACEBOOK ON CHANGES IN HUMAN COMMUNICATION IN THE FIELD OF EMOTIONAL RELATIONSHIPS

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Tihana Đumić, PhD Candidate

Alma Mater Europaea – ECM Slovenia

### ABSTRACT

*Digital technology in mass media provides a new way of information transmission but often falls short in delivering the truthfulness and emotional depth of information compared to human interaction. Besides the convergence offered by media, the resolution of information through digital or mass communication channels remains inferior to direct human communication. The question arises of how social internet platforms impact relationships between men and women and the value and emotional structure of these relationships. Despite numerous studies that have focused on the influence of social media on the quality of communication and the lives of children and youth, it seems that the impact of social networks on gender relationships is often overlooked or considered less important.*

*This research aimed to examine the public perception of the alienation effects of Facebook in the realm of primal and primary social interaction between men and women as opposed to all other forms and types of communication. Most participants do not support the use of social networks for romantic encounters or emotional relationships, considering virtual communication an inadequate substitute for real emotional contact, which involves non-verbal signs of attraction, and do not view it as a means of engaging in emotional or erotic adventures. While most do not see them as a threat to stable emotional relationships, they pose a threat to the spiritual component and the dignity of partners and are perceived as a platform for sexual escapades, affairs, and infidelity.*

**Keywords:** social networks, gender identity, emotional relationships, sexuality

# THE EFFECTIVENESS OF DIGITAL POLITICAL COMMUNICATION IN INFLUENCING VOTER BEHAVIOR

**Radoslav Baltezarević**, Senior Research Fellow  
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## ABSTRACT

*The development of digital technologies has changed and improved the methods of political communication. Today, digital political communication has become a powerful weapon of politicians and their parties in political campaigns, which can ensure the desired outcome in political elections. Communication in a digital environment can more effectively influence the building of desired attitudes among voters and additionally motivate them to spread positive electronic word of mouth (eWOM) to other Internet users in order to directly encourage the formation of positive political opinion towards a specific political candidate and/or party. However, digital political content published on social media must be properly and intelligently developed and regularly altered in order to improve communication with voters and have a more comprehensive impact on the ultimate results of political elections. In recent years, political marketing professionals have employed credible political influencers in social media (primarily experts in this field) to influence voter attitudes and, as a result, affect the creation of desired positive political perceptions.*

**Keywords:** digital political communication, electronic Word of Mouth (eWOM), political influencers, digital environment, voters

# CONSULTATION WITH THE PUBLIC DURING THE ADOPTION OF LAWS IN THE FIELD OF ENVIRONMENTAL PROTECTION

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## ABSTRACT

*The area of environmental protection is a special topic in terms of global importance. Since the quality of the environment has a global impact, there is an interest in placing special emphasis on the highest quality laws that affect environmental protection. Therefore, the procedure for passing laws in the field of environmental protection is specifically regulated by the Aarhus Convention, which contains guidelines for the procedure for passing those laws that affect the environment, and which guidelines the signatory countries of the convention implement in their legislation. The purpose of this review is to provide an overview of relevant scientific knowledge and works related to consultation with the public during the adoption of regulations regarding environmental protection, and to explain the differences in the role of the media in the process of consultation with the public during the adoption of laws that do not regulate the area of environmental protection compared to the role of the media in relation to the adoption of regulations regulating environmental protection, using the methods of a semi-systematic review of the literature, and the Frederiksen / Phelps approach. The aforementioned knowledge is important in terms of supplementing the existing scientific literature and forming future guidelines with the aim of developing a model of the consultation procedure when adopting regulations. In further research, it is necessary to carry out further analyzes and comparisons of communication models and media in order to choose the best models and media and apply them to all procedures for enacting laws on environmental protection.*

