



AMS'13

Advanced Materials and Structures

24-25 October 2013, Timișoara, Romania

- *Conference Program* -

Wednesday, October 23th

17.00 – 21.00	Registration of participants and guest	Casa POLITEHNICII 2 (University guesthouse) Blv. Mihai Eminescu 2
19.00 – 21.00	Welcome cocktail	

Thursday, October 24th

08.00 – 09.00	Registration of participants and guest	Senate Auditorium of POLITEHNICA University, P-ta Victoriei 2
09.00 – 10.30	Opening of AMS'13, Plenary session	Senate Auditorium of POLITEHNICA University, P-ta Victoriei 2
10.30 – 10.45	Coffee break	
10.45 - 12.00	Plenary session	
12.00 – 13.00	Lunch	Casa POLITEHNICII 1 (University guesthouse) Bd. Regele Ferdinand, No.2
14.30 – 17.30	Technical sessions	Faculty of Mechanical Engineering, Blv. M. Viteazul nr. 1
18.00 – 21.00	Conference Gala Dinner	Recas Wine Cellar

Friday, October 25th

09.00 – 11.00	Poster session	Hall of Faculty of Mechanical Engineering, Blv. M. Viteazul nr. 1
11.00 – 12.00	Visit of ICER Institute of Politehnica "University" Timisoara	Str. Gavril Muzicescu 138
12.00 – 13.00	Lunch	Casa POLITEHNICII 1 (University guesthouse) Bd. Regele Ferdinand, No.2

Thursday, 24th October, 9.00-12.00

PLENARY SESSION – Oral

Senate Auditorium of POLITEHNICA University

Chairman:

Prof.dr.ing. Viorel-Aurel Serban

“POLITEHNICA” University of Timisoara, Romania

Heat transfer in composites subjected to temperature variations

T. Sadowski, P. Golewski

(Lublin University of Technology, Poland)

Soft magnetic Fe-based BMGs with compressive plastic deformation

M. Stoica, J. Bednarčik, G. Vaughan, I. Kaban, J. Eckert

(Leibniz Institute for Solid State and Materials Research Dresden, Germany)

Titanium-based amorphous alloys as prospective biomaterials

M. Calin, N. Zheng, A. Helth, M. Bönisch, S. Abdi, A. Gebert, J. Eckert

(Leibniz Institute for Solid State and Materials Research Dresden, Germany)

Study of microstructural evolutions of CuAlBe shape memory alloy under superelastic and plastic solicitations by neutron diffraction

M. Dubois, M-H. Mathon, V. Klosek, A. Addad, A. Lodini

(LISM, Université de Reims Champagne Ardenne/ Laboratoire Léon Brillouin/Université Lille,France/)

Structural Characteristics of Ductile Iron at Different Rare Earth Contribution from a Magnesium Ferrosilicon Alloy

V Uta, I. Riposan

(University POLITEHNICA Bucharest, Romania)

Thursday, 24th October, 14.30 – 17.30

SESSION 1 – Oral

Material characterization (Testing, Structural investigation, Numeric modeling)

Room 150 Mechanical Engineering Faculty

Chairman:

Prof.dr.ing. Ioan Vida-Simiti

Technical University of Cluj-Napoca, Romania

Mechanical behavior of

Fe₆₀Co₁₄Ga₂P₁₀B₅Si₃Al₃C₃ bulk metallic glass

D. Buzdugan, C. Codrean, V.A. Șerban, M. Vodă, D. Tosa

(POLITEHNICA University of Timisoara, Romania)

Wear particle analysis, the result of tribological phenomena of biomaterials couplings-ultra high molecular weight polyethylene and magnesium aluminosilicate ceramic

C. Stamate, C. Munteanu, M. Crețan Stamate

(Technical University “Gheorghe Asachi”, Iasi, Romania/ University of Medicine and Pharmacy “Gr. T. Popa”, Iasi, Romania)

The synthesis and characterization of PVA-ketoprofen cryogel, biomaterial with extended drug release properties for cartilage replacement

M. Crețan Stamate, C. Stamate

(University of Medicine and Pharmacy “Gr. T. Popa” Iasi, Romania/ Technical University “Gheorghe Asachi” Iasi, Romania)

Computation of HAZ hardness for low alloyed welded steels using five-parameter logistic function

M. Bodea, R. Mureșan

(Technical University of Cluj, Romania)

Corrosion behaviour of Zr-based bulk metallic glasses

P.F. Gostin, M. Uhlemann, J. Eckert, A. Gebert

(Lebniz-Institute for Solid State and Materials Research IFW Dresden, Germany)

