



**TECHNICAL
UNIVERSITY**
OF CLUJ-NAPOCA
ROMANIA



TECHNISCHE
UNIVERSITÄT
WIEN



**5th INTERNATIONAL CONFERENCE ON
POWDER METALLURGY & ADVANCED MATERIALS**

17-20 September, Cluj-Napoca, ROMANIA

PROGRAMME





**5th INTERNATIONAL CONFERENCE ON
POWDER METALLURGY & ADVANCED MATERIALS**

17-20 September, Cluj-Napoca, ROMANIA

Hotel UniversT

<http://www.sim.utcluj.ro/ropm-am2017/>

PROGRAMME

Conference partners



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**Cluj-Napoca
2017**

5th INTERNATIONAL CONFERENCE ON POWDER METALLURGY & ADVANCED MATERIALS

The aim of the RoPM-AM2017 conference is to offer a forum for scientists in the field of Materials Science and Engineering to discuss and promote advances in knowledge, research and practice in the field of the Powder Metallurgy and Advanced Materials (Processing and Technologies).

The International CONFERENCE ON POWDER METALLURGY AND ADVANCED MATERIALS, RoPM-AM2017, represents the joint of the traditional RoPM (INTERNATIONAL CONFERENCE ON POWDER METALLURGY) and Matehn (INTERNATIONAL CONFERENCE ON MATERIALS AND MANUFACTURING TECHNOLOGIES) conferences organized by Technical University of Cluj-Napoca.

The Conference includes plenary sessions, key notes, oral and poster presentations, informative actions and social events.

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Time table

Sunday 17.09	14:00-17:00	Registration
	18:00-19:30	Welcome party
Monday 18.09	8:30-9:45	Registration
	9:45-10:00	Conference opening
	10:00-11:00	Plenary session 1 (Red room)
	11:00-11:30	Coffee break
	11:30-12:30	Plenary session 2 (Red room)
	12:30-13:00	Exhibition opening
	13:00-14:30	Lunch
	14:30-16:30	Parallel oral sessions 1
	16:45-17:15	Coffee break
	17:00-19:00	Posters session 1 (Powder Metallurgy)
Tuesday 19.09	9:00-10:45	Parallel oral sessions 2
	10:45-11:15	Coffee break
	11:15-13:00	Parallel oral sessions 3
	13:00-14:30	Lunch
	14:30-16:00	Parallel oral sessions 4
	16:00-16:30	Coffee break
	16:30-18:30	Posters session 2 (Advanced Materials)
	20:00-23:00	Banquet
Wednesday 20.09	9:00	Conference's Trip

Conference programme

Sunday 17.09	14:00-17:00	Registration	
	18:00-19:30	Welcome party	
Monday 18.09	8:30-9:45	Registration	
	9:45-10:00	Conference opening	
	10:00-11:00	Plenary session 1 (Red room) <i>Chairs: O. Isnard Institut Néel, CNRS, France, M. Pop Technical University of Cluj-Napoca, Romania</i>	
	10:00-10:30	Plenary 1 - H. Danninger (<i>Technische Universität Wien</i>), Austria	
	10:30-11:00	Plenary 2 - N. Lupu (<i>National Institute of Research and Development for Technical Physics, Iași, Romania</i>)	
	11:00-11:30	Coffee break	
	11:30-12:30	Plenary session 2 (Red room) <i>Chairs: H. Danninger (Technische Universität Wien), Austria, C.O. Popa Technical University of Cluj-Napoca, Romania</i>	
	11:30-12:00	Plenary 3 - Olivier Isnard (<i>Institut Néel, CNRS Grenoble, France</i>)	
	12:00-12:30	Plenary 4 - Coriolan Tiuşan (<i>National Center of Scientific Research (CNRS), France and Technical University of Cluj-Napoca, Romania</i>)	
	12:30-13:00	Exhibition opening	
	13:00-14:30	Lunch (UniversT restaurant)	
	14:30-16:30	Powder metallurgy I New Materials and Applications Chairs: I. Peter – <i>Torino, Italy</i> F. Popa – <i>Cluj-Napoca, Romania</i> (Red room)	Advanced materials I Functional materials Chairs: M. Codescu - <i>Bucharest, Romania</i> T. F. Marinca - <i>Cluj-Napoca, Romania</i> (Green Room)
	14:30-15:00	K1 Keynote Leandru-Gheorghe Bujoreanu <i>"Gheorghe Asachi" Technical University of Iasi, Romania</i>	K2 Keynote Emil Burzo <i>Romanian Academy</i>
	15:00-15:15	PM-O1 <u>S. Randiwe</u> , D. Bhiogade, A. K. Kuthe <i>RCOEM and VNIT Nagpur, India</i>	AM-O1 <u>O. Adiguzel</u> <i>Firat University, Turkey</i>
	15:15-15:30	PM-O2 L. Jäntschi, <u>S. D. Bolboacă</u> <i>Iuliu Hatieganu University of Medicine and Pharmacy Cluj-Napoca, Romania</i>	AM-O2 <u>B. V. Neamtu</u> , T. F. Marinca, H. F. Chicinaş, F. Popa, I. Chicinaş, I. Isnard, G. Ababei, M. Gabor <i>Technical University of Cluj-Napoca, Romania</i>
15:30-15:45	PM-O3 <u>H. E. Camurlu</u> , M. A. Dere, A. Kati, <i>Akdeniz University, Turkey</i>	AM-O3 V. Dumitrascu, <u>L. Benea</u> <i>Dunarea de Jos University of Galati, Romania</i>	
15:45-16:00	PM-O4 <u>G. Popescu</u> et al. <i>University POLITEHNICA of Bucharest, Romania</i>	AM-O4 <u>S. Singh</u> , D. Gupta, V. Jain <i>The Northcap University, India</i>	