**Keywords:** media, environmental protection, Aarhus Convention, public, consultation

# SUSTAINABILITY IN FOCUS: SUSTAINABILITY COMMUNICATION STRATEGY OF OTP BANK D.D. CROATIA

**Manuela Bukovec**, PhD Candidate  
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## ABSTRACT

*Corporate Social Responsibility or sustainable banking is a business approach in which banks, in addition to complying with legal obligations, integrate environmental and societal concerns into their decision-making processes. The managerial component establishes the framework necessary for structured, efficient, and transparent management, including the existence of systematic internal controls. Special attention is directed towards stakeholders. All of these factors are crucial in shaping the personal identity or image of each banking institution. Whether identifying a bank as a socially responsible entity in general or as a desirable employer, corporate communication strategy is an indispensable part, and sustainability has long been incorporated into almost every message to stakeholders.*

*A case study on OTP Bank dd Croatia presents research results on the communication channels used within the bank for strategic communication on sustainability to stakeholders, with a particular focus on internal communication to key stakeholders. The study involved interviewing key individuals from the sustainability and corporate communications segments and observing general trends in customer and employee behavior and satisfaction.*

*The study examines the types of content the bank shares with stakeholders and the challenges it faces in communicating about socially responsible business practices. The results of the study provide guidelines for the further development of strategic sustainability communication, especially internal communication. Future research could also explore its impact on increasing employee loyalty.*

**Keywords:** *communication channels, communication strategy, socially responsible business, banking institution, public*

# PERCEPTIONS OF CLIMATE CHANGE: PERSPECTIVES FROM THE COP28 CONFERENCE IN DUBAI

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## ABSTRACT

*This scientific work is focused on the analysis of media coverage and perceptions of climate change among different countries, also participants of the Conference of the Parties in Dubai (COP28), with the aim of better understanding their views on this global problem.*

*In order to achieve this goal, the author will use a qualitative research approach. An analysis of the coverage of the COP28 conference will be conducted in eight different media such as: BBC News, The Washington, Al Jazeera, Deutsche Welle, France 24, South China Morning Post, The Japan Times and Večernji list as one Croatian media. Media coverage will be monitored in the period from November 20 to December 20, 2023.*

*Analysis of this qualitative data will enable the author to identify differences and similarities in perceptions between participating countries, taking into account geographic location, socio-political context, cultural diversity and educational background. At the same time, as an active participant in the COP28 conference, the author will use his insight and access to the participants to better understand their views.*

*To sum up, the paper will emphasise the importance of an integrated approach that includes responsible journalism, comprehensive education and an emphasis on communication and cooperation in order to improve the perception of climate change.*

**Keywords:** political communication, climate change, COP28, energy transition

# HOW DOES GEN Z PERCEIVE SUSTAINABLE FASHION? ATTITUDES OF CROATIAN STUDENTS TOWARDS THE GREEN H&M CAMPAIGN

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**Tanja Grmuša**, Assistant Professor  
Zagreb School of Business, Croatia

## ABSTRACT

*The phrase „sustainable fashion“ is increasingly heard in the media and among consumers. A literature review indicates that environmental awareness is greatly influenced by the concept of greenwashing, which plays a central role in the communication strategies of numerous. In the theoretical part, the concept of fast fashion and the sustainability question are analysed from social, economic, environmental, and ethical perspectives. Furthermore, the paper provides a review of previous research on fast fashion in the Croatian market, which served as a stimulus for this research. The second part of the paper presents a study aimed at examining how students in Croatia perceive the green campaign of one of the world's leading fast fashion brands, such as H&M. The research was conducted from October 10, 2022, to October 16, 2022, through an online questionnaire with a sample of 162 students from three Croatian universities in Zagreb, Rijeka, and Osijek. The research results show that students in Croatia are aware of the impact of fast fashion on society as a whole and the communities to which they belong. On the other hand, the results of the conducted research indicate that the green campaign does not significantly affect their consumer habits and behaviour.*

**Keywords:** sustainable fashion, environmental awareness, greenwashing, students, H&M campaign

# THE INFLUENCE OF DIGITAL PLATFORMS ON THE PERCEPTION OF THE QUALITY OF INTERNAL COMMUNICATION IN A NON-PROFIT ORGANIZATION: THE PERSPECTIVE OF TEAM MEMBERS AND LEADERS

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**Tanja Grmuša**, Assistant Professor  
Zagreb School of Business, Croatia

## ABSTRACT

*Effective internal communication is integral to the success of any organization, prompting a growing emphasis on measurement and researching its effectiveness. This study, conducted in 2023, delves into the perception of internal communication quality within the non-profit student organization FSB Racing Team. Grounded in theoretical frameworks and previous research on internal communication, conducted research uses a mixed methods approach, utilizing both quantitative survey on a sample of 48 participants and qualitative in-depth interviews on a sample of three respondents. The primary objectives were to assess how members of the FSB Racing Team perceive the quality of internal communication and to examine the dynamics of communication within the organization. The findings reveal that, despite some shortcomings, internal communication is generally perceived as satisfactory by members. The study highlights the Microsoft Teams online platform as a valuable tool, facilitating more efficient information flow and organized storage of relevant reports for knowledge transfer.*

**Keywords:** non-profit organization, internal communication, satisfaction with communication, organizational culture, online platform

# COMMUNICATION OF HEALTHCARE PROFESSIONALS WITH PATIENTS IN THE "POST-COVID" PERIOD RELATED TO REGULAR MEDICATION INTAKE

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## ABSTRACT

*The COVID-19 pandemic triggered substantial changes in the healthcare system. Communication had to be adapted to prevent the spread of infection, leading to the intensified use of available technology for this purpose. These practices persist in certain healthcare settings „post-COVID“. Effective healthcare communication is foundational for patient and staff satisfaction and crucial for successful treatment. Today, one current significant issue in healthcare communication is patients' persistence in medication adherence. This study aims to explore patient experiences with „nudging“ communication and guiding behaviors without obligation, punishment, or without financial incentives. The research was conducted on a sample of 237 patients in the Republic of Croatia. The research results showed that a significant portion of patients agree or completely agree (70%) that encouraging medication intake by doctors is beneficial for patients, and encouragement from nurses (64%). Additionally, patients consider reminders received via mobile phones for medication intake or appointment schedules to be useful (81%). The research indicates that communication in the „post-COVID“ period, based on experiences during the pandemic, has proven to be effective and is positively evaluated by patients.*

**Keywords:** communication, „post-COVID,“ medication intake



# DEMOCRACY IN THE DIGITAL ERA: CROATIAN ATTITUDES TOWARD VOTING MECHANISMS

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Damir Vandelić, PhD Candidate

Antonio Priščan, Lecturer

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## ABSTRACT

*This research, conducted through a survey on a representative sample of 650 citizens of the Republic of Croatia, aimed to investigate whether preferences for specific voting methods—traditional (paper and pencil), electronic via computer or smartphone from any location, and electronic systems at polling stations—differ based on sex, degree of urbanization, level of education, and age of respondents. Multivariate statistical analyses revealed statistically significant differences in preferences concerning age, place of residence, and educational level with regard to various voting methods. The study contributes valuable insights into the nuanced dynamics of voting preferences in Croatia, shedding light on how demographic factors influence citizens' choices in the context of evolving electoral technologies. These findings have implications for the design and implementation of voting systems, emphasizing the importance of tailoring approaches to accommodate diverse demographic profiles in order to ensure inclusivity and representation in democratic processes.*

