

Spring School for Young Researchers
New Trends in Experimental Mechanics - NTEM 1
13–17 May 2024, Zakopane, Poland
Organized by The European Society for Experimental Mechanics (EuraSEM)
and The Institute of Fundamental Technological Research
of the Polish Academy of Sciences (IPPT PAN)

CONFERENCE PROGRAM

13.05.2024 – MONDAY

14:00-18:00	Arrival and registration Lunch
18:30-19:30	Dinner
19:30-22:00	Welcome reception at café & bar – alcohol-free drink

14.05.2024 – TUESDAY

7:30-8:45	Breakfast
9:00-9:30	Opening ceremony, Chairperson: Prof. Elżbieta Pieczyska Prof. Zbigniew Kowalewski – President EuraSEM, Institute of Fundamental Technological Research, Polish Academy of Sciences, Poland Prof. Błażej Skoczeń – chairman of the Committee on Mechanics of PAS, corresponding member of the Polish Academy of Sciences and corresponding member of the Polish Academy of Arts and Sciences, Cracow University of Technology, Poland Prof. Stavros Kourkoulis , National Technical University of Athens, Greece Dr Suzana Lampreia Gomes , Portuguese Naval Academy–CINAV
	Session 1, Chairperson: Prof. Elżbieta Pieczyska
9:30-10:15	Invited Lecturer 1 Prof. Błażej Skoczeń , Cracow University of Technology, Poland <i>Experimental mechanics at temperatures close to absolute zero</i>
10:15-10:45	Coffee break
10:45-11:30	Invited Lecturer 3 Prof. Stavros Kourkoulis , National Technical University of Athens, Greece <i>Pressure Stimulated Currents versus Acoustic Emissions in laboratory and structural experiments</i>
11:30-12:15	Invited Lecturer 3 Prof. Stavros Kourkoulis , National Technical University of Athens, Greece <i>Detection of criticality conditions using Acoustic Emissions and concepts of “Non-Extensive Statistical Mechanics”</i>
12:15-13:15	Lunch
	Session 2, Chairperson: Prof. Stavros Kourkoulis
13:15-14:00	Lecturer IPPT 1 Prof. Zbigniew Kowalewski , Institute of Fundamental Technological Research, PAS, Poland <i>On the Non-standard Experimental Methods for Mechanical Characterization of Conventional and Printed Materials</i>
14:00-14:45	Lecturer IPPT 2 Prof. Elżbieta Pieczyska , Institute of Fundamental Technological Research, PAS, Poland <i>Additive Manufacturing as a new opportunity for lightweight Shape Memory Polymers in industrial applications such as robotics or medical surgery</i>

14:45-15:15	Coffee break
15:15-16:00	Lecturer IPPT 3 Prof. Dariusz Jarzabek , Institute of Fundamental Technological Research, PAS, Poland <i>Additive manufacturing of metal matrix – particle reinforced composites</i>
	Young Researcher Session, Chairperson: Prof. Zbigniew Kowalewski, 11 talks, every talk 10 min including 2 min discussion
16:00-16:30	Suzana Lampreia Gomes , Portuguese Naval Academy–CINAV, Portugal <i>A Study on Subsystems for an Unmanned Underwater Vehicle</i>
16:30-16:40	Ved Prakash Dubey , Institute of Fundamental Technological Research, PAS, Poland <i>An evolution of yield surface for Ti-Cu bimetal after plastic pre-deformation under complex loading</i>
16:40-16:50	Elwira Schmidt , Cracow University of Technology, Poland <i>Microstructural analysis of austenitic stainless steels during monotonic and cyclic loading at extremely low temperatures</i>
16:50-17:00	Faizullah Jan , Gdańsk University of Technology, Poland <i>Analysis of the mechanical behavior of I-members built from adhesive-bonded cold-formed steel channels</i>
17:00-17:10	Muhammad Yasir Khan , University of Bologna, Italy <i>Development of assessment tools for bolted joints using AI-driven optimization techniques</i>
17:10-17:20	Vincent Wu , Imperial College London, United Kingdom <i>Autonomous Robotic Tribology Testing System for Lubricated Hot Aluminum Blanks</i>
17:20-17:30	Karolina Stępnia k, Institute of Fundamental Technological Research, PAS, Poland <i>Carbon coatings: DLC films</i>
17:30-17:40	Bianca-Iulia Ciubotaru , “Petru Poni” Institute of Macromolecular Chemistry, Romania <i>Porous silicone networks as potential scaffolds in tissue engineering –mechanical aspects</i>
17:40-17:50	Bianca-Elena-Beatrice Cretu , “Petru Poni” Institute of Macromolecular Chemistry, Romania <i>Cryogels based on poly(vinyl alcohol) and a copolymacrolactone system</i>
17:50-18:00	Pawel Bielski , Gdańsk University of Technology, Poland <i>Mesostructure modification of additively manufactured lattice materials towards improved mechanical properties</i>
18:00-18:10	Maria Evangelia Stogia , University of the Aegean, Greece <i>Resistivity variation of carbon-based nanomaterials in lime-based restoration pastes</i>
18:10-18:30	Free time
18:30-19:30	Dinner
19:30-22:00	Discussions at café & bar

15.05.2024 – WEDNESDAY

7:30-8:10	Breakfast
8:15 -13:00	Highlander-oriented style & Nature Education Center tour – English-speaking guide
13:00-14:00	Lunch
	Session 3, Chairperson: Dr Suzana Lampreia Gomes
14:00-15:00	Invited Lecturer 1 Prof. Błażej Skoczeń , Cracow University of Technology, Poland <i>Characterization and modeling of materials applied in cryogenic conditions</i>

