



AGENDA GUIDE

Unlock the World Wonders
powered by an Engineer's Elixir

TEAM 2024: Discover new research opportunities

11th International scientific and expert conference

of the international TEAM society, 10.09 – 13.09.2024, Ostrava

www.team2024.eu

Forewords

Keynote speakers

Program

Opening

Keynote lectures

Advanced Manufacturing

3E Session

Materials and Manufacturing

Closing Ceremony

Networking

TEAM2024' Enter to the world of wonders

Deep Below Zero

Wednesday Morning

Let's break the ice with a few experiments. We'll show you how to keep a cool head when facing scientific challenges, and we might cast a fog all over to make sure the rest of the conference seems perfectly clear. Our experiments will be cool, but we hope they'll warm you up for the day ahead.

Physical Appetizer: The Infrared World

Wednesday Morning

Let's take a look beyond the red edge of the rainbow. You'll discover that what appears black doesn't have to be black at all. And who knows? You might even see a secret that state banks don't reveal.

Physical Appetizer: Electricity Through You

Wednesday Afternoon

How much electric current is too much? What does it feel like when electricity flows through you? And at what point do you start to feel it? Safely experience the effects of electric current on your own body, and explore much more.

The Light Code Quest

Wednesday Evening

What secrets are hidden in a giant kaleidoscope? Can you pass through a laser maze without a single touch? How does the world look in monochromatic light? Most importantly, can your team solve all the puzzles and ciphers? Try our game and engage in quests that are both physically interesting and beautiful.



TEAM2024' Experimental bites

Hidden Polarisation

Thursday Morning

How does 3D cinema work, and what makes 3D glasses different from your sunglasses? You may not believe your own eyes, and you'll also pick up a tip on how to entertain yourself when the film isn't worth watching.

Source of Power

Thursday Afternoon

Since the beginning, humanity has been looking for better and better sources of power to improve our daily lives. Let's explore some of the newest ones and discover how surprisingly simple they can be.

Vortex Rings

Thursday Afternoon

Solutions to complex equations are often simple, elegant and beautiful. Especially while floating through the room. We would shape the air and show you how dolphins play using fluid mechanics.

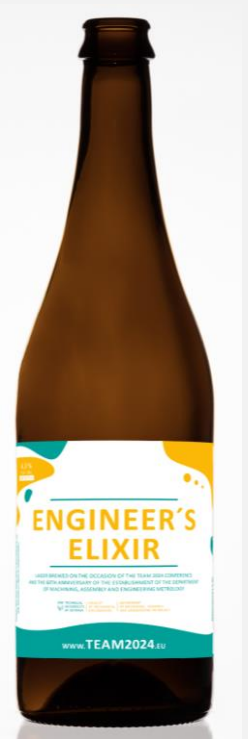


TEAM2024 Engineer's Elixir

In the heart of the VŠB – Technical University Ostrava, nestled within the bustling halls of the Faculty of Mechanical Engineering, a remarkable creation was born. Dean prof. Robert Čep, a passionate engineer and an avid homebrewer, worked on a unique project that would bring together the brightest minds at the upcoming TEAM scientific conference.

prof. Robert Čep had always believed in the power of collaboration and the magic that happens when great minds come together. Inspired by this vision, he decided to craft a special brew, an "Engineering Elixir," that would serve as a catalyst for new relationships and groundbreaking research.

The process began in her modest home brewery, where he meticulously selected the finest ingredients. Each hop and grain was chosen not just for its flavour, but for its symbolic representation of the diverse fields within engineering. As he brewed, he infused the elixir with his hopes for the future of engineering—innovation, collaboration, and discovery.



The Engineer's Elixir is more than just a drink; it is a symbol of unity and shared purpose. Researchers from different disciplines will find a common ground, and new partnerships. The elixir's will influence extended beyond the conference, as the relationships and collaborations it inspired will lead to innovative projects and joint research endeavours.

TEAM2024 President's Foreword



Prof. Dr.sc. Dražan Kozak

Dear participants, dear colleagues, dear friends,

as the President of the International TEAM Society, it is my distinct pleasure to welcome you to the 11th International Scientific and Expert Conference. This gathering is a testament to the power of interdisciplinary research and teamwork that unfolds when diverse minds unite in the pursuit of knowledge. A scooter whose parts were made using 3D printing could also become this symbol.

Our ancestors hardly imagined the power of the light. In one of our most inspiring projects, a beam of laser light was created with precision to design a 3D printed scooter, layer by layer. This magic of science was not the brainchild of a single discipline but the orchestra of physics, engineering, design, and environmental science working in concert. It stands as a beacon of our potential when we harness the collective energy of interdisciplinary teams. May we become the light that enlightens the dark unknown corners, and the spark that ignites common progress.

I would like to express my profound gratitude to Prof. Ing. Robert Čep, Ph.D., Dean of the Faculty of Mechanical Engineering at VSB-Technical University of Ostrava. As we celebrate the 60th anniversary of the Department of Assembly and Engineering Metrology, his unwavering support from the inception of our proposal has been instrumental in bringing this year's conference to Ostrava. Additionally, my sincere thanks go to Prof. Ing. et Ing. Mgr. Jana Petrů, Ph.D., the esteemed leader of the department, whose wholehearted commitment has been a cornerstone in the orchestration of our TEAM family reunion.

Last, but not at least, I would like to sincerely thank Prof. Ing. Sergej Hloch, PhD. TEAM 2024 Chairperson who as a key person together with his team took care of every detail, from the creation of the conference website, review of papers to various organizational details that needed to be resolved. I am convinced that this year we will spend again some nice time as a TEAM family, look forward to new knowledge, renew old friendships and make new ones.