**Keywords:** voting preferences, e-voting, Croatia, elections, democracy

# FREEDOM AND ETHICS: BASIC POSTULATES OF RELIGIOUS CREATION

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## ABSTRACT

*Ethical research is placed at the very foundation of religious communication and in that regard it must arrive to the essence of the creative potential because it represents depth and warmth of the spirit where both intellectual and spiritual effort come together without which there may not be soaring. Freedom of spirit and personal spirituality are the most efficient elements for improvement of not just individual but social life as well, for establishment of moral attitudes and values, development of cultural heritage and creation of an internal balance. Freedom of spirit and civilisation are not a privilege of a few members of society because culture and religion are not biologically transferrable complexes, there is not anyone at such a low level of cultural life who does not have some higher cultural pattern or even the very civilisation derived from religious and philosophical ideas available. If it is however necessary to speak in a manner which reduces the level, because it shall require "stooping" towards individuals or mob and their cold minds, the conversation shall spread to them "down below" thanks to the influence left by freedom and civilisation. Freedom, being a need at the foundation of creative potential, in the process of religious communication, may never be too emphasized because origination of spirituality within a man, and its development depend a great deal on the freedom of spirit and thus we come to the conclusion: the more free one is the more one is independent within oneself and towards oneself and more understanding with others. In that regard, communication shall be directed to cooperation and joining with others, similar to oneself, since "only those who are similar may communicate."*

**Keywords:** freedom, creation, ethics, society, religion, communications

# THE DIVERSIFICATION OF STRATEGIES IN CONFRONTING THE REVOLUTIONARY WAR: AN INTELLIGENCE MILITARY ANALYSIS IN THE CURRENT CONTEXT AND FUTURE PROSPECTS

Stefano Turini, PhD, Senior Lecturer  
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## ABSTRACT

*This analysis delves into the strategic dimensions of revolutionary warfare, dissecting Italy's susceptibility to subversive infiltration. Framed within a temporal ambit stretching five decades into the future, our exploration unveils a kaleidoscope of geopolitical intricacies. The preparatory phase entails fortifying national resilience through comprehensive intelligence frameworks. Subsequently, information warfare becomes a linchpin—propaganda strategically diffusing across socio-political membranes. Crucially, the third phase, infiltration, extrapolates the prospect of insidious encroachment into national fabric, exploiting democratic conduits. Through a prescient lens, we foresee a nuanced evolution of this insidious paradigm in the future Italian landscape. The nexus of our exposition converges on the fourth phase: strategic action. This dialectic unfolds in Italy, balancing on the fulcrum between „legitimate“ political ascension and the specter of „violent“ upheaval witnessed in disparate locales. As Italy navigates this complex terrain, the populace's discernment emerges as the fulcrum upon which the trajectory of national destiny pivots. In essence, the discourse delineates Italy's strategic crossroads within the broader tapestry of global revolutionary dynamics. Positioned within the terminus of temporal reckoning, it underscores the imperative for proactive intelligence measures, galvanized by a prescient populace.*

**Keywords:** subversive warfare, geopolitical resilience, information warfare, insidious infiltration, prescient intelligence, strategic action paradigm

# INFORMATION QUALITY AS A MANIFESTATION OF CONCERN FOR HUMAN DIGNITY

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## **ABSTRACT**

*Human rights accrue by virtue of being a human being endowed with inherent dignity. Among these rights is freedom of expression, of which the right to information is an element. The information quality consists of many attributes, of which truth and credibility can be analyzed in theoretical studies conducted using the desk research method. True information certainly enjoys the protection of freedom of expression. The expression whose source is false information can be conditionally granted the protection enjoyed by one of human rights, but disinformation and the tools used in it are a denial of appropriate information quality, as it is not in the public interest.*

**Keywords:** human rights, information quality

# HEALTH NAVIGATION: STRATEGIC COMMUNICATION MANAGEMENT IN ISTRIAN HEALTH INSTITUTIONS

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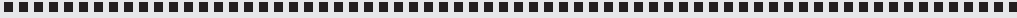
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## **ABSTRACT**

