



# ICPMAT

## CONFERENCE PROGRAMME

12<sup>th</sup> International Conference on the Physical Properties  
and Application of Advanced Materials

August 6<sup>th</sup> - 9<sup>th</sup> 2017 campus of Technical University of Košice, Slovakia, EU





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# CAMPUS OF THE TECHNICAL UNIVERSITY OF KOŠICE



Meeting point ● Vysokoškolská ulica

Watsonova ulica



Komenského ulica

- L9A - The main building, A block
- L9B - The main building, B block
- PK2 - Department of Physics of the FEI
- PK3 - Department of Ceramics of the HF
- Department of Integrated Management of the HF
- Dept. of Theoretical Electrical Engineering and El. Measurements of the FEI
- PK4 - Aula of Physics
- PK5 - Department of Environmental Engineering of the SJF
- PK6 - Computer Centre of the FEI
- PK7 - Lecturing Auditorium L4
- PK8 - Laboratory of Automobile Technology of the SJF
- PK9 - Department of Automation, Control and Human Machine Interaction of the SJF
- PK10 *under reconstruction*
- PK11 - Department of Material Sciences of the HF
- PK12 *under reconstruction*
- PK13 - Department of Electronics and Multimedia Communications of the FEI
- PK14 - Dept. of Ferrous and Foundry Metallurgy of the HF
- Logistics Institute of Industry and Transport of the FBERG
- PK15 - Department of Geology and Mineralogy of the FBERG
- PK19 - Mining pavilion
- BN1 - Student residence
- BN3 - Institute of the IT
- BN5 - Joint Lecturing Rooms Halls
- BN32 - Faculty of Economics
- V4 - Faculty of Civil Engineering
- W - Sports stadium of Akademik Sports Club
- W4 - Faculty of Art Studios
- FU2 - Student residence
- UK - University Library
- TECH - University Science Park TECHNICOM *recently under construction*

Date	Time	Room	Activity
Aug 6 <sup>th</sup> 2017	15:00 - 21:00	University Library: UK	Registration
	19:00 - 21:00	University Library: UK	Welcome Reception
Aug 7 <sup>th</sup> 2017	9:00 - 12:00	University Library: UK	Registration
	9:00 - 10:30	Aula Maxima: L9 A	<b>OPENING CEREMONY OF ICPMAT 2017</b>
	10:30 - 12:00	Aula Maxima: L9 A	<b>PLENARY LECTURE</b>
	12:00 - 13:45	FU2	Lunch
	13:45 - 15:20	University Library: UK	<b>ORAL 1</b>
	15:20 - 15:40	University Library: UK	Coffee break:coffee, tea, cake, water
	15:40 - 16:40	University Library: UK	<b>POSTER SESSION</b>
	18:00 - 23:00	Aula spoločenské centrum	Banquet
Aug 8 <sup>th</sup> 2017	9:00 - 10:30	University Library: UK	<b>PLENARY LECTURE</b>
	10:30 - 11:00	University Library: UK	Coffee break:coffee, tea, cake, water
	11:00 - 12:35	University Library: UK	<b>ORAL 2</b>
	12:35 - 14:00	FU2	Lunch
	14:00 - 15:35	University Library: UK	<b>ORAL 3</b>
	15:35 - 16:05	University Library: UK	Coffee break:coffee, tea, cake, water
	16:05 - 17:45	University Library: UK	<b>ORAL 4</b>
	18:00 - 19:30	FU2	Dinner
19:30 - 21:00	Saloon room: BN 1	Acta Metallurgica Slovaca Editorial Board Meeting (only Invited people)	
Aug 9 <sup>th</sup> 2017	9:00 - 10:15	University Library: UK	<b>ORAL 5</b>
	10:15 - 10:40	University Library: UK	Coffee break:coffee, tea, cake, water
	10:40 - 12:35	University Library: UK	<b>ORAL6</b>
	12:35 - 13:45	FU2	Lunch
	13:45 - 15:00	University Library: UK	<b>ORAL 7</b>
	13:30 - 18:00	U. S. Steel Košice	Technical Tour
	14:45 - 18:00	Slovak Academy of Sciences	Technical Tour
	18:00 - 19:30	FU2	Dinner
19:30 - 21:00	Saloon room: BN 1	Advanced Materials Meeting (only Invited people)	
Aug 10 <sup>th</sup> 2017		Departure	

## SUNDAY 6<sup>TH</sup> AUGUST



15:00  
-  
21:00

**REGISTRATION**

**VENUE: UNIVERSITY LIBRARY**

19:00  
-  
21:00

**WELCOME RECEPTION**

**VENUE: UNIVERSITY LIBRARY**

## MONDAY 7<sup>TH</sup> AUGUST

09:00  
-  
12:00

**REGISTRATION**

**VENUE: UNIVERSITY LIBRARY**

09:00  
-  
10:30

**OPENING CEREMONY OF ICPMAT 2017**

**VENUE: AULA MAXIMA**

**Speech:** chairman of ICPMAT, minister of Education, mayor of Kosice, rector of TUKE, rector of Toyama university

**OPENING CEREMONY OF EPMA PM R&D CENTER**

**VENUE: AULA MAXIMA**

**Speech:** director of EPMA, director of Competence Center, director of EPMA PM R&D Center in Kosice

**PLENARY LECTURE**

**VENUE: UNIVERSITY LIBRARY**

**Chairmen:** MATSUDA Kenji, DUTKIEWICZ Jan

10:30  
**INVITED**

Development of Automotive Industry in Slovakia  
**KELE Martin**  
MATADOR HOLDING, a.s., Bratislava, Slovakia, EU