I do hope you decide to come and take an active part in our gathering in Ostrava, Czech Republic, September 10-13, 2024. On behalf of the International TEAM Society, which is one of the co-organizers of our conference, we look forward to having the opportunity to discuss the latest scientific findings of the authors of the papers, but also to listen to the 6 latest hot topics of our excellent invited keynote speakers. Let the light of our collective wisdom shine like a focused laser, guiding us to a future shaped by collective knowledge and unity.

**Prof. Dr.sc. Dražan Kozak the President
of the TEAM International Society**

TEAM2024 Dean's Foreword



prof. Ing. Robert Čep, Ph.D.

Ladies and gentlemen, distinguished guests, fellow speakers, dear Friends,

as we gather for the 11th International Scientific and Expert Conference of the International TEAM Society—TEAM 2024, we are reminded of the rich history of interdisciplinary collaboration that has catalyzed some of the most pivotal breakthroughs in science and engineering. This year, as we celebrate the 60th anniversary of the Department of Assembly and Engineering Metrology at the Faculty of Mechanical Engineering, VSB-Technical University of Ostrava, we honor a tradition that has long embraced the fusion of diverse disciplines.

One such historical anecdote that stands as a beacon of interdisciplinary success is the story of the discovery of cosmic microwave background radiation, a pivotal piece of evidence for the Big Bang theory. This discovery was not the result of a single field of study but rather the culmination of interdisciplinary efforts across physics, astronomy, and engineering.

Similarly, the TEAM 2024 conference is a contemporary embodiment of this spirit, bringing together minds from across the spectrum of scientific inquiry to focus on the future of advanced manufacturing technologies and materials. Our theme, "Interdisciplinary Collaboration: The Keystone of Technique – Education – Agriculture – Management," is a homage to the past and a commitment to the future, recognizing that the challenges we face in research can only be overcome through the collective efforts of diverse expertise.

TEAM 2024 is more than a conference; it is a celebration of the collective intellect, a symposium of minds united by a shared passion for progress. Here, amidst the exchange of groundbreaking ideas and the formation of new alliances, we will witness the transformative power of working together across disciplines. As we delve into the complexities of new materials and innovative manufacturing processes, let us draw inspiration from the interdisciplinary achievements of the past. Let these stories remind us that when we join forces across disciplinary lines, we can unravel the mysteries of the nature or forging the next revolution in manufacturing.

We welcome you to TEAM 2024, where history informs our present endeavours, and interdisciplinary collaboration shapes the future of science and engineering.

prof. Ing. Robert Čep, Ph.D.

Dean of Faculty of Mechanical Engineering,
VSB – Technical University of Ostrava

TEAM2024 Department Head's Foreword



prof. Ing.et Ing.Mgr. Jana
Petrů, Ph.D.

Ladies and gentlemen dear colleagues,

welcome to the 11th International Scientific and Expert Conference of the International TEAM Society—TEAM 2024. As we convene at the Faculty of Mechanical Engineering, VSB-Technical University of Ostrava, we not only celebrate the 60th anniversary of the Department of Assembly and Engineering Metrology but also the spirit of interdisciplinary collaboration that has fueled advancements in manufacturing technologies and materials.

The Department of Assembly and Engineering Metrology has long been a proponent of such collaborative efforts, understanding that the complexities of today's scientific challenges require a mosaic of perspectives and expertise. As we honor its storied past, we also look to the future, where interdisciplinary collaboration is the cornerstone upon which we will build the next era of technological breakthroughs.

Let us embrace this opportunity to forge new paths, to learn from one another, and to create a legacy of innovation that transcends the boundaries of our individual fields. Together, we will explore the vast potential of advanced manufacturing technologies and materials, propelled by the strength of our united efforts.

We eagerly anticipate the knowledge that will be shared, the relationships that will be formed, and the future that we will shape together at TEAM 2024. I hope you will enjoy your stay at our department. Have a nice stay.

prof. Ing.et Ing.Mgr. Jana Petrů, Ph.D.

head of the Department of Machining, Assembly and Engineering
Metrology, Faculty of Mechanical Engineering,
VSB – Technical University of Ostrava

TEAM2024 Chairman's Foreword



Prof. Ing. Sergej Hloch, PhD

Dear fellow researchers and academicians,

on behalf of the organisation committee, it is our great pleasure to welcome you to the 11th International Scientific and Expert Conference—TEAM 2024 organised by the Faculty of Mechanical Engineering to celebrate the 60th anniversary of the Department of Assembly and Engineering Metrology. As we bring the conference program of this conference, to a close, we extend our deepest gratitude to all the authors for their valuable contributions. Your research and insights in received abstracts have not only enriched our collective knowledge but also sparks future conversations that will resonate during TEAM2024.

To the members of the organization committee, your dedication and meticulous orchestration have not gone unnoticed. I thank to all the members of the organization committee, namely to Akash, Jakub, Jakub, Jiří, Jan, Phu, Aneta and Simona for your tireless efforts and unwavering commitment have been the cornerstone of this event's success. The success of this conference is a direct reflection of your unwavering commitment and exceptional teamwork. I'm thankful for your dedication and the pivotal role you have played in helping a conference that has, undoubtedly, advanced the borders of science.

Thanks also goes to a donors who do not hesitate to financially help us with organizing of the event, namely to company Specion and to Faculty of Manufacturing Technologies TUKE with a seat in Prešov.