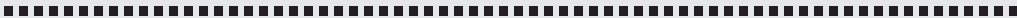
*Research on strategic communication management in healthcare institutions in Istria studies key strategies and challenges in communication. The focus is on the specifics of the health sector in this area, exploring communication approaches and implementing strategic practices to improve relationships with patients, staff and the community. The research aims to identify and analyze the potential relationship between applied communication management strategies and the level of patient satisfaction in health care institutions in Istria, with an emphasis on providing a deeper understanding of the factors that influence patients' perception of the quality of communication in the health care environment. Three research hypotheses were set: H<sub>0</sub>: The application of strategic communication practices in healthcare institutions in Istria significantly correlates with increased patient satisfaction; H<sub>1</sub>: There are statistically significant differences in the perception of the effectiveness of communication strategies in healthcare institutions in Istria in relation to the gender of the respondents; H<sub>2</sub>: There are statistically significant differences in the perception of the effectiveness of communication strategies in healthcare institutions in Istria in relation to the age of the respondents. The research sample consisted of 130 patients. The research was conducted in Pula and Rovinj (Istria, Croatia). The scaling technique was used in the research part of the work. For the purposes of this research, the Assessment Scale of Strategic Communication Management in Healthcare Institutions was constructed. Based on the results of the research conducted, all three hypotheses were confirmed. First, the implementation of strategic communication practices significantly correlates with increased patient satisfaction. Also, statistically significant differences were observed in the perception of the effectiveness of communication strategies in relation to the gender and age of the respondents, which indicates the importance of adapting communication practices according to the individual characteristics of patients in Istrian healthcare institutions.*

**Keywords:** health institutions, Istrian patients, satisfaction, strategic communication management





# **MANAGEMENT**







## ORGANISATIONAL COMPETENCE IN MANAGING PROJECT PORTFOLIOS BASED ON SUSTAINABILITY

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### **ABSTRACT**

*Today, most organisations incorporate the concept of sustainable development and ESG requirements into their operations and develop strategies based on these topics and considering social, environmental and economic impact aspects. The organisation's strategy, which includes sustainability and ESG objectives and indicators of the organisation is implemented through the formation and implementation of a portfolio of projects and/or programmes. Project and/or programme portfolio management is one of the most important competences of an organisation where the topic of sustainable development is not yet well studied. In the paper, the author studied 25 sustainability reports of large companies and conducted a series of semi-structured interviews with portfolio managers. Having analysed the obtained data, the hypothesis of the existence of correlation of project portfolios with the organisation's strategy in terms of sustainable development and ESG has been confirmed, and the key elements of the organisation's competence in managing a portfolio of projects and/or programmes based on the sustainable development principles have been identified. These findings may be of interest to practitioners - organisational leaders, sustainability directors and portfolio managers. The study results can also be a contribution to sustainability theory and portfolio management.*

**Keywords:** portfolio management, sustainability, sustainable development, organisational

# PEOPLE MANAGEMENT WITH AN EMPHASIS ON RECRUITING EMPLOYEES IN THE POST-COVID ERA IN THE CATERING SECTOR: CASE STUDY CZECHIA AND SLOVAKIA

Renata Ježkova, Assistant Professor

Tatek Beneti, PhD, Lecturer  
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## ABSTRACT

*The paper deals with people management with emphasis on recruiting employees in the post-covid era in the catering sector. Its aim is analysing the activities, tools, ways of recruiting employees that were most affected by the Covid-19 pandemic, identifying the negative and positive impacts of the pandemic on people management in the context of the overall impact of the pandemic on business in this sector within the Czech and Slovak Republics, and comparing the post-Covidian situation in gastro businesses in terms of people management with the situation before the Covid pandemic. It focuses on methods of recruiting employees for gastro establishments, communication channels and technologies, on key aspects of hiring employees, using new channels, reaching out to different generations, ways of solving the lack of required personnel. Important aspects are preferences when compiling job offers, the preferred profile of applicants and experience with the use of agency employees and the employment of foreigners, mainly from Ukraine. The paper is based on the statistical processing of the results of a survey of the most competent persons responsible for people management in a sample of gastro enterprises of different size and nature throughout the Czech and Slovak Republic.*