15:00-16:00	Invited Lecturer 3 Prof. Stavros Kourkoulis , National Technical University of Athens, Greece <i>Exploring the acoustic activity in mechanically loaded specimens and structural elements in the “Natural Time Domain”</i>
16:00-16:30	Coffee break
16:30-17:30	Lecturer IPPT 4 Prof. Katarzyna Kowalczyk-Gajewska , Institute of Fundamental Technological Research, PAS, Poland <i>Multiscale modelling of thermomechanical properties of advanced materials</i>
17:30-18:30	Invited Lecturer 2 Prof. Małgorzata Kujawińska , Warsaw University of Technology, Poland <i>Full-field optical metrology for testing and monitoring of micro and macro 3D engineering structures – part I: Coding information with optical methods</i>
18:30-19:30	Dinner
19:30-22:00	Discussions at café & bar

16.05.2024 – THURSDAY

7:30-8:45	Breakfast
	Session 4, <u>Chairperson: Prof. Katarzyna Kowalczyk-Gajewska</u>
9:00-10:00	Invited Lecturer 1 Prof. Błażej Skoczeń , Cracow University of Technology, Poland <i>Properties of AM versus classical materials at extremely low temperatures</i>
10:00-11:00	Invited Lecturer 2 Prof. Małgorzata Kujawińska , Warsaw University of Technology, Poland <i>Full-field optical metrology for testing and monitoring of micro and macro 3D engineering structures – part II: Interferometric methods and their applications</i>
11:00-11:30	Coffee break
11:30-12:30	Invited Lecturer 2 Prof. Małgorzata Kujawińska , Warsaw University of Technology, Poland <i>Full-field optical metrology for testing and monitoring of micro and macro 3D engineering structures – part III: Incoherent light methods and their applications</i>
12:30-13:30	Invited Lecturer 4 – Prof. Paweł Baranowski (prof. Jerzy Małachowski) , Military University of Technology, Warsaw, Poland <i>Maximizing energy efficiency of structures manufactured using additive techniques - a review study – part I</i>
13:30-14:30	Lunch
	Session 5, <u>Chairpersons: Dr. Karol Golasiński & Dr. Maria Staszczak</u>
14:30-15:15	Invited Lecturer 4 – Prof. Paweł Baranowski (prof. Jerzy Małachowski) , Military University of Technology, Warsaw, Poland <i>Maximizing energy efficiency of structures manufactured using additive techniques - a review study – part II</i>
15:15-16:15	Lecturer UKSW – Dr. Karol Golasiński , Multidisciplinary Research Center, Cardinal Stefan Wyszyński University in Warsaw, Poland <i>Biomedical shape memory alloys versus experimental mechanics and additive manufacturing</i>
16:15-16:30	Coffee break

Young Researcher Session, Chairperson: Prof. Małgorzata Kujawińska 10 talks, every talk 10 min including 2 min discussion	
16:30-16:40	Daryna Budiakivska , Warsaw University of Technology, Poland <i>The method for residual strains determination in WAAM samples</i>
16:40-16:50	Denis Madroane , University Politehnica Timisoara, Romania <i>Fatigue Limit determination using Static Thermographic Method</i>
16:50-17:00	Karsten Glowka , Institute of Materials Engineering, University of Silesia, Poland <i>Microstructure, mechanical and tribological properties of (TiTaNbZr)_{100-x}Cu_x high entropy alloys for potential antibacterial properties</i>
17:00-17:10	Zhan Zhelev , Institute of Mechanics, Bulgarian Academy of Sciences, Bulgaria <i>Vibration-Based Piezoelectric Energy Harvesting – A review</i>
17:10-17:20	Anusha Sekar , University of Trencin, FunGlass – Centre for Functional and Surface Functionalized Glass, Slovakia <i>Innovations in Thermal Barrier Coatings: Exploring Alternative Materials and Approaches</i>
17:20-17:30	Paula Broniszewska-Wojdat , Institute of Fundamental Technological Research, PAS, Poland <i>Microstructure impact of additively manufactured and cast Al-Si alloy on the chosen properties of PEO oxide coatings</i>
17:30-17:40	Michał Niedzielczyk , Institute of Fundamental Technological Research, PAS, Poland <i>Exploring Labyrinthine Sound-Absorbing Composites in Additive Manufacturing: Prototyping, Testing, and Challenges</i>
17:40-17:50	Ramak Hossein Abadi , Vrije Universiteit Brussel, Belgium <i>In-plane shear investigation of thermoplastic composites at high temperatures using bias extension test</i>
17:50-18:00	Adrianna Chojnowska , Institute of Materials Engineering, University of Silesia, Poland <i>Metal alloys for use as nanoparticle carriers</i>
18:00-18:10	Khrystyna Khrushchyk , Institute of Materials Engineering, University of Silesia in Katowice, Poland / Ivan Franko National University of Lviv, Ukraine <i>Structure, mechanical properties of amorphous metal alloys system Al₈₇(Gd,Y)₅(Ni,Fe)₈ after short term annealing</i>
18:10-18:15	Closing ceremony
18:15-19:00	Free time
19:00-22:00	Banquet + Folk & Jazz Highlander Orchestra & Research / Culture Discussion

17.05.2024 – FRIDAY

7:30-8:30	Breakfast
8:45	Departure from the Hotel Kalatówki
9:45	Departure by Bus at Zakopane Hasior's Monument

Organizers:

