IS INVITING TO

THE SECOND CONFERENCE OF PROGRAM GROUPS ENTITLED

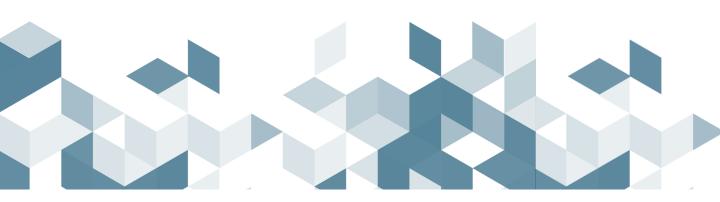
ENGINEERING MATERIALS AND PROCESS TECHNOLOGIES

WHEN 29.9.2025

WHERE Vladimir Bračič hall, University of Maribor, Slomškov trg 15 REGISTRATION via QR code until 12.9.2025

WHY

You will learn about the research work of program groups guided by the latest global trends and requirements in the field of developing advanced and intelligent engineering materials and process technologies. Join us to share and discuss theoretical and practical insights within a scientific and technological framework.











08:00 - 09:00 Registration, coffee and snacks

09:00 - 09:30 Opening Address

09:00-09:10 Prof. Dr. Dean Korošak

Vice-Rector for Research of the University of Maribor

09:10-09:20 Prof. Dr. Matej Vesenjak

Dean of the Faculty of Mechanical Engineering

09:20-09:30 Address of the Heads of Program Groups

09:30-11:00 Invited lectures

09:30-10:00 From a Simple APM Sphere Thermal Acquisition to the AI

Approach to Atrain Evaluation by IR Thermography

Lovre Krstulović-Opara

University of Split, Faculty of Electrical Engineering, Mechanical Engineering

and Naval Architecture, Split, Croatia

10:00-10:30 Development of Hot Work Tool Steel with High Thermal

Conductivity

Peter Kirbiš

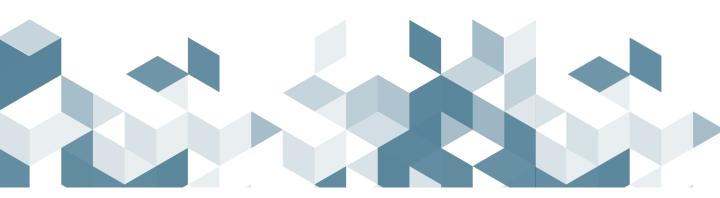
SIJ Metal Ravne

10:30-11:00 Sustainability in the Aluminium Industry

Matej Steinacher

Impol Aluminium Industry, Slovenska Bistrica, Slovenia

11:00-11:30 Coffee break and poster section











11:30 - 13:10 Lectures 1

11:30-11:50	Development and Characterisation of Modern Metamaterials
	Nejc Novak
	University of Maribor, Faculty of Mechanical Engineering, Maribor, Slovenia
11:50-12:10	Effects of Helium Ion Irradiation on the Microstructure and
	Properties of Aluminium Alloys
	Lara Hočuršćak
	University of Maribor, Faculty of Mechanical Engineering, Chair of Materials and Forming, Maribor, Slovenia
12:10-12:30	Beyond Traditional Lyophilization: Predictive Process Control
	with Digital Twins
	Matej Zadravec
	University of Maribor, Faculty of Mechanical Engineering, Chair for Power,
	Process and Environmental Engineering, Maribor, Slovenia
12:30-12:50	Water Hammer Risk Assessment and Mitigation in Industrial
	Pipelines: 1D and 3D Numerical Approaches
	Nejc Vovk
	University of Maribor, Faculty of Mechanical Engineering, Chair for Power,
	Process and Environmental Engineering, Maribor, Slovenia
12:50-13:10	Contamination Release From the Packaging Area to the
	Outside:
	Numerical Simulation with Particles
	Matjaž Ramšak
	University of Maribor, Faculty of Mechanical Engineering, Maribor, Slovenia

13:10-14:40 Lunch











14:40 - 16:20 Lectures 2

14:40-15:00 Rheology in Polymer and Polymer Composite Processing Tilen Švarc

University of Maribor, Faculty of Mechanical Engineering, Chair of Materials and Forming, Maribor, Slovenia

15:00-15:20 Polysaccharides in Biomedical Applications

Matej Bračič

University of Maribor, Faculty of Mechanical Engineering, Chair of Textile Materials and Desing, Laboratory for Characterization and Processing of Polymers, Maribor, Slovenia

15:20-15:40 Biopolymer-Based Membranes for Fuel Cell Applications

Maša Hren

University of Maribor, Faculty of Mechanical Engineering, Chair of Textile Materials and Design, Maribor, Slovenia

15:40-16:00 Green Colloidal Coatings Based on Pullulan and Bio-Extracts

from Chestnut Wood for Active Food Packaging

Athira John

University of Maribor, Faculty of Mechanical Engineering, Chair of Textile Materials and Desing, Laboratory for Characterization and Processing of Polymers, Maribor, Slovenia

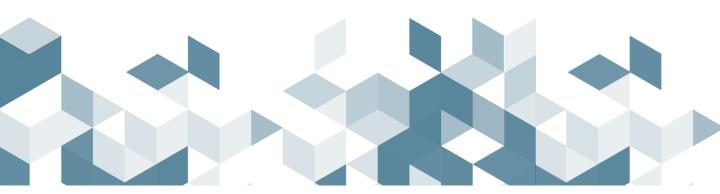
16:00-16:20 Thermal and Catalytic Pyrolysis of Waste for the Recovery of

Secondary Materials and Energy Source Production

Luka Lešnik

University of Maribor, Faculty of Mechanical Engineering, Department Chair for Power, Process and Environmental Engineering, Maribor, Slovenia

16:20 - 16:50 Coffee break and poster section











16:50 - 18:30 Lectures 3

Personalised Intelligent Wearable System for Freezing of Gait Detection and Active Stimulation for Patients with Parkinson's Disease

Jelka Geršak

University of Maribor, Faculty of Mechanical Engineering, Chair of Textile Materials and Design, Maribor, Slovenia

17:10-17:30 Thermally Conductive Cellulose-Based Substrates for Flexible Electronics

Vanja Kokol

University of Maribor, Faculty of Mechanical Engineering, Chair of Textile Materials and Design, Maribor, Slovenia

Gold Nanoparticle Dispersions for Plasma Jet Printing of Printed Circuit Boards: Characterisation of Stability, Printability and High Frequency Signal Performance

Lan Kresnik

University of Maribor, Faculty of Mechanical Engineering, Chair of Materials and Forming, Maribor, Slovenia

17:50-18:10 Preserving the Cultural Heritage of Clothing: Sleeping Beauties Andreja Rudolf

University of Maribor, Faculty of Mechanical Engineering, Chair of Textile Materials and Design, Maribor, Slovenia

18:10-18:30 Assessment of Microplastic Fiber Emissions during Tumble Drying of Fabrics

Branko Neral

University of Maribor, Faculty of Mechanical Engineering, Chair of Textile Materials and Design, Laboratory for Textile Printing and Textile Care, Maribor, Slovenia

18:30 - 18:50 Poster award and concluding remarks