16:00-16:15	PM-O5 <u>G. Arghir</u> <i>Technical University of Cluj-Napoca, Romania</i>	AM-O5 R. Gavrea, M. Coldea, C. Leostean, O. Isnard, V. Pop, <u>D. Benea</u> <i>Babes-Bolyai University Cluj-Napoca, Romania</i>
16:15-16:30	PM-O6 <u>C. Nicolicescu</u> , V. H. Nicoară, F. Popa, T. F. Marinca <i>University of Craiova, Romania</i>	AM-O6 <u>C. O. Popa</u> , V. Paşcalău, T. F. Marinca, H. F. Chicinaş, C. Pavel <i>Technical University of Cluj-Napoca, Romania</i>
16:30-16:45	PM-O7 <u>M. Yıldırım</u> , D. Özyürek, M. Gürü <i>Karabük University, Turkey</i>	AM-O7 <u>A. Z. Fekete</u> , A. Kelemen <i>Sapientia University, Romania</i>
16:30-17:00	Coffee break	
17:00-19:0	Posters session 1	

Tuesday 19.09	9:00-10:45	Parallel oral sessions 2	
		Powder metallurgy II Powder and PM products Chair: M. Mangra – <i>Craiova, Romania</i> N.A. Sechel - <i>Cluj-Napoca, Romania</i> (Red room)	Advanced materials II Advanced materials Processing Chair: C. Munteanu – <i>Iasi, Romania</i> B. V. Neamtu - <i>Cluj-Napoca, Romania</i> (Green Room)
	9:00-9:30	K3 Keynote I. Peter <i>Politecnico di Torino, Italy</i>	K4 Keynote S. Moisa <i>Ben-Gurion University of the Negev, Beer-Sheva, Israel</i>
	9:30-9:45	PM-O8 <u>B. Moon</u> <i>United Kingdom</i>	AM-O8 M. Boy, <u>N. Yaşar</u> <i>Karabük University, Turkey</i>
	9:45-10:00	PM-O9 <u>G. Popescu</u> , B. Ghiban, C. A. Popescu, <i>University POLITEHNICA of Bucharest, Romania</i>	AM-O9 <u>H. F. Chicinaş</u> , A. Cotai, D. O. Jucan, T. F. Marinca, B. V. Neamtu, P. Götze, <i>Technical University of Cluj-Napoca</i>
	10:00-10:15	PM-O10 <u>K. Ouda</u> , C. Gierl-Mayer, H. Danninger <i>Technische Universität Wien, Austria</i>	AM-O10 <u>A. Sonsiri</u> , P. Palicamin <i>Rajamangala University of Technology Krungthep, Thailand</i>
	10:15-10:30	PM-O11 <u>N. Tosa</u> et al. <i>National Institute for Research and Development of Isotopic and Molecular Technologies, Romania</i>	AM-O11 <u>M. Bodea</u> <i>Technical University of Cluj-Napoca</i>
	10:30-10:45	PM-O12 <u>H. Mindivan</u> <i>Bilecik Seyh Edebali University, Turkey</i>	AM-O12 <u>V. I. Stanciu</u> , V. Vitry, F. Delaunois <i>University of Mons, Belgium</i>

10:45-11:15	Coffee break	
11:15-13:00	Parallel oral sessions 3	
	Powder metallurgy III Advanced materials processing Chairs: B. Moon – <i>United Kingdom</i> C. Pavel - <i>Cluj-Napoca, Romania</i> (Red room)	Advanced materials III Nanomaterials and Nanotechnologies Chairs: V. Pop - <i>Cluj-Napoca, Romania</i> G. Thalmaier - <i>Cluj-Napoca, Romania</i> (Green Room)
11:15-11:45	K5 Keynote L. Benea <i>Dunarea de Jos University of Galati, Romania</i>	K6 Keynote O. Pana <i>National Institute for Research and Development of Isotopic and Molecular Technologies, Romania</i>
11:45-12:00	PM-O13 <u>E. Linul</u> , L. Marsavina, J. Kováčik <i>Politehnica University of Timisoara, Romania</i>	AM-O13 <u>M.Gabor</u> , T. Petrisor Jr, R. Mos, M. Nasui, C. Tiusan, T.Petrisor <i>Technical University of Cluj-Napoca, Romania</i>
12:00-12:15	PM-O14 <u>R. Hirian</u> , A. Bolinger, O. Isnard, V. Pop <i>Babes-Bolyai University, Romania</i>	AM-O14 T. F. Marinca, H. F. Chicinas, B. V. Neamtu, F. Popa, N. A. Sechel, I. Chicinas <i>Technical University of Cluj-Napoca, Romania</i>
12:15-12:30	PM-O15 <u>F. Popa</u> , T. F. Marinca, B. V. Neamtu, N. A. Sechel, I. Chicinas <i>Technical University of Cluj-Napoca, Romania</i>	AM-O15 <u>F. M. Serdean</u> , V. Valentina Merie, G. Negrea, M. Sorin Pustan <i>Technical University of Cluj-Napoca, Romania</i>
12:30-12:45	PM-O16 <u>V. Merie</u> , M. Pustan, C. Bîrleanu, G. Negrea <i>Technical University of Cluj-Napoca, Romania</i>	AM-O16 <u>M. Lucaci</u> , et al. <i>National Institute for Research and Development in Electrical Engineering ICPE-CA, Romania</i>
12:45-13:00	PM-O17 <u>L. Jantschi</u> <i>Technical University of Cluj-Napoca, Romania</i>	AM-O17 <u>C. Baciu</u> <i>ICPA-CA, Romania</i>
13:00-14:30	Lunch (UniversT restaurant)	
14:30-16:00	Parallel oral sessions 4	
	Powder metallurgy IV Advanced Materials Processing Chairs: O. Gingu – <i>Craiova, Romania</i> C.V. Prica - <i>Cluj-Napoca, Romania</i> (Red room)	Advanced materials IV Functional Materials Chairs: G. Popescu – <i>Bucharest, Romania</i> M. Bodea - <i>Cluj-Napoca, Romania</i> (Green Room)
14:30-15:00	K7 Keynote V. Pop <i>Babes-Bolyai University, Romania</i>	K8 Keynote F. Pop <i>Dialog Semiconductor, Germany</i>

	15:00-15:15	PM-O18 <u>M. Boy</u> , I. Ciftci <i>Karabük University, Turkey</i>	AM-O18 <u>F. Mindivan</u> , M. Goktas <i>Bilecik Seyh Edebali University, Turkey</i>
	15:15-15:30	PM-O19 <u>A. Ravoiu</u> , L. Benea, <i>Dunarea de Jos University of Galati, Romania</i>	AM-O19 C. Teisanu, <u>O. Gingu</u> , P. Rotaru <i>University of Craiova, Romania</i>
	15:30-15:45	PM-O20 <u>H. Vermesan</u> , A. E. Tiuc, E. I. Elekes <i>Technical University of Cluj-Napoca, Romania</i>	AM-O20 <u>G. Strnad</u> , L. Jakab-Farkas, C. Petrovan, C. I. Bica, D. Portan <i>"Petru Maior" University of Targu Mures, Romania</i>
	15:45-16:00	PM-O21 <u>N. L. Simionescu</u> , L. Benea <i>Dunarea de Jos, University of Galati, Romania</i>	AM-O21 <u>L. Jakab-Farkas</u> , A. Kelemen, A. Z. Fekete, G. Strnad, S. Papp, I. Vida-Simiti, D. Bíró <i>Sapientia University, Romania</i>
	16:00-16:30	Coffee break	
	16:30-17:30	Posters session 1	
	20:00-24:00	Banquet	
Wednesday 20.09	9:00	Conference's Trip	

Plenary lectures

Plenary 1 - Chemical reactions during sintering of PM steel compacts as a function of the alloying route

Herbert Danninger

Technische Universität Wien, Austria

Plenary 2 - Amorphous and nanocrystalline magnetic materials for application

Nicoleta Lupu

National Institute of Research and Development for Technical Physics, Iași, Romania

Plenary 3 - Neutron scattering a powerful tool to investigate materials including in situ and time resolved studies

Olivier Isnard

Institut Néel, CNRS Grenoble, France

Plenary 4 - Ultrathin magnetic thin film architectures with tailored properties for next generation spintronic applications

Coriolan Tiușan

National Center of Scientific Research (CNRS), France and
Technical University of Cluj-Napoca, Romania

Oral presentations

Powder metallurgy I - New Materials and Applications

(Red room) – 14:30-16:45

- K1 Thermomechanical effects caused by martensite formation in powder metallurgy FeMnSiCrNi shape memory alloys**
Leandru-Gheorghe Bujoreanu
"Gheorghe Asachi" Technical University of Iasi, Romania
- PM -01 Investigation & Critical analysis of titanium casting in zircon sand mold for customized implant manufacturing**
S. Randiwe, D. Bhiogade, A. K. Kuthe
RCOEM and VNIT Nagpur, India
- PM-02 Extending Characteristic Polynomial for Characterization of C₂₀ Fullerene Congeners**
L. Jäntschi, S. D. Bolboacă
Iuliu Hatieganu University of Medicine and Pharmacy Cluj-Napoca, Romania
- PM-03 Al₄Cu-SiC Functionally Graded Composites Obtained by Powder Metallurgical Routes**
H. E. Camurlu, M. A. Dere, A. Kati,
Akdeniz University, Turkey
- PM-04 AlCrFeNiMn/TiB₂ high entropy composite processed by mechanical alloying and spark plasma sintering**
G. Popescu, C. A. Popescu, D. Mitrica, V. Soare, M. Branzei, R. Trusca
University POLITEHNICA of Bucharest, Romania
- PM-05 Liquid phase sintering of SmCo₅**
G. Arghir
Technical University of Cluj-Napoca, Romania
- PM-06 Wear and microhardness of some W/Cu functional graded materials obtained by spark plasma sintering**
C. Nicolicescu, V. H. Nicoară, F. Popa, T. F. Marinca
University of Craiova, Romania
- PM-07 Effect of Milling Time on Wear Behaviours of Carbon Nanotubes Reinforced Aluminium Matrix Composites**
M. Yıldırım, D. Özyürek, M. Gürü
Karabuk University, Turkey

Powder metallurgy II - Powder and PM products

(Red room) – 9:00-10:45

- K3 Investigations on Tungsten Inert Gas welded magnesium alloy**
I. Peter
Politecnico di Torino, Italy
- PM-08 Thermal aspects of the hardenability of PM steels**
B. Moon
United Kingdom
- PM-09 New high entropy alloys for medical applications: A comprehensive review**
G. Popescu, B. Ghiban, C. A. Popescu,
University POLITEHNICA of Bucharest, Romania

PM-O10 Magnetic measurement of retained austenite in sintered steels – benefits and limitationsK. Ouda, C. Gierl-Mayer, H. Danninger*Technische Universität Wien, Austria***PM-O11 Samarium-based complex powder fabrication by a liquid phase process**N. Tosa, G. Borodi, L. Barbu-Tudoran, A. M. M. Gherman, A. Falamas*National Institute for Research and Development of Isotopic and Molecular Technologies, Romania***PM-O12 Tribocorrosion Behaviour of Al-B4C Composite Processed by Powder Metallurgy**H. Mindivan*Bilecik Seyh Edebali University, Turkey*

Powder metallurgy III - Advanced materials processing (A)

(Red room) – 11:14-13:00

K5 Electrochemical methods as promising routes for nanostructuring and functionalization of materials and biomaterials

L. Benea

*Dunarea de Jos University of Galati, Romania***PM-O13 The quasi-static compressive behaviour of in-situ foam-filled structures**E. Linul, L. Marsavina, J. Kováčik*Politehnica University of Timisoara, Romania***PM-O14 The influence of hard phase on the magnetic behaviour of hard/soft exchange coupled nanocomposite powders obtained by mechanical milling**R. Hirian, A. Bolinger, O. Isnard, V. Pop*Babes-Bolyai University, Romania***PM-O15 Study on the particle size reduction by milling of quartz sand for magnetic separation**F. Popa, T. F. Marinca, B. V. Neamțu, N. A. Sechel, I. Chicinaș*Technical University of Cluj-Napoca***PM-O16 Atomic force microscopy analyses on metallic thin films for optical MEMS**V. Merie, M. Pustan, C. Bîrleanu, G. Negrea*Technical University of Cluj-Napoca, Romania***PM-O17 Conformational study of C24 cyclic polyynes clusters**L. Jantschi*Technical University of Cluj-Napoca, Romania*

Powder metallurgy IV - Advanced Materials Processing (B)

(Red room) – 14:30-16:00

K7 Hard Magnetic Materials: Present and PerspectivesV. Pop*Babes-Bolyai University, Romania***PM-O18 Effect of cutting parameters on residual stress in hard turning of bearing rings**M. Boy, I. Ciftci*Karabük University, Turkey*

- PM-O19 In vitro experimental research on the use of titanium alloy in medicine. Characterization of titanium alloy biocompatibility and corrosion resistance in simulated physiological solutions**
A. Ravoiu, L. Benea,
Dunarea de Jos, University of Galati, Romania
- PM-O20 Corrosion behavior of plasma nitrided P/M stainless steels**
H. Vermesan, A. E. Tiuc, E. I. Elekes
Technical University of Cluj-Napoca, Romania
- PM-O21 Influence of saliva parameters on electrochemical behavior of 316L stainless steel for orthodontic applications**
N. L. Simionescu, L. Benea
Dunarea de Jos, University of Galati, Romania

Advanced materials I - Functional materials (A)

(Green Room) – 14:30-16:45

- K2 Magnetic properties of rare-earth-iron rich compounds**
E. Burzo
Romanian Academy
- AM-O1 Thermal memory and the role of thermomechanical treatments in memory behaviour of shape memory alloys**
O. Adiguzel
Firat University, Turkey
- AM-O2 Structural, thermal and magnetic characterisation of amorphous FINEMET alloy prepared by mechanical alloying and rapid quenching**
B. V. Neamtu, D. Marincas, T. F. Marinca, G. Ababei, H. F. Chicinas, F. Popa, I. Chicinas, O. Isnard, M. Gabor, N. Lupu
Technical University of Cluj-Napoca, Romania
- AM-O3 Increasing the anti-corrosive properties of 1050 aluminum alloy by electrochemical nanostructuring technique and sealing process**
V. Dumitrascu, L. Benea
Dunarea de Jos University of Galati, Romania
- AM-O4 Microwave processing of powdered metal matrix composite castings**
S. Singh, D. Gupta, V. Jain
The Northcap University, India
- AM-O5 Effects of Co for Mn substitution on the electronic and magnetic properties of the Heusler Mn_{2-x}CoxVAI alloys**
R. Gavrea, M. Coldea, C. Leostean, O. Isnard, V. Pop, D. Benea
Babes-Bolyai University Cluj-Napoca, Romania
- AM-O6 Novel composite for radiation shielding of electronic components in satellites**
C. O. Popa, V. Paşcalău, T. F. Marinca, H. F. Chicinaş, C. Pavel
Technical University of Cluj-Napoca, Romania
- AM-O7 Validation of the macroscopic model developed for the two reactive gas magnetron sputtering process**
A. Z. Fekete, A. Kelemen
Sapientia University, Romania

Advanced materials II - Advanced materials Processing

(Green Room) – 9:00-10:45

- K4 From the Bible (as a book) to the Nano-Bible (as a chip)**
S. Moisa
Ben-Gurion University of the Negev, Beer-Sheva, Israel
- AM-08 Effect of cutting parameters on tool wear in hard turning of AISI 52100 steel**
 M. Boy, N. Yaşar
Karabük University, Turkey
- AM-09 Influence of milling media on the structure and morphology of some hard metal powders**
H. F. Chicinas, A. Cotai, D. O. Jucan, T. F. Marinca, B. V. Neamtu, P. Götze, A. Eckert, C. O. Popa
Technical University of Cluj-Napoca
- AM-010 Optimal Composition of Mixed Material for the Thermoforming Process**
A. Sonsiri, P. P. Rajamangala
University of Technology Krungthep, Thailand
- AM-011 New weldability model based on the welding parameters and hardness profile**
M. Bodea
Technical University of Cluj-Napoca
- AM-012 Influence of grinding speed and balls diameter on the microstructure of a WC-10% wt doped binder**
V. I. Stanciu, V. Vitry, F. Delaunois
University of Mons, Belgium

Advanced materials III - Nanomaterials and Nanotechnologies

(Green Room) – 11:15-13:00

- K6 Spin polarized interface charge transfer in FePt@TiO₂ nanoparticles**
O.Pana
National Institute for Research and Development of Isotopic and Molecular Technologies, Romania
- AM-013 Interlayer exchange coupling in perpendicularly magnetized Pt/Co/Ir/Co/Pt structures**
M.Gabor, T. Petrisor Jr, R. Mos, M. Nasui, C. Tiusan, T.Petrisor
Technical University of Cluj-Napoca, Romania
- AM-014 Iron/iron oxide magnetic composites obtained by mechanosynthesis and reactive spark plasma sintering**
T. F. Marinca, H. F. Chicinas, B. V. Neamtu, F. Popa, N. A. Sechel, I. Chicinas
Technical University of Cluj-Napoca, Romania
- AM-015 Adhesion analysis for niobium nitride thin films deposited by reactive magnetron sputtering**
F. M. Serdean, V. Valentina Merie, G. Negrea, M. Sorin Pustan
Technical University of Cluj-Napoca, Romania
- AM-016 AlxCoCrFeNi High Entropy Alloys for structural applications**
M. Lucaci, M. V. Lungu, E. Enescu, E. Vasile, M. Straticiuc, I. Burducea, V. Tsakiris, D. Talpeanu, N. Stancu, A. Iorga, E. Manta, D. C. Cirstea
National Institute for Research and Development in Electrical Engineering ICPE-CA, Romania

AM-O17 Three-dimensional graphene structures preparation and characterizationC. Baciu*ICPA-CA, Romania*

Advanced materials IV - Functional Materials (B)

(Green Room) – 14:30-16:00

K8 Semiconductor Technology for power management and GaN high-voltage power devicesF. Pop*Dialog Semiconductor, Germany***AM-O18 Green synthesis of reduced graphene oxide (RGNO) / polyvinylchloride (PVC) composites and their structural characterization**F. Mindivan, M. Goktas*Bilecik Seyh Edebali University, Turkey***AM-O19 Research on biocomposite feedstocks preparation and characterization**C. Teisanu, O. Gingu, P. Rotaru*University of Craiova, Romania***AM-O20 Novel SB, AE, and SLA surfaces for dental implants modified at nano scale level with titania nanostructures**

G. Strnad, L. Jakab-Farkas, C. Petrovan, C. I. Bica, D. Portan

*“Petru Maior” University of Tirgu Mures, Romania***AM-O21 Some remarks on the ternary TiAlSiN thin films developed under specific conditions**L. Jakab-Farkas, A. Kelemen, A. Z. Fekete, G. Strnad, S. Papp, I. Vida-Simiti, D. Bíró*Sapientia University, Romania*

Poster Session - Powder metallurgy

PM-P1 The structural changes of polystyrene by thermal degradationC. C. Niculaescu, L. Olar, R. Stefan, M. Todica*“Babes-Bolyai” University, Romania***PM-P2 Reducing earth grounding electrical resistance by using metallurgy industrial waste as backfill materials**P. C. Darab, A. Turcu, C. Pica, S. Pavel, H. Beleiu*Technical University of Cluj-Napoca, Romania***PM-P3 Novel all natural carrier based on core-shell microcapsules for follicular Berberine delivery in acne treatment applications**V. Pascalau, M. L. Moldovan, C. Bogdan, C. A. Iuga, A. M. Salantiu, C. Pavel, R. Stiufiuc, G. Borodi, C. Popa*Technical University of Cluj-Napoca, Romania***PM-P4 Preparation and characterization of core-shell microcapsules based on natural polyelectrolites, pectin and chitosan, with/without bovine serum albumin and the study of BSA gel network influence on the drug encapsulation**C. Pavel, V. Pascalau, C. O. Popa, B. V. Neamtu, H. F. Chicinas*Technical University of Cluj Napoca, Romania*

- PM-P5 **Impact of different materials electrodes in earth grounding systems**
Horia Belei, Sorin Pavel, Pompei-Cosmin Darab
Technical University of Cluj Napoca, Romania
- PM-P6 **Precursor concentration influence on the morphology and antimicrobial activity of silver chloride nanoparticles**
I. Ghiuta, D. Cristea, R. Wenkert, D. Munteanu
Transilvania University of Brasov, Romania
- PM-P7 **Three-Dimensional Graphene Structures Preparation and Characterization**
C. Banciu, A. Bara, M. Lungulescu, V. Marinescu, E. Chitanu, G. Sbarcea
INCDIE ICPE-CA, Romania
- PM-P8 **Helical structure of linear homopolymers by examples**
S. D. Bolboacă, L. Jäntschi
Iuliu Hatieganu University of Medicine and Pharmacy Cluj-Napoca, Romania
- PM-P9 **Preliminary characterization of gold nanoparticles for their use in poly(ethylene) glycol matrix**
O. Stan, M. Todica, S. Razvan, L. Olar, I. Papuc
Babes-Bolyai University, Romania
- PM-P10 **In vitro preliminary studies of corrosion behaviour of sintered titanium in SBF environments**
C. R. Roman, L. A. Sorcoi, F. Popa, T. F. Marinca, M. A. Lazar, M. Tripa
Technical University of Cluj-Napoca, Romania
- PM-P11 **Determining the optimal angle of inclination of the elastic sleeve for metal powder compaction in flexible dies**
D. Noveanu
Technical University of Cluj-Napoca, Romania
- PM-P12 **Effects of Co contents in Fe-Mo-Cr-Co-B-P-Si-Y bulk metallic glasses on glass forming ability**
C. Codrean, D. Buzdugan, V. A. Şerban
Politehnica University Timisoara, Romania
- PM-P13 **The characteristics of complex coatings produced by thermal deposition on liquid wood**
O. Mocăniţa, D. L. Chicet, M. Panţuru, B. Istrate, C. Munteanu
"Gh. Asachi" Technical University of Iasi, Romania
- PM-P14 **Comparative study on structural and magnetic properties of anisotropic Nd-Fe-B multilayer films**
M. Urse, M. Grigoras, N. Lupu, F. Borza, H. Chiriac
National Institute of Research and Development for Technical Physics, Romania
- PM-P15 **Wear Behaviour of Some Materials for Self-Lubricating Bearings**
D. G. Bota
Technical University of Cluj-Napoca, Romania
- PM-P16 **New Hard Metal Matrices for Diamond Drilling Tools with Increased Wear Resistance**
D. G. Bota
Technical University of Cluj-Napoca, Romania
- PM-P17 **Obtaining of Invar type alloys from elemental and prealloyed powders by mechanical alloying and spark plasma sintering**
C. V. Prica
Technical University of Cluj-Napoca, Romania

- PM-P18 **Hollow spherical Cu particles obtained by mechanical ball milling**
C. V. Prica, F. Popa
Technical University of Cluj-Napoca, Romania
- PM-P19 **Research into the warm compaction of metal powders**
R. Muresan
Technical University of Cluj-Napoca, Romania
- PM-P20 **Lanthan substituted nickel ferrite obtained by mechanosynthesis**
T. F. Marinca, I. K. Simon, D. Jucan, H. F. Chicinas, B. V. Neamtu, F. Popa, A. Mesaros, I. Chicinas
Technical University of Cluj-Napoca, Romania
- PM-P21 **Synthesis of W/Cu nanocomposite powders by high energy ball milling process**
 C. Nicolicescu, V. H. Nicoară, F. Popa, T. F. Marinca
University of Craiova, Romania
- PM-P22 **Mechanical and technological properties of sintered Cu70Ni30 compacts**
L. A. Sorcoi
Technical University of Cluj-Napoca, Romania
- PM-P23 **Reactive mechanical milling of Fe-Ni-Fe₂O₃ mixtures**
T. F. Marinca, H. F. Chicinas, B. V. Neamtu, F. Popa, N. A. Seche, I. Chicinas
Technical University of Cluj-Napoca, Romania
- PM-P24 **The influence of the polystyrene on the bricks porosity**
N. Cobarzan, A. Balog, H. Constantinescu, Gy. Thalmaier
Technical University of Cluj-Napoca, Romania
- PM-P25 **The uses of tuff ash as additive in ceramic industry**
 A. Balog, N. Cobarzan, H. Constantinescu, Gy. Thalmaier
Technical University of Cluj-Napoca, Romania
- PM-P26 **High coercivity of spark plasma sintered Ce-Fe-B magnets with Ce-rich intergranular phase**
M. Grigoras, M. Lostun, G. Stoian, L. Budeanu, A. Damian, H. Chiriac, N. Lupu
National Institute of Research and Development for Technical Physics, Romania
- PM-P27 **Nanocrystalline powder manufacturing via splat quenching and milling**
D. Cristea, T. Bedo, A. Gatto, E. Bassoli, S. I. Munteanu, M. A. Pop, C. Gabor, D. Munteanu
Transilvania University of Brasov, Romania
- PM-P28 **Synthesis and characterization of various surfactants stabilized CuO powder**
A. Matei, V. Țucureanu, M. Popescu, C. Romanițan, B. Bită, I. Cernica
IMT-Bucharest, Romania
- PM-P29 **Porous Magnesium Obtained by Space Holder Method**
N. A. Sechel, D. Luca, B. V. Neamtu, Gy. Thalmaier, I. Vida-Simiti
Technical University of Cluj-Napoca, Romania
- PM-P30 **Synthesis and characterisation of Al₂O₃/Ni - type composites obtained by spark plasma sintering**
C. Voicu, F. Popa, T. F. Marinca, B. V. Neamțu, I. Chicinaș
Technical University of Cluj Napoca, Romania
- PM-P31 **Study on the use of Selective Laser Sintering for the Additive Manufacturing of cemented carbide tools**
O. D. Jucan, H. F. Chicinas, H. Chezán, R. Fadalean
Technical University of Cluj Napoca, Romania

- PM-P32 **About the structure of heavy alloys for special use**
I. Carceanu
Politehnica University of Bucharest, Romania
- PM-P33 **Corrosion behavior of CoCr dental alloys processed by alternative CAD/CAM technologies in artificial saliva solutions**
C. E. Savencu, L. V. Costea, M. L. Dan, L. Porojan,
University of Medicine and Pharmacy, Romania
- PM-P34 **Effects of thickness and surface processing on the translucency of pressed dental ceramic**
R. D. Vasiliu, R. Lazau, C. Savencu, L. Porojan
Faculty of Dentistry 'V. Babes', Romania
- PM-P35 **Synthesis and characterization of CeO₂ nanoparticles for biochemistry applications**
 L. Andrada, G. Alba, N. Chamorro, C. Pop, R. Susagna, L. L. Giurgiulescu
Technical University of Cluj Napoca, Romania
- PM-P36 **Tensile stress and thermal analysis of piston surface with B₂O₃ and 2MgO-2Al₂O₃-5SiO₂ coatings to eliminate malfunctions in diesel engine pistons**
E. Vural
Muş Alparslan Üniversitesi, Turkey
- PM-P37 **Rietveld refinement of Nitinol powder prepared by mechanical alloying method**
E. Sakher, M. Benchiheub, N. Loudjani
University Badji Mokhtar, Algeria
- PM-P38 **Investigation of the Corrosion Properties of High-Energy Ball Milled Ti6Al4V Alloy**
İ. Şimşek, D. Özyürek
Karabuk University, Turkey
- PM-P39 **The Effect of Iron Addition to Nickel-Aluminum Bronze Produced by Mechanical Alloying on the Wear Behaviors**
D. Simsek, N. Y. Colak, D. Ozyurek
Bitlis Eren University, Turkey
- PM-P40 **Analysis of plasma jet depositions on a C45 steel used in crankshaft manufacturing**
 G. Mahu, C. Munteanu, B. Istrate, M. Benchea
"Gheorghe Asachi" Technical University of Iasi, Romania
- PM-P41 **An investigation about mechanical activation of CAS ceramics**
Z. Y. Merkit, N. Toplan, H.Ö. Toplan
Sakarya University, Turkey
- PM-P42 **Corrosion resistant laser cladded coatings obtained using Ni bases self-fluxing powders reinforced with ceramic particles**
I. Hulka, D. Uțu, V. A. Șerban, A. Pascu, I. Roata
Politehnica University Timisoara, Romania
- PM-P43 **Microstructural characterization and mechanical behavior of MCrAlY laser cladded coatings**
A. Pascu, E. M. Stanciu, I. C. Roata, I. Hulka, M. H. Tierean
Transilvania University of Brasov, Romania

- PM-P44 **Preparation of porous silica aerogel by ambient pressure drying process using perlite**
N. Sarac
Powder technology, Turkey
- PM-P45 **Study about the effect of Cr alloying element on the final properties of WCu system**
I. Pascu, S. Gheorghe, D. Tarata, C. Nicolicescu,
University of Craiova, Romania
- PM-P46 **Composite material obtained by powder metallurgy with applications in the automotive industry**
I. Pascu, S. Gheorghe, D. Tarata, P. Rotaru
University of Craiova, Romania

Poster Session – Advanced Materials

- AM-P1 **Fe₂O₃ hematite quantity increases the in quartz sand by heat treatments**
A. Cotai, T. F. Marinca, F. Popa
Technical University of Cluj-Napoca, Romania
- AM-P2 **A comparative study of the Co-based amorphous alloy prepared by mechanical alloying and rapid quenching**
B. V. Neamtu, T. F. Marinca, H. F. Chicinaș, F. Popa, I. Chicinaș, I. Isnard, G. Ababei, M. Gabor
Technical University of Cluj-Napoca, Romania
- AM-P3 **High-pressure hydrothermal synthesis and morfo-structural characterisation of CuMnO₂ type materials**
M. Poienar, P. Sfirloaga, A. Lungu, P. Vlazan
INCEMC, Romania
- AM-P4 **Thermo-mechanical analysis of deformation behavior in dieless drawing of metallic materials**
M. Pop, D. Frunza, A. Neag, F. Popa
Technical University of Cluj-Napoca, Romania
- AM-P5 **Influence of the preparation conditions on the microstructure and magnetic properties of the chemically synthesized Co-Fe-B nanoparticles**
G. Ababei, M. Gaburici, L. C. Budeanu, M. Grigoras, M. Porcescu, N. Lupu, H. Chiriac
National Institute of Research Development for Technical Physics, Romania
- AM-P6 **Morphology and mechanical characteristics of some TBCs used for internal combustion engine valves**
M. Panțuru, D. L. Chicet, O. Mocănița, M. Benchea, C. Munteanu
"Gh. Asachi" Technical University of Iasi, Romania
- AM-P7 **Applications of ceramic coatings as TBCs on the internal combustion engine valves**
M. Panțuru, D. L. Chicet, Ș. Lupescu, B. Istrate, C. Munteanu
"Gh. Asachi" Technical University of Iasi, Romania
- AM-P8 **Studies on the carbon diffusion in the elaboration process of sintered steels by carbsint method**
M. Trotea, M. Mangra, C. Nicolicescu, I. Stefan
University of Craiova, Romania

- AM-P9 **Hydroxyapatite and silver microcomposites with improved mechanical characteristics**
A. Maidaniuc, M. Miculescu, S. I. Voicu, R. C. Ciocoiu, A. C. Mocanu, F. Miculescu
Politehnica University of Bucharest, Romania
- AM-P10 **The properties of bimetallic multilayer (C45 and S235JR) and the multilayer steel made by forging**
I. M. Sas-Boca, D. Frunza, D. A. Ilutiu-Varvara, I. Toma
Technical University of Cluj-Napoca, Romania
- AM-P11 **Influence of the palladium coating on the hydrogen embrittlement of Ni61Nb33Zr6 amorphous tapes obtained by melt spinning**
Gy. Thalmaier, N. Sechel, I. Vida-Simiti
Technical University of Cluj Napoca, Romania
- AM-P12 **Steel foams obtained by the coated space holder method**
Gy. Thalmaier, N. Sechel, I. Vida-Simiti
Technical University of Cluj Napoca, Romania
- AM-P13 **Stainless steel welding according TUV standards for small diameters**
T. A. Rusu
Technical University of Cluj Napoca, Romania
- AM-P14 **Stainless steel welding according TUV standards for large diameters**
T. A. Rusu
Technical University of Cluj Napoca, Romania
- AM-P15 **Mechanic alloyed materials with the purpose of rising powder mixes homogeneity**
E. Binchiciu, T. Fleser, D. Iovanas,
Sudotim AS SRL, Romania
- AM-P16 **Marine structures corrosion and improved methods of protection**
L. Mardare, L. Benea
Dunarea de Jos University of Galati, Romania
- AM-P17 **Study regarding the fatigue contact of Astalloy/NC 100.24 bi layer materials**
G. Batin, L. Brandusan, D. Marin, G. Arghir
Technical University of Cluj Napoca, Romania
- AM-P18 **A study of the ferromagnetic microwires retention in cellulose matrix in the security papers**
M. M. Codescu, W. Kappel, E. Manta, E. A. Patroi, R. Erdei, V. Midoni, I. Zăpodeanu, M. Burlacu
R&D National Institute for Electrical Engineering ICPE-CA, Romania
- AM-P19 **Vacuum oven usage as an innovative remelting process for thermally sprayed self-fluxing alloys**
N. Kazamer, P. C.Valean, D. T. Pascal, R. Muntean, G. Mărginean, V. A. Șerban
University Politehnica of Timișoara, Romania
- AM-P20 **Functionalized multi-walled carbon nanotubes respiratory toxicity assessment study**
F. Turcu, A. Vulpoi, M. Potara, K. Magyary, S. Simon
Institute of Interdisciplinary Research in Bio-Nano-Sciences/ "Babes-Bolyai" University, Romania

- AM-P21 **Characteristics of thermally sprayed NiCrBSi coating before and after electromagnetic induction remelting process**
P. C. Valean, D. T. Pascal, R. Muntean, N. Kazamer, G. Mărginean, V. A. Șerban
Polytechnic University of Timisoara, Romania
- AM-P22 **Synthesis and surface modification with gold nanoparticles of yellow phosphor based on yttrium**
V. Țucureanu, A. Matei, M. C. Popescu, I. Mihalache, A. Boldeiu, C. Romanițan, A. Avram, M. Avram, D. Munteanu
IMT-Bucharest, Romania
- AM-P23 **Milling and vial speed influence on the higher manganese silicide formation and phase stability**
V. Cebotari, F. Popa, T. F. Marinca, I. Chicinaș
Technical University of Cluj Napoca, Romania
- AM-P24 **Ultrasounds assisted co-precipitation synthesis and photocatalytic activity of crednerite CuMnO₂**
A. Lungu, P. Vlazan, D. Malaescu, I. Malaescu, M. Lungu, P. Sfirloaga, R. Banica, M. Poienar
INCEMC, Romania
- AM-P25 **Bi, Zr doping as a tool for tuning the optical properties of NaNbO₃ thin films**
F. S. Rus, D. Ursu, P. Sfirloaga, M. Poienar, S. Novaconi, P. Vlazan
INCEMC, Romania
- AM-P26 **Structural and optical characterization of titanium nitride thin films deposited by magnetron sputtering**
V. Merie, A. Molea, N. V. Burnete, G. Negrea
Technical University of Cluj Napoca, Romania
- AM-P27 **Green Synthesis of Silver Chloride Nanoparticles using Rhodotorula Muciluginosa**
I. Ghiuta, J. Kost, R. Wenkert, D. Munteanu
Transilvania University of Brasov, Romania
- AM-P28 **Mössbauer spectroscopic analysis of (Nd,Pr,Dy)₂(Fe,Co,Ga)₁₄B/ α -Fe permanent magnetic nanocomposites**
B. Cekić, V. Ivanovski, M. M. Codescu, A. Umićević, K. Ćirić, E. Manta
R&D National Institute for Electrical Engineering ICPE-CA Bucharest, Romania
- AM-P29 **Study of double wet chemical etching of AZO thin films**
E. Chitanu, M. M. Codescu, E. Fortunato
INCDIE ICPE-CA, Romania
- AM-P30 **CoPt/Fe₃O₄ hard/soft exchange coupled magnetic nanocomposite**
M. S. Gutoiu, I. O. Pana, M. L. Soran, A. Stegarescu, C. Leostean, M. Stefan, S. Macavei, L. Barbu-Tudoran
National Institute for Research and Development of Isotopic and Molecular Technologies, Romania
- AM-P31 **Synthesis and Characterisation of Fe₃O₄@ZnS:Mn core-shell nanoparticles**
M. Stefan, O. Pana, C. Leostean, D. Toloman, A. Popa, S. Gutoiu, S. Macavei, M. Suciuc, T. D. Silipas
National Institute for Research and Development of Isotopic and Molecular Technologies, Romania

- AM-P32 **Passivation and electrochemical behavior of 304L stainless steel in 3% NaCl solution**
E. I. Elekes, H. Vermeşan, I. Vida-Simiti, A. E. Tiuc, N. Baroti
Technical University of Cluj-Napoca, Romania
- AM-P33 **The effects of CdS buffer layer onto structural, morphological and optical properties of pulsed laser ablated Cu₂ZnSnS₄ thin films grown on Si(100) substrate**
S. Macavei, O. Pana, D. Toloman, M. Stefan, A. Popa, S. Gutoiu, C. Leostean, C. Grosan, L. Barbu-Tudoran
National Institute for Research and Development of Isotopic and Molecular Technologies, Romania
- AM-P34 **The effect of iron content on morphology of doped mullite precursor powders**
S. Ilic, S. Zec, B. Babic, J. Ruzic, M. Ivanovic, B. Matovic
Institute of Nuclear Sciences Vinca, Serbia
- AM-P35 **Electronic transport properties and crystallization kinetics of Fe₇₈Si₉B₁₃ metallic glass**
A. Touares, M.L. Soltani, J-G Gasser
LPS, Dpt of physics-Annaba University, Algeria
- AM-P36 **The influence of thermodynamic parameters of the alkaline activator on the mechanical properties of geopolymers**
M. Ivanovic, S. Nenadovic, L. Kljajevic, I. Radovic, S. Markovic, I. Boskovic, M. Vukcevic
Institute of Nuclear Sciences Vinca, University of Belgrade, Serbia
- AM-P37 **SEM and EDS investigation of Oxides layers grown in supercritical water on materials enhanced processed for IV Generation reactors**
M. Mihalache, M. Fulger, I. Dumitrescu
Institute for Nuclear Research Pitesti, Romania
- AM-P38 **Comparative study of structural and optical properties of zirconium-doped indium oxide synthesized by solid state reactions and sol-gel technique**
L. Bizo, K. Magyari, J. D. Chelaru, O. Nemes
Babeş-Bolyai University, Romania/ Technical University of Cluj-Napoca, Romania
- AM-P39 **Development and characterization of copper-SiC-Gr and copper -Al₂O₃ composites**
M. Ciurdas, R. E. Dumitrescu
Universitatea Politehnica Bucuresti, Romania
- AM-P40 **The mechanism of precipitation hardening during the aging and overaging of Maraging 300 steel**
I. Carceanu, I. Nedelcu, R. Bololoi, N. Constantin, T. V. Tiganescu
Politehnica University of Bucharest, Romania
- AM-P41 **Consideration concerning the manufacturing of some complex materials devoted to the military industry**
I. Carceanu, I. Nedelcu, N. Constantin, R. Bololoi, T. V. Tiganescu
Politehnica University of Bucharest, Romania
- AM-P42 **Cold Spray - a new manufacturing technology for achievement of the functional coatings from micropowders**
A. O. Mateescu, G. Mateescu, A. Balan, C. Ceaus, I. Stamatina, C. Samoila, D. Cristea, D. Ursutiu
Horia Hulubei National Institute of Physics and Nuclear Engineering, Romania
- AM-P43 **Kinetics of aluminide coatings deposited on AISI D2 steel**
S. Sen, E. Abakay, E. Yilmaz, U. Sen
Sakarya University, Romania



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