**Keywords:** COVID-19 pandemic, post-covid era, people management, recruitment, catering sector





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# **HIGH SCHOOL RESEARCH**

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# HIGH SCHOOL RESEARCH IN PARTNERSHIP WITH II. GIMNAZIJA MARIBOR

## MEDICAL CANNABIS (CANNABIS SATIVA) AS AN ALTERNATIVE IN THE TREATMENT OF MELANOMA?

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### **ABSTRACT**

*Nowadays, there is an increasing number of research focusing on the therapeutic effects of cannabis, as it has been in use for medical purposes since ancient times. In this study, the purpose was to examine the impact of five varieties of medical cannabis (Bedrocan, Bedrolite, Berdobinol, Bedica in Bediol) on melanoma cell lines. First, we performed the extraction of decarboxylated and non-decarboxylated cannabis samples using an ultrasonic bath. With the HPLC method, cannabinoid profiles were made, and differences between decarboxylated and non-carboxylated extracts were observed. Finally, melanoma and healthy cell lines were exposed to hemp extracts, monitoring cell viability. Main conclusions of our research were that the certain extracts reduced the cell viability of melanoma cells without excessively reducing the viability of healthy cell lines. Moreover, we also focused on connections between cannabinoid profiles, melanoma cell line mutations, melanoma progression rates, and cell viability, and looked for explanations for them.*

**Keywords:** *cannabis, extraction, decarboxylation, melanoma, cell viability*

# REVIEW OF THE NEUTRALISING PROPERTIES AND COST-EFFECTIVENESS OF DRUGS AND FOOD SUPPLEMENTS FOR NEUTRALISING GASTRIC ACID

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Ana Potočnik, Student

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## ABSTRACT

*Gastric and other digestive disorders such as hyperacidity, GERD (Gastroesophageal reflux disease), peptic ulcer disease, etc. are particularly prevalent in the world of medicine, and the use of antacids (drugs to neutralise stomach acid) is widespread.*

*Medicines and food supplements were compared and evaluated in terms of the pH they would reach in the stomach and their neutralising capacity. A comparison of the cost-effectiveness of medicines and food supplements was also carried out by reviewing publicly published prices.*

*The results show that medicines have on average a higher neutralising capacity than food supplements. Medicines on average achieved pH values more appropriate to the physiological state of the stomach than food supplements. However, the cost-effectiveness review shows that dietary supplements are slightly more effective.*

**Keywords:** *antacids, drugs, food supplements, neutralization of gastric acid, neutralizing capacity*



# CORRELATION BETWEEN REGULAR PHYSICAL ACTIVITY AND ANXIETY AND SELF-ESTEEM

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## ABSTRACT

*Given the rise in self-esteem and anxiety-related problems, it is important to explore ways to alleviate them. Several studies have shown that physical activity could be a good solution, demonstrating a positive correlation between physical activity and self-esteem and a negative correlation between physical activity and anxiety. Using a questionnaire administered to a sample of 345 students, I investigated these relationships and tested and proved the existence of a correlation between physical activity and self-esteem and anxiety. In addition, the study showed that individuals who engage in moderate to high-intensity physical exercise show the highest (or best) levels of self-esteem. The association between type of exercise and anxiety was also shown to be statistically insignificant. The study also provided informative insights into gender differences in self-esteem and anxiety and considered differences in type and frequency of exercise.*

**Keywords:** physical activity, exercise, anxiety, self-esteem, mental health

# ASSESSING ALTERNATIVE ELECTORAL SYSTEMS AND THEIR IMPLEMENTATION IN REPUBLIC OF SLOVENIA

**Borja Ranzinger, Student**  
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## **ABSTRACT**

*The electoral system is one of the most important factors influencing the functioning of democracies worldwide. Fair representation is an idea that advocates the closest possible relationship between the wishes of the electoral base on election day and the final composition of representative bodies. Slovenia's electoral threshold results in many 'wasted votes' in each election, leading to low levels of fair representation. In the last national elections, the electoral threshold resulted in a 24% loss of votes. In this research paper, I analyze alternative systems to see how good they are at ensuring fair representation and determine whether or not we could implement them in Slovenia. I also consider how the introduction of various changes would affect Slovenian democracy. After thorough examination and analysis, I determined that implementing some variation of STV would be the most effective way to increase fair representation in Slovenia while maintaining the efficiency of our governing bodies. I conclude by outlining the different policy paths for electoral reform.*

**Keywords:** single transferable vote, parliamentary threshold, elections, lost votes, proportional representation

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