Enjoy TEAM2024 in Ostrava ☺, Yours Sergio

	10 th September 2024	11 th September 2024	12 th September 2024	13 th September 2024
9:00		Opening Ceremony Aula UA1	Materials & Manufacturing Aula UA2/ Aula UA3	Tour of VŠB Lab visiting tour
9:15		Keynote Lectures Aula UA1		
9:15				
10:30				
10:30				
10:45		Coffee Break		
10:45		Keynote Lectures Aula UA1	Materials & Manufacturing Aula UA2/ Aula UA3	
12:30		Collective photo		
12:30			Lunch Foyer	
14:00				
		Advanced Manufacturing/ Aula UA2	Materials & Manufacturing Aula UA2/ Aula UA3	
14:00		Energy, Environment, Education/ Aula UA3		
15:30				
15:30		Coffee Break		
16:00				
16:00	Registration	Advanced Manufacturing/ Aula UA2	Keynote Lecture Closing Ceremony Aula UA1	
18:00		Energy, Environment, Education/ Aula UA3		
19:00	Warm up Light Dinner	Gala Dinner	Dinner	
20:00				

TEAM2024 Keynotes



Prof. em. Dr. Konrad Wegener
ETH Zurich - D-MAVT

Biological transformation in manufacturing

Konrad Wegener has been Full Professor of production technology and machine tools of ETH Zurich. Konrad Wegener is since 1st of August 2023 Senior Advisor of the Swiss technology transfer center inspire AG. From October 2003 till July 2023 he was full professor and head of the IWF (Institut of machine tools and manufacturing) at ETH Zurich and headed different sections of inspire AG. Fields of research are today optimization of machine tools, cyber-physical production systems, cutting technology, additive manufacturing, laser material processing and electro discharge machining. He is fellow of the CIRP. After his studies in mechanical engineering and PHD in Braunschweig 1990 he began his industrial career at Schuler Presses GmbH & Co. KG in Göppingen as head of design and layout planning departments. In 1999 he became general manager of a newly acquired company for laser systems. Under his leadership large welding machines for shipbuilding and construction of aeroplanes, welding and cutting machines for the automotive industry and cutters for fabric have been developed and built.



Prof. dr. ir. Gabriëlle Tuijthof
Faculty of Engineering
Technology (ET), Biomedical
Device Design and Production
Technology (BDDP)

Waterjet drilling for orthopaedic surgery

prof. Dr. Ir. Gabriëlle Tuijthof was born in Tehran, Iran, in 1975. She graduated cum laude in Mechanical Engineering at Delft University of Technology in 1998, specializing in human-machine systems. Her PhD thesis, which was completed both at Delft University of Technology in Delft and at the Amsterdam University Medical Center (location AMC) in Amsterdam, researched the development of new surgical techniques for exploratory surgery in joints. "I am passionate about the human body; especially the musculoskeletal structures have my interest. It is fascinating to discover how well humans are adapted to perform complex precise actions. With this interest and the drive to contribute meaningfully to society. The sharing of my knowledge I value highly, which is expressed in my active involvement in education of engineering and design courses and supervision of students." Also, I contributed to the development of various bachelor and master programmes at Delft University of Technology, Zuyd University of Applied Science and Maastricht University.

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TEAM2024 Keynotes



Prof. Dr. Jan M. Olaf
Baden-Wuerttemberg
Cooperative State University
Loerrach, Germany

Application of AI in material's characterization

Jan Michael Olaf is Professor and Director of the Study Center of IT Management and Computer Science at Baden-Wuerttemberg Cooperative State University (DHBW) in Loerrach (Germany) since 2015. He has a degree in Physics from Freiburg University preparing his diploma thesis on measuring voltages and currents in the OPAL Jet chamber at CERN in Geneva. In his PhD thesis at Fraunhofer Institute for Mechanics of Materials in Freiburg he investigated the mechanical properties of thin surface coatings and micromechanical systems. He spent 20 years in Electronic Industry in various management positions before he restarted his academic career at DHBW in Loerrach. **His presentation covers the application of artificial intelligence methods for analysing acoustic emission spectra in surface treatment processes.**



Dr. Natalia Szczotkarz
University of Zielona Góra,
Poland

Minimum Quantity Lubrication with Nanoparticles

Natalia Szczotkarz is a doctor at the University of Zielona Góra, Poland. She participated in the project on "Modeling of problems related to hydrodynamics of nanoparticles-filled active medium formation during machining in minimum quantity cooling and lubricating conditions" from 2020 to 2023, which allowed her to gain experience in the field of preparing nanofluids, the measurements of surface topography and its analysis, leading to several publications regarding those topics. **She specialises in eco-friendly MQL cooling method, the use of nanofluids as cutting fluids for turning and their impact on surface quality and tool wear.**

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Dr. Joanna Lisowicz
Politechnika Rzeszowska

Machinability of materials used in aerospace industry

Joanna Lisowicz is doctor at Department of Manufacturing Techniques and Automation at Rzeszów University of Technology. Joanna Lisowicz conducted research cooperation with companies from the aviation industry which allowed her to gain experience in the field of machining of materials used in aerospace. Keynote will be focused on "Machinability of materials used in aerospace industry". Above-average requirements are placed on the materials used in production of aircrafts. They must be not only strong, but also light and resistant to abrasion in order to reduce the weight of aircraft and minimize fuel consumption. However, due to their properties, materials used in aerospace are also known as difficult-to-cut materials. Challenges arising during machining and ways to improve machinability will be presented during the speech.



Prof. Munish Kumar Gupta
Opole University of
Technology, Poland

Sustainable Manufacturing: A future perspective towards green machining

Prof. Munish Kumar Gupta from India, who started his research at the Opole University of Technology two years ago, has decided to extend his stay in Opole. Although Poland was not the first foreign country for him to pursue his career, it was with the Opole University of Technology that he decided to stay longer. Prof. Munish Kumar Gupta is involved in tribology and sustainable manufacturing. Before coming to Opole, he conducted research and taught for two years at the prestigious Shandong University in Jinan, China. Keynote focuses on environmentally friendly and sustainable manufacturing processes specially focussing on designing and implementing production processes that minimize environmental impact while maximizing efficiency and resource use. This area emphasizes reducing waste, lowering emissions, and conserving energy and materials throughout the product lifecycle. It also integrates renewable energy sources and eco-friendly materials to create sustainable products.

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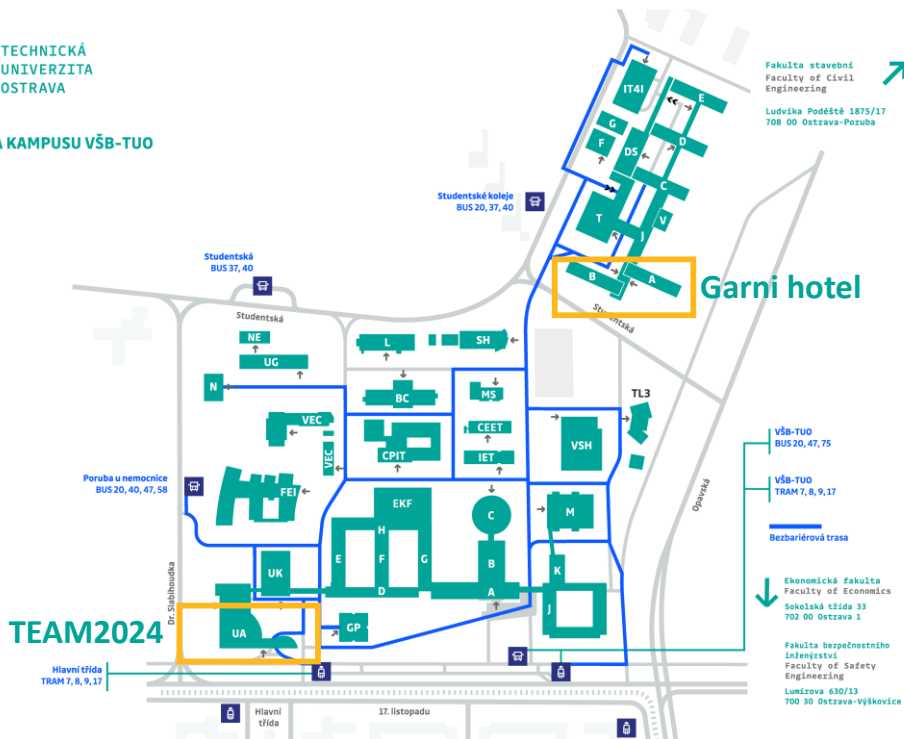
TEAM2024 Agenda

TUESDAY | September 10th, 2024

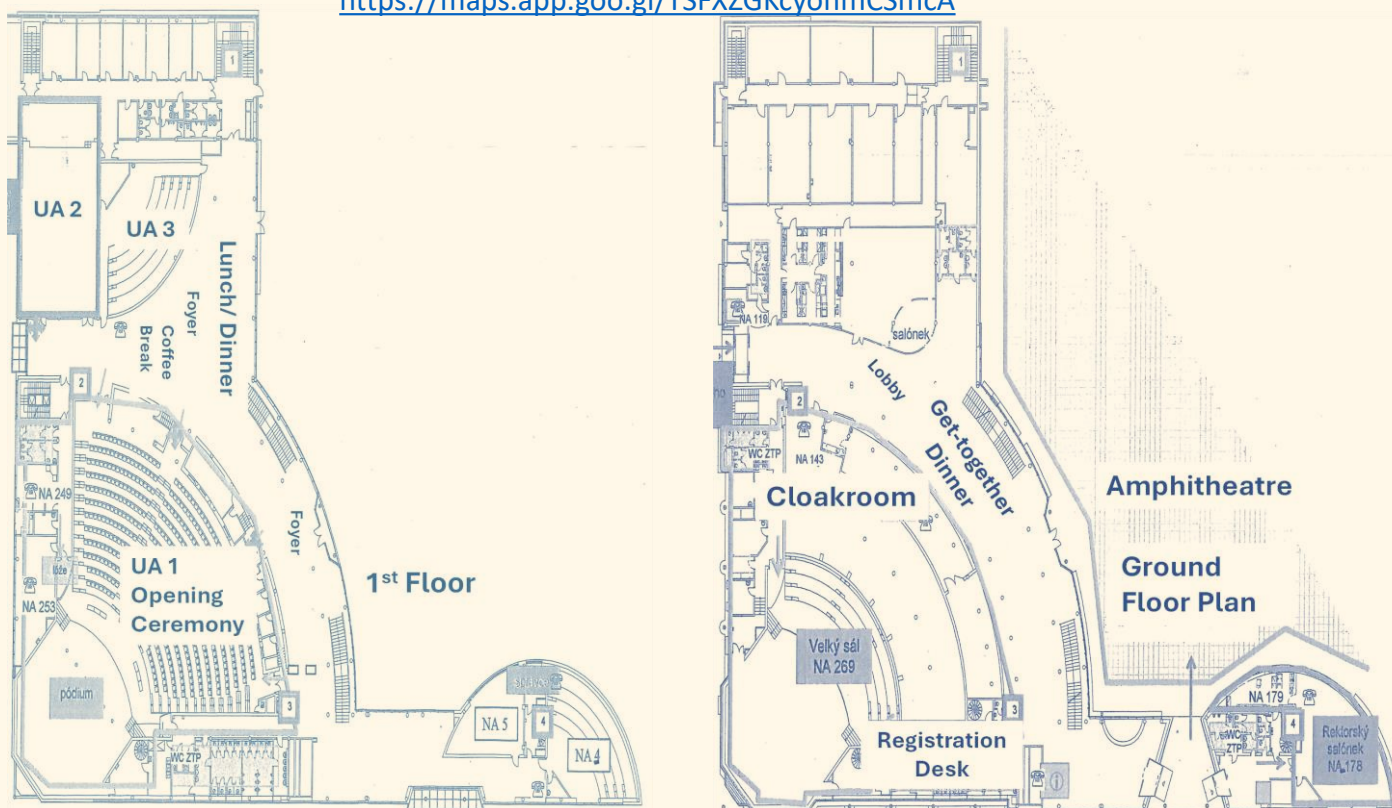
	🕒 15:30 – 18:00	A welcome greeting ceremony
	🕒 15:30 – 18:00 REGISTRATION	Aula UA University Assembly Hall - Lobby - Reception First Floor
	🕒 18:00 – 19:30	Get-together Dinner UA University Assembly Hall - Lobby - Reception First Floor



MAPA KAMPUSU VŠB-TUO



<https://maps.app.goo.gl/TSFXZGKcyonmCSmcA>



TEAM2024 Agenda

WEDNESDAY | September 11th, 2024

Opening Ceremony AULA UA1			
🕒 8:50 – 9:30 Welcome Speeches	Robert Čep The dean of the Mechanical Engineering Faculty VŠB TU Ostrava		
	Jana Kukutschová Vice - Rector of VSB – Technical University of Ostrava		
	Andrea Hoffmannová Vice Mayor of the City Ostrava		
	Jana Petrů Head of dpt at Mechanical Engineering Faculty VŠB TU Ostrava		
	Dražan Kozak President of Team Society, University of Slavonski Brod		
Keynote Lectures			
🕒 9:30 – 10:30 Keynote Lectures Room Aula UA1 Moderator: Sergej Hloch, Akash Nag [Technical note] Presentation length is 25 minutes +5 minutes Q&A session.	Gabrielle Tuijthof University of Twente	Water Jet Drilling for Orthopedic Surgery	NL
	Munish Gupta University of Technology in Opole	Sustainable Manufacturing: A Future Perspective Towards Green Machining	PL
	Coffee Break Foyer		
	🕒 10:45 – 12:00 Keynote Lectures Room Aula UA1 Moderator: Sergej Hloch, Akash Nag [Technical note] Presentation length is 20 minutes +5 minutes Q&A session.	Natalia Szczotkarz Baden-Wuerttemberg Cooperative State University Loerrach, Germany	Minimum Quantity Lubrication with Nanoparticles
Jan Olaf Baden-Wuerttemberg Cooperative State University Loerrach, Germany		Application of AI in material's characterization	DE
Joanna Lisowicz Rzeszow University of Technology		Machinability of Materials Used in Aerospace Industry	PL
Collective photo In front of AULA			
🕒 12:30 – 13:30 LUNCH AULA Foyer			

- KonradGabrielleMunishNataliaJanJoannaMarcinAbdesselamPreetiJoyjeetGabrielRanjan
- IvicaJakubRobertDagmarChiaraAkashAliceKristýnaSurehTomislavSukhaBaharVinay
- IstvánMarinaAdriennIremMihaelaViktorPetrKamilStašekPatrikDamiánJozefSandaJozef
- PaulWitoldMarcinLukaszRadimPawelWedranShaileshFrankSomnathMartinJakubMirela
- KashifGanaMajaDominikMartinTiborAndrzejElżbietaGáborTomaszAcoGyörgyRóbert
- MarijaMirostawJaroslavaLiborTEAM2024SimonaJiříRadimJakubMarek
- MichalJozefPiotrAlessandroLenkaLukášTomášIvanAneta
- AntunLadislavMiroslavKrunoIvanSashaGrzegorzMilošMarekPhuŁukaszRichárdKlaudia
- DražanRobertJanaMirekZdeněkAlešViktorAndreaMilanDraganJolantaMateuszFerenc
- ErikaMuhammadTiborAdriennMartinKlaudiaAkoszRichardGaborGiuseppeJiříJozef
- WojciechAleksandarDejanMašaIgorMirelaZbigniewPaulMirostawKanakDarkoSergej

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WEDNESDAY | September 11th, 2024 - ROOM UA2

Advanced Manufacturing Processes			
🕒 13:45 – 15:30 Advanced Manufacturing Processes Room UA2 Moderators: Jakub Poloprudský, Gabriel Stolárik Technical note Presentation length is 10 minutes +5 minutes Q&A session.	Marcin Płodzień Rzeszow University of Technology	Roughness and Waviness of the Surface of Ti6Al4V in an Abrasive Water Jet Cutting Process	PL
	Abdesselam Mechali VŠB -Technical University of Ostrava	Research About M300 Maraging Steel Metallic Powder For Use In SIM 3D Printing	CZ
	Preeti Gautam VŠB -Technical University of Ostrava	Comparison of vibrational tumbling and electrolytic polishing on surface roughness parameters of additively manufactured Inconel 718 alloy	CZ
	Joyjeet Ghosh Birla Institute of Technology, Mesra	Investigation of Mechanical and Tribological Properties of Aluminium Hybrid Nanocomposite Produced by Novel Stir-Ultrasonic-Squeeze casting Method	IN
	Gabriel Stolárik FMT TUKE	Surface treatment of biomaterials using water droplets	SK
	Ranjan Kumar Ghadai Manipal Institute of Technology	A Hybrid MEREC-TOPSIS Approach for the improvement of Physical Vapor Deposited Titanium Carbon-Nitride (TiCN) Coating	IN
	Jakub Poloprudský Institute of Materials Physics	Mechanical response of materials exposed to multiple droplet impingement	CZ
🕒 15:30 - 15:45 Discussion during Coffee Break Foyer			
🕒 15:45 – 17:15 Advanced Manufacturing Processes Room UA2 Moderators: Andrzej Perec, Jakub Poloprudský Technical note Presentation length is 10 minutes +5 minutes Q&A session.	Robert Babiarz SEGER Cutting Tools, PL	Laser cladding of tool steel powders	PL
	Dagmar Klichová UGN CAS Ostrava	Metrological aspects of surfaces	CZ
	Chiara Ravassio University of Bergamo	Investigation on electrode wear in micro-EDM drilling	IT
	Alice Chlupová Institute of Materials Physics	Deformation of CFRP material exposed to multiple droplet impingement	CZ
	Kristýna Sternadelová VŠB -Technical University of Ostrava	Impact of Edge Preparation on Surface Finishing Properties	CZ
	Andrzej Perec AJP University	Abrasive Water Jet process optimization using the Combined Compromise Solution (CoCoSo) method	PL
	Łukasz Przeszłowski Rzeszow University of Technology, PL	CT analysis of models with internal structures made by DMLS (Direct Metal Laser Sintering) additive technology from 17-4 PH stainless steel (1.4542)	PL
End of the Session – see you at 19:00 at Gala Dinner			