11:15  
**INVITED**

Aeromobil, AirCar - Development of Non-traditional Automobil  
**KLEIN Štefan**  
Academy of Fine Arts and Design in Bratislava

12:00 - 13:45 **LUNCH - FU2 (Urbánkova 1559/2, Košice)**



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**ORAL 1** **VENUE: UNIVERSITY LIBRARY**

Chairlady, chairman: LEWANDOWSKA Malgorzata, DI SCHINO Andrea

- 13:45 **INVITED** Effect of Grain Refinement on the Nitriding of a Nanostructured Stainless Steel  
**LEWANDOWSKA Malgorzata, KRAWCZYNSKA Agnieszka, SITEK Ryszard**  
Warsaw University of Technology, Warsaw, Poland, EU
- 14:05 Recrystallization and Grain Growth Phenomena in Stainless Steels in Presence of Second Phase Particles: Effect of Free Parameters  
**DI SCHINO Andrea, NAPOLI Giuseppe**  
University of Perugia, Department of Engineering, Perugia, Italy, EU
- 14:20 Magnetic and Transport Properties of Stainless Steels SUS304 at Low Temperature  
**NISHIMURA Katsuhiko, NAMIKI Takahiro, IKENO Tsuyoshi, YAMAMOTO Yuichi**  
University of Toyama, Toyama, Japan
- 14:35 Study of Corrosion Resistant of Stainless Steel Surface Layer Prepared by TWIAW  
**WU Dongting, ZOU Yong, HU Cong, SHI Chuanwei**  
Shandong University, Jinan, China
- 14:50 Corrosion Behaviors of the Iron-based and Ni-based Brazing Filler Metals Brazed on the Stainless Steels in a Solution of 3.5mass% NaCl  
**SUNADA Satoshi, HATAKEYAMA Masahiko, MOTOYA Haruna, NUNOMURA Norio**  
Graduate School of Science and Engineering for Research, University of Toyama, Toyama, Japan
- 15:05 The Relationship between Continuous Cooling Rate and Microstructure in the Heat Affected Zone (HAZ) of the Dissimilar Weld Between Carbon Steel and Austenitic Stainless Steel  
**LE Hai Minh, LE Thi Nhung, NGUYEN Duong Nam, NGUYEN Duc Thang, PHAM Mai Khanh**  
Hanoi University of Science and Technology, Hanoi, Vietnam

15:20 - 15:40 **COFFEE BREAK****POSTER SESSION** **VENUE: UNIVERSITY LIBRARY**15:40 - 16:40 **Poster presentation**

- PS1** Preparation and Characterization of SnO<sub>2</sub>-ZnO Nanocomposites and their Photocatalytic Performances under Visible Light  
**ALI MOHAMMED Atif M., QRESHAH Omniat, ISMAIL Adel, ALQRNI Hamed, FAISAL Mohd, MATSUDA Kenji**  
King Khalid University, Abha, Saudi Arabia
- PS2** Fabrication of the Al Base Plate of a Thermoelectric Module using Anodic Oxidation and Electrolytic Etching  
**BAE SeongHwa, SEHUN Han, CHOI Yi Taek, SON InJoon, SOHN Ho-sang, KIM Kyung Tae**  
Kyungpook National University, Daegu, Korea, Republic of
- PS3** Microstructure and Corrosion Behaviour in Dissimilar Welded Pipes between Duplex Stainless Steel and Low Alloy Steel  
**BELKESSA Brahim, MIROUD Djamel, OUALI Naima, CHENITI Bilal**  
Research Center in Industrial Technologies, Algiers, Algeria
- PS4** The Comparison of the Magnetic Properties in the Cryo-rolled Annealed Non-oriented Electrical Steel  
**BIDULSKÁ Jana, PETROUŠEK Patrik, KVAČKAJ Tibor, BIDULSKÝ Róbert, KOVÁČOVÁ Andrea, FEDORIKOVÁ Alica, ŠIMČÁK Dušan, BELLA Peter, ČERNÍK Martin, LUPTÁK Miloslav**  
Technical University of Košice, Košice, Slovakia, EU
- PS5** Mechanical Properties of Selected Steels rolled under Cryogenic Conditions  
**BIDULSKÝ Robert, FEDORIKOVÁ Alica, KVAČKAJ Tibor, BIDULSKÁ Jana, KOVÁČOVÁ Andrea, PETROUŠEK Patrik, ŠIMČÁK Dušan**  
Technical university of Kosice, Faculty of Materials, Metallurgy and Recycling, Košice, Slovakia, EU
- PS6** Evolution of the Microstructural Parameters of Cold Work Ti-6-Al-4V alloy  
**BRAHIM MEHDI, KHERROUBA Nabil, DOUFANA Soumia, BADJI Riad, ALILI B.**  
Research Centre in Industrial Technologies CRTI, Cheraga, Algeria
- PS7** Strengthening Surface Layers of Titanium Alloys Due to Force Impulse Loading and Nanotechnologies  
**BREZINOVÁ Janette, CHAUSOV M., MARUSCHAK P., PYLYPENKO A., LOPÁČKO K., GUZANOVÁ A.** Technical University of Košice, Faculty of Mechanical Engineering, Košice, Slovakia, EU



- PS8** Q&P Process in Press-hardening of 42SiCr Steel  
**BUBLÍKOVÁ Dagmar, JIRKOVÁ Hana, JENÍČEK Štěpán, KÁŇA Josef**  
University of West Bohemia, Pilsen, Czech Republic, EU
- PS9** Numerical Simulation of the Heat Treatment Process for 100Cr6 Steel in Polymeric Quenchant  
**DANG Khanh Quoc, TRAN Xuan Thi, VU Toai Dinh**  
Hanoi University of Science and Technology, Hanoi, Vietnam
- PS10** Application of Positron Lifetime Annihilation Spectroscopy for Characterization of Friction Stir Welded Dissimilar Aluminum Alloys  
**DYMEK Stanislaw, DRYZEK E., KOPYŚCIAŃSKI M., HAMILTON C., PIETRAS A., WĘGŁOWSKA A., WRÓBEL M.**  
AGH University of Science and Technology, Cracow, Poland, EU
- PS11** Aging Behavior of Al-Li-(Mg) Alloys Deformed by High-pressure Torsion (HPT)  
**HAIZUKA Yuhei, LEE Seungwon, SAIKAWA Seiji, MATSUDA Kenji, HORITA Zenji, HIROSAWA Syoichi, TERADA Daisuke, IKENO Susumu**  
University of Toyama, Graduate School of Science and Engineering for Education, Toyama-shi, Japan
- PS12** Microstructure Observation of Mg-Y-(Sc) Alloys Aged at 473K  
**HIRAGI Tomoya, LEE Seungwon, IKENO Susumu, MATSUDA Kenji**  
Graduate School of Science and Engineering for Education, University of Toyama, Toyama-shi, Japan
- PS13** Corrosion Properties of Anodized Titanium  
**HLINKA Josef**  
VSB - Technical University of Ostrava, Ostrava, Czech Republic, EU
- PS14** Characterization of Cement Composites based on Recycled Cellulosic Waste Paper Fibres  
**HOSPODAROVA Viola, STEVULOVA Nadezda, VACLAVIK Vojtech, DVORSKY Tomas, DANEK Tomas**  
Technical University of Kosice, Faculty of Civil Engineering, Institute of Environmental Engineering, Kosice, Slovakia, EU
- PS15** Effects of Austempering Temperature on Retained Austenite Fraction in Unconventional Silicon Medium-carbon 42SiCr Steel  
**JENÍČEK Štěpán, VOREL Ivan, KÁŇA Josef, PEKOVIČ Michal**  
University of West Bohemia, Pilsen, Czech Republic, EU
- PS16** Effect of Heating Temperature During Semi-solid Processing on Structure of X210CR12 Steel  
**JIRKOVÁ Hana, RUBEŠOVÁ Kateřina, OPATOVÁ Kateřina, PEKOVIČ Michal, MAŠEK Bohuslav**  
University of West Bohemia, Pilsen, Czech Republic, EU
- PS17** Variable Factors Controlling Amorphous-zeolite Phase Transformation in Metakaolin based Geopolymer  
**JUENGSUWATTANANON Kannikar, PIMRAKSA Kedsarin**  
Chiang Mai University, Industrial chemistry, Chiang Mai, Thailand
- PS18** Effect of Quicklime Activity on Sinter Granulation Performance  
**KANG Qingfeng, ZHANG Jianliang, LIU Zhengjian, LIU Donghui, ZHANG Yapeng**  
University of Science and Technology Beijing, Beijing, China
- PS19** Effect of Mg Content on Solidification Sequence in Hypoeutectic Al-Si System Alloys  
**KAZUTA Hisao, IKENO Susumu, SAIKAWA Seiji**  
University of Toyama, Toyama, Japan
- PS20** Comprehensive Evaluation of the Work at Height  
**KISSIKOVÁ Lenka, DLUGOŠ Ivan**  
VSB - Technical University Ostrava, Ostrava, Czech Republic, EU
- PS21** Workability Assesment of Powder Metallurgy Workpiece prepared by Equal Channel Angular Rolling  
**KOČIŠKO Róbert, KVAČKAJ Tibor, BIDULSKÝ Róbert, BIDULSKÁ Jana, KOVÁČOVÁ Andrea**  
Technical University of Košice, Faculty of Materials, Metallurgy and Recycling, Košice, Slovakia, EU
- PS22** Thermo-mechanical Treatment of 42SiCr and 42MnSi Steels  
**KUČEROVÁ Ludmila, JIRKOVÁ Hana, JANDOVÁ Andrea**  
University of West Bohemia in Pilsen, Pilsen, Czech Republic, EU
- PS23** Comparison of Mechanical Properties of Pure Aluminium after Asymmetric Rolling at Ambient and Cryogenic Temperatures  
**KVAČKAJ Tibor, ŠIMČÁK Dušan, BIDULSKÝ Róbert, BIDULSKÁ Jana, KOVÁČOVÁ Andrea, FEDORIKOVÁ Alica, PETROUŠEK Patrik**  
Technical University of Košice, Košice, Slovakia, EU

- PS24** Temperature and Magnetic Field Induced Spin Reorientation in Rare-earth Orthoferrite Sm<sub>1-x</sub>Pr<sub>x</sub>FeO<sub>3</sub> Single Crystals  
**LI Rubin**  
Shanghai University, Shanghai, China
- PS25** Age-hardening Behavior of Al-7%Si-0.3%Mg Alloy Solution Treated after Cast Into Sand Mold  
**MASUDA Machiko, OZASA Tomoya, TAKAHASHI Kota, IKENO Susumu, SAIKAWA Seiji**  
University of Toyama, Toyama, Japan
- PS26** Precipitation Observation of Cu and Ag Addition Al-Mg-Si Alloy  
**MATSUMOTO Akira, LEE Seungwon, IKENO Susumu, MATSUDA Kenji**  
University of Toyama, Toyama-shi, Japan
- PS27** Effect of under Layer on Structure of Titanium Oxynitride Coatings  
**MURAOKA Yusuke, LEE Seungwon, MATSUDA Kenji, NOSE Masateru, IKENO Susumu**  
University of Toyama, Graduate School of Science and Engineering for Education, Toyama-shi, Japan
- PS28** Effect of Welding Parameters on the Microstructure and Mechanical Properties of Lean Duplex Welded Joints  
**OUALI Naima, KHENFER S., BELKESSA B.**  
Research Center in Industrial Technologies, Algiers, Algeria
- PS29** Effect of Pre-aged Temperature on Final-aged Behavior in A356 Casting Alloy  
**OZASA Tomoya, IKENO Susumu, MATSUDA Kenji, SAIKAWA Seiji**  
University of Toyama, Toyama, Japan
- PS30** Effect of Plasma-chemical Treatment in Oxygen on the Activity of Copper-containing Bismuth Vanadates in the Transformation of Isobutanol  
**POVAROVA Elena, PYLININA Anna, MIKHALENKO Irina**  
RUDN University, Moscow, Russian Federation
- PS31** Swap Disorder Effect on the Physical Properties of Quaternary Heusler Alloy PdMnTiAl: a First-Principles Study  
**QIN Guanhua**  
Shanghai University, Shanghai, China
- PS32** Removal of Ledeburite Network from the Microstructure of X210Cr12 Steel by Thermomechanical Treatment in Semi-solid State  
**RUBEŠOVÁ Kateřina, PEKOVIĆ Michal, JIRKOVÁ Hana**  
University of West Bohemia, Pilsen, Czech Republic, EU
- PS33** Dependence of the Pulsed Electric Field on the Distance Between Pinstripes of Y-PSZ Thin Films Fabricated by the Electrochemical Deposition Method  
**SAIKI Atsushi, HASHIZUME Takashi**  
University of Toyama, Toyama, Japan
- PS34** Evolution of Microstructure and Mechanical Properties of Copper Processed by Equal Channel Angular Pressing at Low Temperatures  
**SAS Jan, WEISS Klaus-Peter, KAUFFMANN-WEISS Sandra, KAUFFMANN Alexander, UMEZAWA Osamu, KVAČKAJ Tibor**  
Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany, EU
- PS35** Abnormal Grain Growth in 6061 Aluminum Alloy Friction Stir Welded  
**SHIBAYANAGI Toshiya, AOYAMA Takuya, KANDA Kazumasa**  
University of Toyama, Toyama, Japan
- PS36** Fabrication of Bi<sub>2</sub>Te<sub>3</sub>-based Thermoelectric Module using Thermocompression Bonding  
**SON Injoon, YOON JongChan, BAE Sunghwa, HAN Sehoon**  
Kyungpook National University, Daegu, Korea, Republic of
- PS37** Age-hardening Behavior and Precipitation Structure of Al-7%Si-0.3%Mg Casting Alloy with T6 Treatment  
**TAKAHASHI Kota, IKENO Susumu, MATSUDA Kenji, SAIKAWA Seiji**  
University of Toyama, Toyama, Japan
- PS38** TEM Observation of Zinc Alloy Deposited on Mold Surface  
**TAKEMOTO Kanta, MIZUBAYASHI Mai, LEE Seungwon, MATSUDA Kenji, NOSE Masateru, IKENO Susumu**  
University of Toyama, Graduate School of Science and Engineering for Education, Toyama-shi, Japan
- PS39** Microstructure and Mechanical Properties of WC-8(Ni,Fe) Hard Alloys Sintered by Hot Isostatic Pressing  
**TRAN BAO Trung, DOAN Dinh Phuong, NGUYEN Van Luan, LE DANH Chung, NGUYEN Quang Huan**  
Vietnam Academy of Science and Technology, Institute of Materials Science, Hanoi, Vietnam
- PS40** Colour Etching for Identification of Microstructures of Intercritical-annealed and Austempered Steels  
**VOREL Ivan, PEKOVIĆ Michal, OPATOVÁ Kateřina, JENÍČEK Štěpán, KÁŇA Josef**  
University of West Bohemia in Pilsen, RTI, Pilsen, Czech Republic, EU

- PS41** Electric Field and Strain Effect of GaAs Monolayer from First Principles  
**WU Jiongyao**  
Shanghai University, Shanghai, China
- PS42** Single Crystal Growth and Magnetic Properties of Co<sub>4</sub>-xMn<sub>x</sub>Nb<sub>2</sub>O<sub>9</sub>  
**YU Youshuang, LI Zhen, XIANG Maolin, KANG Baojuan, ZHANG Jincang, REN Wei, CAO Shixun**  
Shanghai University, Shanghai, China
- PS43** Spin Reorientation and Compensation Point in Rare-Earth Orthoferrite Er<sub>1-x</sub>Y<sub>x</sub>FeO<sub>3</sub> Single Crystals  
**YUAN Ning**  
Shanghai University, Shanghai, China

18:00 - 23:00 **BANQUET - AULA SPOLOČENSKÉ CENTRUM**

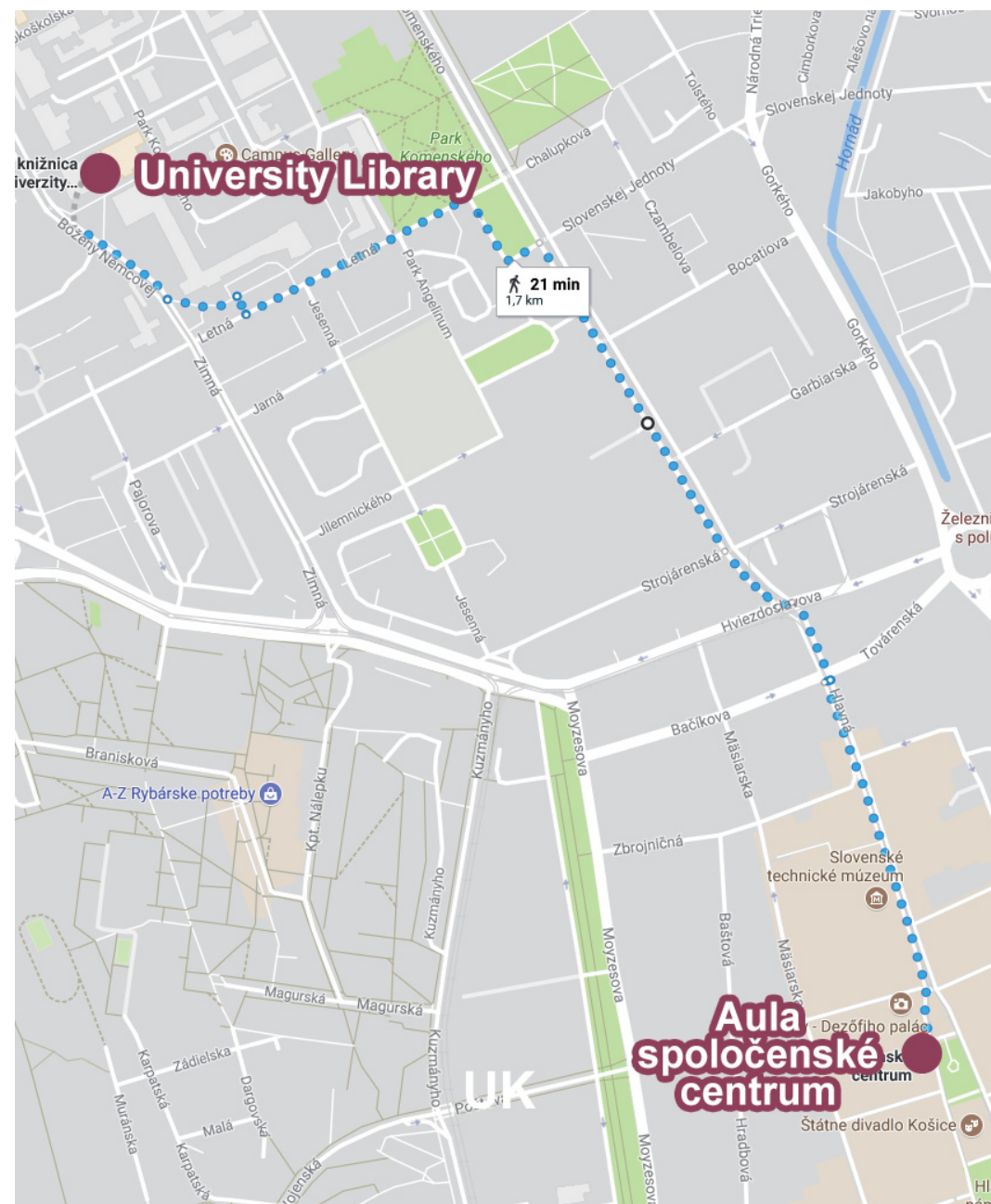
**UNIVERZITNÁ KNIŽNICA TECHNICKEJ UNIVERZITY V KOŠICIACH**  
Boženy Němcovej 7, 042 00, Košice, Slovakia

- ↑ Head southeast on **Boženy Němcovej** - 140 m
- ↙ Slight left toward **Letná** - 83 m
- ↘ Turn right toward **Letná** - 23 m
- ↙ Turn left onto **Letná** - 350 m
- ↘ Turn right onto **Komenského** - 84 m
- ↙ Turn left to stay on **Komenského** - 13 m
- ↘ Turn right to stay on **Komenského** - 400 m
- ↑ Continue onto **Námestie Maratónu mieru** - 91 m
- ↑ Continue onto **Hlavná** - 100 m
- ↘ Turn right to stay on **Hlavná** - 7 m
- ↙ Turn left to stay on **Hlavná** - Destination will be on the right - 450 m

**AULA SPOLOČENSKÉ CENTRUM**  
Hlavná 37/68, 040 01 Košice, Slovakia



21 min.

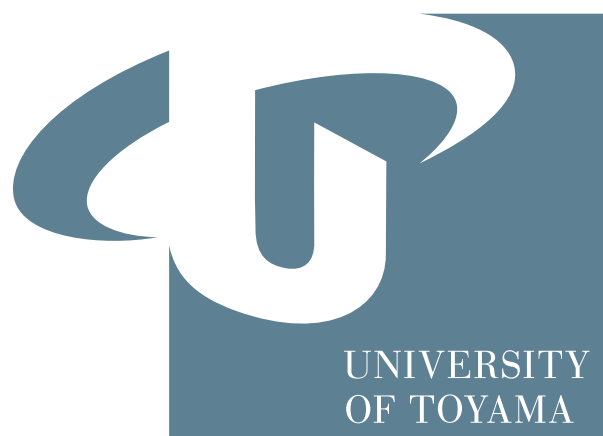


Participants are responsible for organizing their own transport to and from the Banquet.

**PLENARY LECTURE      VENUE: UNIVERSITY LIBRARY**

Chairmen: SHIBAYANAGI Toshiya; MARTHINSEN Knut

- 09:00**  
**INVITED**    Microstructure and Mechanical Properties of Advanced Nanostructured Alloys  
**GUBICZA Jenó, HECZEL Anita, KAWASAKI Megumi, LÁBÁR János, JANG Jae-il, LANGDON Terence G.**  
 ELTE Eotvos Lorand University, Budapest, Hungary, EU
- 09:45**  
**INVITED**    Lightweight Materials for Future Cars  
**SIMANČÍK František**  
 Institute of Materials and Machine Mechanics of the SAS, Bratislava, Slovakia, EU

 10:30 - 11:00 **COFFEE BREAK**

**ORAL 2      VENUE: UNIVERSITY LIBRARY**

Chairmen: DOAN DINH Phuong; WEISS Klaus-Peter

- 11:00**  
**INVITED**    Tribological Properties of Metal Matrix Composites Reinforced by Carbon Nanotubes  
**DOAN DINH Phuong, PHAM VAN Trinh, NGUYEN VAN Luan, PHAN NGOC Minh**  
 Institute of Materials Science-Vietnam Academy of Science and Technology, Hanoi, Vietnam
- 11:20**  
 Kinetics and Energy Parameters of Dehydration and Crystallization Process of ZrO<sub>2</sub>-3 mol% Y<sub>2</sub>O<sub>3</sub> Xerogels System Modified under Conditions of High Hydrostatic Pressure  
**SYNIAKINA Susanna, GORBAN Oksana, DANILENKO Igor, KONSTANTINOVA Tetyana**  
 Donetsk Institute for Physics and Engineering named after O.O. Galkin NAS of Ukraine, Kyiv, Ukraine
- 11:35**  
 The Microstructure and Properties of Cast Steel after Nanostructuring Process Performed Through Austempering Heat Treatment  
**ZADROŽNA Karolina, WASILUK Kamil, SKOŁEK Emilia, ŚWIĄTNICKI Wiesław**  
 Warsaw University of Technology, Warsaw, Poland, EU
- 11:50**  
 The Effect of a Small Amount Different Additives on Sintering Kinetics of Zirconia Nanopowders  
**LAKUSTA Marharyta, DANILENKO I., KONSTANTINOVA T.**  
 Donetsk Institute for Physics and Engineering of the NAS of Ukraine, Kiev, Ukraine
- 12:05**  
 Influence of External Factors on Impedance Changes of the Nanopowder System based on Zirconia  
**SHYLO Artem, DOROSHKEVICH Aleksandr, KONSTANTINOVA Tetyana**  
 Donetsk Institute for Physics and Engineering named after O.O.Galkin of the NAS of Ukraine, Kyiv, Ukraine
- 12:20**  
 Formation of Nanostructured (Ti<sub>80</sub>Zr<sub>20</sub>)C Composite Powders via Mechanical Alloying  
**MHADHBI Mohsen**  
 National Institute of Research and Physicochemical Analysis, Tunis, Tunisia

 12:35 - 14:00 **LUNCH - FU2**

**ORAL 3** **VENUE: UNIVERSITY LIBRARY**
**Chairmen: ACTIS GRANDE Marco; PASERIN Vladimir**

- 14:00** **INVITED** Feedstock Materials for Additive Manufacturing - Alternatives to Spherical Metal Powder Particles  
**PASERIN Vladimir**  
 Rio Tinto Metal Powders, Sorel-Tracy, Quebec, Canada
- 14:20** Fabrication and Property Evaluation of WO<sub>3</sub> Particles Dispersed Al-based Composite Material  
**NAKAMURA Naoto, LEE Seungwon, IKENO Susumu, MATSUDA Kenji**  
 University of Toyama, Graduate School of Science and Engineering for Education, Toyama-shi, Japan
- 14:35** Additive Manufacturing of ABS Thermoplastic for Cryogenic Application  
**WEISS Klaus-Peter, BAGRETS Nadezda, SAS Jan, LANGE Christian**  
 Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany, EU
- 14:55** Innovative Formulations for SMC: Evaluation of Magnetic and Mechanical Properties  
**ACTIS GRANDE Marco, POSKOVIC Emir, FRANCHINI Fausto, FERRARIS Luca**  
 Politecnico di Torino, Torino, Italy, EU
- 15:15** **INVITED** Additive Manufacturing of Individualized Titanium Implants - a Clinical Case Studies  
**HUDÁK Radovan, ŽIVČÁK Jozef**  
 Technical University of Kosice, Kosice, Slovakia, EU

**15:35 - 16:05 COFFEE BREAK**

**ORAL 4** **VENUE: UNIVERSITY LIBRARY**
**Chairmen: ZEMKO Michal; WEI Wei**

- 16:05** **INVITED** Superplastic Deformation of MgLiAl Alloys Composed of hcp Alfa and bcc Beta Phases after TCAP  
**DUTKIEWICZ Jan, RUSZ Stanislav, KUC Dariusz, HILSER Ondrej, PAŁKA Paweł, BOCZKAL Grzegorz**  
 Institute of metallurgy and Materials Science PAS, Kraków, Poland, EU
- 16:25** Influence of Heat Treatment on Corrosion Resistance of AZ31 Magnesium Alloy Processed by Equal Channel Angular Pressing  
**ZEMKOVÁ Mária, STRÁSKA Jitka, ČÍŽEK Jakub, MINÍNÁK Peter**  
 Charles University in Prague, Prague, Czech Republic, EU
- 16:40** Research on Strengthening Mechanisms of Pure Titanium Wires Using the CONFORM SPD  
**ZEMKO Michal, PALÁN Jan**  
 COMTES FHT a.s., Pilsen, Czech Republic, EU
- 16:55** Structure and Properties of AZ31 Magnesium Alloy after Combination of Hot Extrusion and ECAP  
**HILŠER Ondřej, MAZIARZ Wojciech, DUTKIEWICZ Jan, TAŃSKI Tomasz, SNOPIŃSKI Przemysław**  
 VSB - Technical University of Ostrava, Ostrava, Czech Republic, EU
- 17:10** Microstructure Observation of HPT Processed Al-Cu-Mg-X (X= Zn, Si, Ge) Alloys  
**LEE Seungwon, KAWAI Kenta, HORITA Zenji, IKENO Susumu, MATSUDA Kenji**  
 University of Toyama, Toyama, Japan
- 17:25** **INVITED** Annealing Effect on Microstructure and Mechanical Properties of Cu-Al Alloy Subjected to Cryo-ECAP  
**WEI Wei, WEI Kunxia, WANG Shenglong, DU Qingbo, IGOR V. Alexandrov, HU Jing**  
 Changzhou University, Changzhou, China

**18:00 - 19:30 DINNER - FU2**
**19:30 - 21:00 Acta Metallurgica Slovaca Editorial Board Meeting**  
**Only invited people**  
**Saloon room: BN 1**

**ORAL 5** **VENUE: UNIVERSITY LIBRARY**

Chairlady, chairman: KOVACOVA Andrea, LEE Seungwon

- 09:00 Characterisation of Oxides by Advanced Techniques  
**DUCHOŇ Jan, HALODOVA Patricie, LORINCINK Jan, DI GABRIELE Fosca, HOJNA Anna**  
 Research Centre Rez, Husinec-Řež, Czech Republic, EU
- 09:15 An Experimental Study on Flexural Properties of the Basalt Fiber Metal Laminates: Effect of Surface Treatment and Carbon Nanotubes  
**AKBARZADEH Ebrahim, AGHAMOHAMMADI Hamed, ESLAMI-FARSANI Reza**  
 K. N. Toosi University of Technology, Tehran, Iran, Islamic Republic of
- 09:30 Microstructure Observation of Nb<sub>3</sub>Sn Superconducting Wire Fabricated Using Cu-Sn-Zn Ternary Bronze  
**KAWAMUKAI Daichi**  
 University of Toyama, Graduate School of Science and Engineering for Education, Toyama-shi, Japan
- 09:45 Digital Image Correlation (DIC) Technique for Fracture Toughness Calculation of Microalloyed Steel (38MnVS6)  
**PATIL Akshay, JONNALGADDA Krishna, TOPPO Suraj**  
 Bharat Forge Ltd., Pune, India
- 10:00 Wear Resistant Coating of Aluminium Alloy by Laser Assisted Thermit Reaction  
**RATHOD Manoj, PATIL Bhushan, RANAWARE Prakash**  
 College Of Engineering Pune, Faculty of Metallurgy and Materials Science Department, Pune, India

 10:15 - 10:40 **COFFEE BREAK**
**ORAL 6** **VENUE: UNIVERSITY LIBRARY**

Chairmen: CAO Shixun; LAPIN Juraj

- 10:40 **INVITED** Cast TiAl Matrix In-situ Composites reinforced with MAX Phase Particles  
**LAPIN Juraj**  
 Institute of Materials and Machine Mechanics of the SAS, Bratislava, Slovakia, EU

- 11:00 **INVITED** A First-principles Study on Impurity Segregation Towards Grain Boundaries and Stacking Faults in Aluminium  
**MARTHINSEN Knut, ZHAO Dongdong, LVVIK Ole Martin, LI Yanjun**  
 Norwegian University of Science and Technology, Department of Materials Science and Engineering, Trondheim, Norway
- 11:15 TEM Observation for Hydrogen Distribution Behavior using Electrical Discharge Machining of 7xxx Alloys  
**ARITA Ryoma, BENDO Artenis, LEE Seungwon, MATSUDA Kenji, NISHIMURA Katsuhiko, NUNOMURA Norio, TODA Hiroyuki, HIRAYAMA Kyosuke, GAO Hongye, YAMAGUCHI Masatake, EBHARA Ken-ichi, ITAKURA Mitsuhiro, TSURU Tomohito, IKENO Susumu**  
 University of Toyama, Graduate School of Science and Engineering for Education, Toyama, Japan
- 11:30 Universal Cluster in Aged Al-Mg-Cu Alloys with X(X=Si, Ge, Zn)  
**MATSUDA Kenji, LEE Seungwon, MARIOARA Calin D., WENNER Sigurd, NISHIMURA Katsuhiko, MATSUZAKI Teiichiro, NUNOMURA Norio, SATO Tatsuo, HOLMESTAD Randi, IKENO Susumu**  
 University of Toyama, Toyama-shi, Japan
- 11:50 Microstructure and Heat Resistance of Mg-3mass%Al-1mass%Si Alloy with Containing Large Amount of Sn  
**SAIKAWA Seiji, KAKO Hiroki, MIZUTANI Manabe, KAWABE Nozomu**  
 University of Toyama, Toyama, Japan
- 12:05 Influence of Microstructure Evolution on Corrosion Resistance of Ni-W-P Amorphous Alloys Deposited via Electroless Plating  
**ZOU Yong**  
 Shandong University, Jinan, China
- 12:20 Corrosion Resistance of Al-Co and Al-Co-Pd Complex Metallic Alloys  
**PALCUT Marian, ČERNIČKOVÁ Ivona, PRIPUTEN Pavol, JANOVEC Jozef**  
 Slovak University of Technology in Bratislava, Trnava, Slovakia, EU

 12:35 - 13:45 **LUNCH - FU2**

## ORAL 7

## VENUE: UNIVERSITY LIBRARY

Chairman, chairlady: ZOU Yong, BIDULSKÁ Jana

- 13:45 Synthesis and Properties of the Novel Oxide Materials Stabilized by High Configurational Entropy  
**STYGAR Miroslaw, DĄBROWA Juliusz, DANIELEWSKI Marek, MARTIN Manfred**  
 AGH University of Science and Technology, Cracow, Poland, EU
- 14:00 Oxidation Properties of High Entropy Alloys  
**GAWEL Richard, ROGAL Łukasz, PRZYBYLSKI Kazimierz**  
 AGH University of Science and Technology, Cracow, Poland, EU
- 14:15 Dimensionality Reduction of Magnetic Order Induced by In-doping in DyFe<sub>1-x</sub>In<sub>x</sub>O<sub>3</sub> System  
**CAO Shixun, YANG Ya, KANG Baojuan, ZHANG Jincang, REN Wei**  
 Shanghai University, Shanghai, China
- 14:30 Acetic Acid and Sodium Acetate Mixture as an Aeration Catalyst in the Removal of Metallic Iron from Reduced Ilmenite  
**TRUONG Ngoc Than**  
 Hanoi University of Science and Technology, Hanoi, Vietnam
- 14:45 Sustainable Building Composite with Hemp Hurds  
**STEVULOVA Nadezda**  
 Technical University of Kosice, Faculty of Civil Engineering, Kosice, Slovakia, EU

18:00 - 19:30 **DINNER - FU2**

19:30 - 21:00 **Advanced Materials Meeting**  
**Only invited people**  
**Saloon room: BN 1**



## ACCOMPANYING PROGRAMME - TECHNICAL TOUR

A participant can choose only one excursion.

### 1) U. S. Steel Košice (2 options)

#### Hot Strip Mill / Pickling Line No. 3

Departure by bus from Meeting point (see the map) at 13:30.

Excursions start at 14:00. Estimated time of arrival is at 18:00.

### 2) Slovak Academy of Sciences

Meeting in University Library: UK

Leaving the UK at 14:45 - 5 minutes walk. Excursion starts at 15:00.

Estimated time of arrival is at 18:00.



# TECHNICAL UNIVERSITY OF KOŠICE