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WEDNESDAY | September 11th, 2024 - ROOM UA3

3E – Energy, Environment, Education			
🕒 14:00 – 15:30 3E – Energy, Environment, Education Room UA3 Moderators: Jiří Hajnýš, Phu Ma Quoc [Technical note] Presentation length is 10 minutes +5 minutes Q&A session.	Tomislav Šarić	Smart Mini Greenhouse for Agricultural Production	HR
	University of Slavonski Brod		
	Bahar Sennaroglu	Clustering the EU Countries by Cross-Sectional Data on Macroeconomic and Trade-related Variables	TR
	Marmara University		
	István Pesti, Ákos Tóth	The Role of Location Factors in the Establishment of Start-up Companies in the EU 27 countries	HU
	John Von Neumann University		
🕒 15:30 - 15:45 Discussion during Coffee Break Foyer	Mihaela Blažinkov	The influence of calcification on the growth and development of garlic (<i>Allium sativum</i> L.)	HR
	University of Slavonski Brod		
	Viktor J. Vojnich	Biological plant protection in pepper production	HU
	University of Szeged		
	Ferenc Palasti	Crystallization and water absorption of plant-based biocomposites	HU
	John von Neumann University, Kecskemét		
🕒 15:45 – 17:15 3E – Energy, Environment, Education Room UA3 Moderators: Jiří Hajnýš, Phu Ma Quoc [Technical note] Presentation length is 10 minutes +5 minutes Q&A session.	Marina Stanić Šulentić	Tertiary education in the knowledge-based society	HR
	University of Slavonski Brod		
	Adrienn Boldizsár	Student conference for the development of successful soft skills	HU
	John Von Neumann University		
	Ivica Lacković	Simplified manual goat milker author	HR
	University of Slavonski Brod		
End of the Session – see you at 19:00 at Gala Dinner	Irem Düzdar	A Value Stream Mapping based Lean Transformation Approach to a MDF Factory	TR
	Duzce University		
	Branislav Djordjevic (L.Jeremic)	Structural integrity of offshore jacket structures	RS
	Innovation Center of Faculty of Mechanical Engineering, Belgrade, Serbia		
	Libor Nečas	Creation, management, and use of a database for the maintenance process of production equipment in an industrial company	CZ
	VSB – Technical University of Ostrava,		



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TEAM2024 Gala Dinner

Wednesday | September 11th, 2024

(Dress code: Smart Causal)

In the realm of competition, should one aspire to emulate Catherine Zeta-Jones, or is it preferable to pursue a career as a scientist rather than an actor? “

What secrets are hidden in a giant kaleidoscope? Can you pass through a laser maze without a single touch? How does the world look in monochromatic light? Most importantly, can your team solve all the puzzles and ciphers? Try our game and engage in quests that are both physically interesting and beautiful.



<https://thejkreview.wordpress.com/2020/04/29/21-entrapment-1999/>



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THURSDAY | September 12th, 2024 - ROOM UA1

Materials and Manufacturing			
🕒 9:00 – 10:30 Materials and Manufacturing Room UA2 Moderators: Jakub Poloprudský, Alice Chlupová [Technical note] Presentation length is 10 minutes +5 minutes Q&A session.	Simon Sedmak	Numerical analysis of multiaxial stress state in welded joints with defects	RS
	Kamil Leksycki	Assessment of the surface roughness of acid resistant S165M stainless steel after dry and flood turning	PL
	Patrik Fejko	Analysis of the effect of pre-treatment on the overall damage of the coating created by cathaphoretic coating	SK
	Damián Peti	The Effect of Degreasing Temperature on the Thickness of the Formed Layer created by The Cathaphoretic Painting	SK
	Sanda Šimunović	The influence of quenching and tempering on the microstructure and hardness of 42CrMo4 steel	HR
	Ana Petrović	Structural integrity assessment of a bucket wheel excavator ultimate strength	RS
🕒 10:30 - 10:45 Discussion during Coffee Break Foyer			
🕒 10:45 – 12:45 Materials and Manufacturing Room UA2 Moderators: Dominik Krišák, Damián Peti [Technical note] Presentation length is 10 minutes +5 minutes Q&A session.	Paul Bere	Design and manufacture of bent and variable section tubes made of FRP composite	RO
	Witold Habrat	Metrology of the surface layer of critical aircraft parts: technical conditions and legal liability risks	PL
	Marcin Sałata	The influence of the characteristics of diamond grinding wheels on the process of single-pass grinding of cutting tools.	PL
	Branislav Djordjevic	Probabilistic approach based on weibull statistics in characterizing a ductile-to-brittle transition temperature region of ferritic steel	RS
	Łukasz Żyłka	The role of the entering angle in the milling process with the use of toroidal cutter	PL
	Radim Halama	Accelerated Mechanical Testing with Digital Image Correlation	CZ
	Paweł Turek	The application of CAI systems in the process of controlling the accuracy of anatomical structures of the hip joint, manufactured with the additive technique	PL
12:30 Lunch			
Jozef Bárta			



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TEAM2024 Agenda

THURSDAY | September 12th, 2024 - ROOM UA3

Materials and Manufacturing

🕒 9:00 – 10:30

Materials and Manufacturing | Room UA2

Moderators: Gabriel Stolárik, Jaroslava Svobodová

[Technical note]

Presentation length is 10 minutes +5 minutes Q&A session.

Vedran Novoselac University of Slavonski Brod	The Fixed Point Iterations Method for the Contraction Mapping	HR
Tomasz Tański Faculty of Mechanical Engineering, Department of Engineering and Biomedical Materials, Gliwice	The influence of the wall thickness of the molded part and selected injection parameters on the hardness of the molded parts.	PL
Jakub Mesicek VŠB - Technical University of Ostrava	Exploring the Impact of Saline Environments on the Properties of EOS PA2200: A Study on Weight Gain and Mechanical Characteristics	CZ
Martin Kondrat Technical University of Košice	Confocal Sensor Qualification for Statistic Diameter Measurement	SK
Mirela Lipovac Arelić University of Slavonski Brod	Selection of tools and machining parameters for pipe walls	HR
Kashif Ullah Khan John Von Neumann University	Rheological and morphological properties of petroleum- and bio-based polyesters MWCNT nanocomposites	HU
Tomasz Kozior Kielce University of Technology	3D printing of thin-walled models - state-of-art	PL

🕒 10:30 - 10:45

Discussion during Coffee Break | Foyer

🕒 10:45 – 12:15

Materials and Manufacturing | Room UA2

Moderators: Akash Nag, Sergej Hloch

[Technical note]

Presentation length is 10 minutes +5 minutes Q&A session.

Maja Čuletić Čondrić University of Slavonski Brod	Visualization of vectors and their application in mechanical engineering	HR
Dominik Krišák VŠB - Technical University of Ostrava	Recycling PA12 Powder from SLS Technology into Filament for FDM: A Sustainable Approach for Waste Reduction and Cost Savings	CZ
Martin László Kölös John Von Neumann University	Investigation of In-plane Strains Obtained by Stack Compression Test	HU
Klaudia Papp, Bálint Deák John Von Neumann University, University of Szeged	High quality geometric reconstruction of human mandible	HU
Mateusz Kiełbicki Rzeszow University of Technology	Possibilities of producing welding tools with conformal channels using Powder Bed Fusion process	PL
Richárd Borbély John Von Neumann University	Examination of material interaction on tailor-welded blanks	HU
Gábor József Béres John Von Neumann University	About the modeling of kinematic hardening behavior	HU

12:15 Lunch



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TEAM2024 Agenda

THURSDAY | September 12th, 2024 - ROOM UA2

Materials and Manufacturing			
🕒 13:15 – 14:30 Materials and Manufacturing Room UA2 Moderators: Akash Nag, Jiří Hajnýš [Technical note] Presentation length is 10 minutes +5 minutes Q&A session.	Quoc-Phu Ma VŠB -Technical University of Ostrava	Assessment of geometric distortion of cantilevers printed with different internal structures	CZ
	Tomasz Dziubek Rzeszow University of Technology	Research of furniture hinge manufactured by additive method from thermoplastic material	PL
	Aco Antic University of Novi Sad	The influence of the cutting parameters on the surface roughness and vibrations signal in turning process	RS
	György Ledniczky John Von Neumann University	Possibilities of manufacturing metal automotive components by wire extrusion	HU
	Róbert Ropovík Technical University of Košice	Optimization of lighting for Truck with Lifting Platform MP13	SK
	Marija Stoić University of Slavonski Brod	Impact of tool overhang on vibration and surface quality	HR
	Miroslaw Rucki Casimir Pulaski Radom University	Analysis of scanning and 3D printing accuracy of an ancient archaeological artifact	PL
🕒 14:30 – 14:45 Discussion during Coffee Break Foyer			
🕒 14:45 – 15:45 Materials and Manufacturing Room UA2 Moderators: Jozef Dobransky, Damian Peti [Technical note] Presentation length is 10 minutes +5 minutes Q&A session.	Radosław Maruda Rzeszow University of Technology	Simulation studies on the durability of selected relay design elements with increased reliability for use in critical infrastructure	PL
	Tibor Jurga VŠB -Technical University of Ostrava	Use of constructive geometry techniques in modular hob cutter design	CZ
	Josip Knežević	Kinematic analysis of opening and closing roof mechanism for loading freight wagon	HR
	Piotr Nieslony Opole University of Technology	Assessment of the influence of illumination of the scanned surface on the effect of topography measurement using non-contact methods	PL
	Muhammad Ali Khan Opole University of Technology	Tool wear analysis of turning Ti-6Al-4V under dry, wet and cryogenic conditions	PK
	Michal Prusa Opole University of Technology	Claping tools printed from onyx and used in industrial manufacturing process	CZ
🕒 15:45 - 16:00 Discussion during Coffee Break Foyer			

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Poster session

Poster session			
	Magdalena KRAKOWIAK AJP University	Using database server programming mechanisms for modelling of the control parameters chosen machining process parameters	PL
	Elżbieta KAWECKA AJP University	Using the Dragonfly Optimization Algorithm in the Abrasive Water Jet Cutting Process	PL
	Wojciech Macek Gdańsk University of Technology	Comparative assessment of entire bending-torsion fracture surfaces for 10HNAP steel using different optical measurement techniques	PL
	Paulina Jamrozinska, Piotr Nieslony Opole University of Technology	The concept of a dedicated test set-up for tribological testing of a lightweight large-size slewing bearing	PL
	Chi-Hung Nguyen Brod Hanoi University of Science and Technology	Optimal obstacle avoidance strategy using deep reinforcement learning based on stereo camera	VT
	Thai-Viet Dang Brod Hanoi University of Science and Technology	Optimization hybrid path planning based on a-star algorithm combining with DWA	HU

TEAM2024 Agenda

THURSDAY | September 12th, 2024 - AULA

TEAM 2024 Keynote - Closing Ceremony				
 16:00 – 17:00				
Keynote Lecture Room Aula UA1 Moderator: Sergej Hloch, Frank Pude		Konrad Wegener ETH Zürich	Biological Transformation of Manufacturing	CH
The best presentation AWARD				
The best poster AWARD				
Closing Speeches		Dražan Kozak President of Team Society, University of Slavonski Brod Robert Čep The dean of the Mechanical Engineering Faculty VŠB TU Ostrava		
18:00 – 20:00 Dinner Foyer				



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FRIDAY | September 13th, 2024

Tour of lab of Faculty of Mechanical Engineering VŠB-Technical University of Ostrava



Protolab 3D Printing Centre

Protolab was founded with the idea of enabling small and medium-sized companies to access modern prototyping technologies and thus enable them to compete not only within the region but also on a European or global level. Cutting-edge technologies for industrial 3D printing are very expensive and out of reach for many SMEs.



Professional 3D Printing in Ostrava

We offer 3D printing products and design services to small and medium-sized companies in the Moravian-Silesian region and beyond.

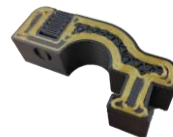
Inspired by Research, Driven by Innovation



Metal printing



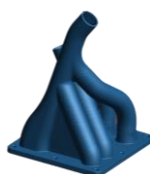
Plastic printing



Composite printing



3D scanning



Reverse engineering



3D modelling & optimization

TEAM2024 Organisation TEAM 😊



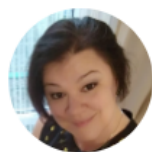
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Frank Pude

Inspire AG, ETH Zurich

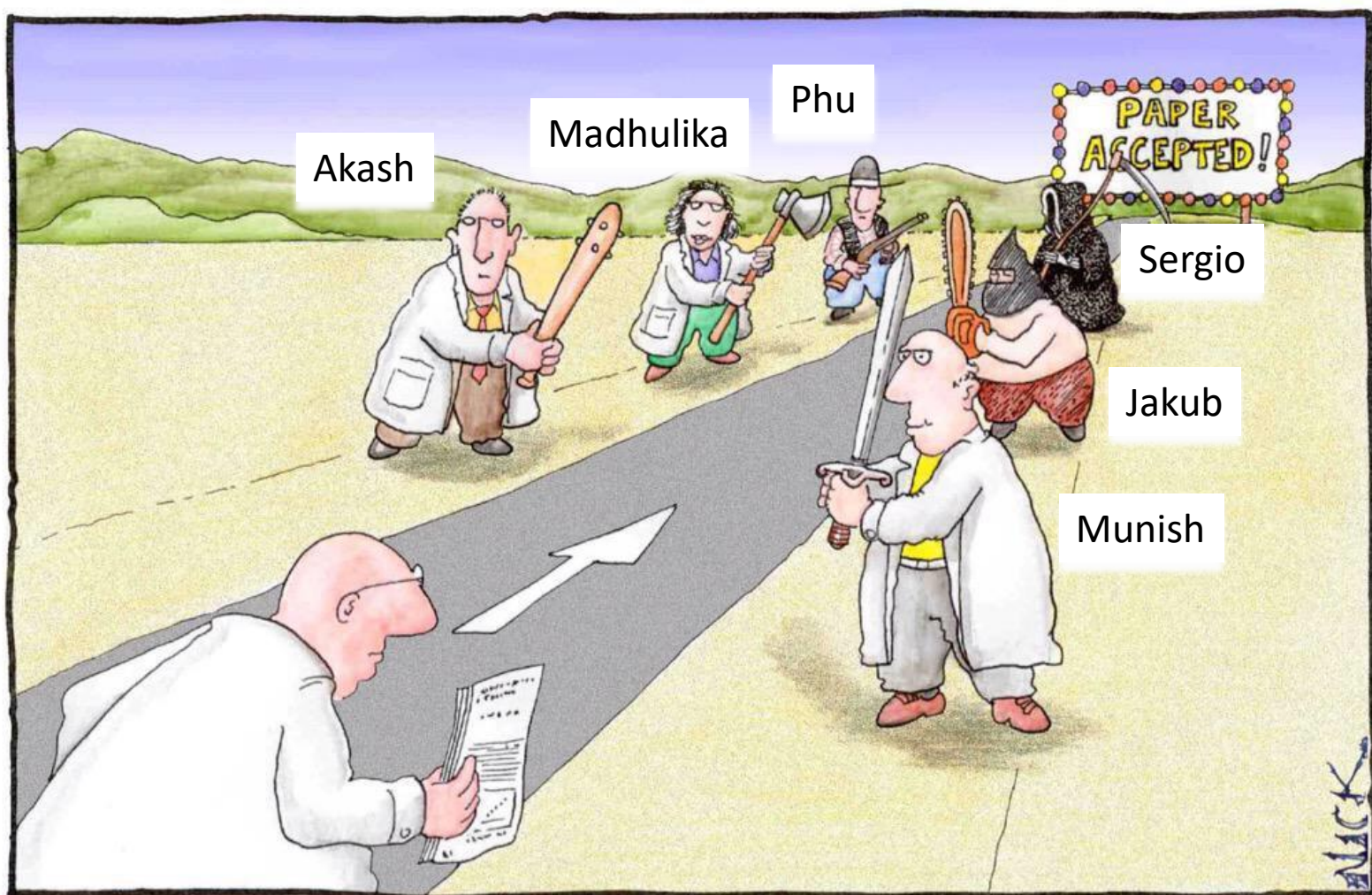
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