Crystalization of Ni-Si-B and Ni-Cr-Fe-Si-B amorphous alloys

C. Codrean, D. Buzdugan, R. Lazar, V.A. Serban, I. Mitelea

(POLITEHNICA University of Timisoara, Romania)

Metallic biomaterials processing technologies in order to obtain a new design for a hip prosthesis femoral components

I. Antoniac, A. Blajan, M. Niculescu

(University POLITEHNICA Bucharest, Romania)

Sample preparation and HRTM investigation techniques of Ti based, Ga containig, amorphous alloys

C.Locovei, A. Raduta, M. Nicoara

(POLITEHNICA University of Timisoara, Romania)

An evaluation of Sn-Cu-Ga and Sn-Cu-Ag solder alloys for applications within the electronics industry

G. Melcioiu, V.A. Șerban, G. Wilcox, M. Ashworth, C. Codrean, M. Liță

(POLITEHNICA University of Timisoara, Romania/, Loughborough University, United Kingdom)

SESSION 2 – Oral

Engineering Materials (Metallic alloys, Surface engineering, Processing, amorphous and composite materials)

Room 105 SPM Mechanical Engineering Faculty

Chairman:

Prof.dr.ing. Mircea Horia Țierean
Transilvania University of Brasov, Romania

Assessment of the hermeticity of different low-temperature LTCC-Glass bonding techniques

F. Vecchio, T. Maeder, P. Ryser
(École Polytechnique Fédérale de Lausanne, Switzerland)

Thermal simulation and optimization of a LTCC based SnO₂ gas sensor

G. Farine, H. Birol, T. Maeder, P. Ryser
(École Polytechnique Fédérale de Lausanne, Switzerland)

Fabrication and test of high-temperature ceramic transformer

C. Slater, T. Maeder, P. Ryser
(École Polytechnique Fédérale de Lausanne, Switzerland)

Effects of SiC proportion and artificial aging parameters on microstructure and hardness of Al–Cu/SiC composites

I.N. Popescu, R. Vidu, V. Bratu, A.B. Olei, D.N. Ungureanu, F.V. Anghelina
(VALAHIA University of Târgoviște, Romania/ University of California, USA)

Densification by sintering process of Cu-Fe₃O₄ compact from nanometric powders

A. Predescu, L. Vladutiu, E. Matei, A. Predescu, A. Berbecaru
(University POLITEHNICA of Bucharest, Romania)

Aluminium high speed drilling - some technological aspects

E. Pamintas, C.G. Turc, F.V. Banciu
(POLITEHNICA University of Timisoara, Romania)

Integration of CAD CAM techniques in the development of an injection mould for automotive parts

A. Adam, C. Cosma, A.I. Dume, S. Jadaneantu, A. Pop
(POLITEHNICA University of Timisoara, Romania)

Preparation and characterization of amorphous soft magnetic FeSiB powders and spark plasma sintered compacts

B. V. Neamțu, T. F. Marinca, I. Chicinaș, F. Popa
(Technical University of Cluj-Napoca)

Composite powder and compacts of iron/iron oxide type produced by mechanosynthesis and reactive sintering

T.F. Marinca, B.V. Neamțu, F. Popa, I. Chicinaș
(Technical University of Cluj-Napoca)

Friday, 25th October, 9.00 – 11.00

POSTER SESSION

Hall of Mechanical Engineering Faculty

Chairman:

Prof.dr.ing. Eugen Pamintas
POLITEHNICA University of Timisoara, Romania

P01 - Joint quality assessment of three different laser welded dental alloys

L. Ardelean, L. Reclaru, C. Bortun, L.C. Rusu
(University of Medicine and Pharmacy Timisoara, Romania/ PX Holding SA Switzerland)

P02 - Welding of AA2124/SiC/25p-T4 by FSW at high welding speed and monitoring the process by real-time control of infrared thermography and energy consumption

M. Pop-Calimanu, R. Cojocaru, T. Fleser
(POLITEHNICA University of Timisoara, Romania/ National Research and Development Institute for Welding and Material Testing – ISIM Timișoara)

P03 - The Influence of Sulphur and Oxygen Additions in Mg-treated Iron on the Cooling Curves Parameters

D. E. Anca, E. Panciu, M. Chisamera
(POLITEHNICA University of Bucharest)

P04 - Influence of Cooling Rate on the Structural Characteristics of Ca and Rare Earth Inoculated, Low-S Grey Cast Iron

L.M. Harcea, I. Riposan
(POLITEHNICA University of Bucharest)

P05 - Open cell Al-Si foams by a sintering and dissolution process

G. Gherasim, G. Thalmaier, N. Sechel, F. Cziple, I. Vida-Simiti
(Technical University of Cluj-Napoca, Romania)

P06 - Researches Regarding the Improvement of the Steel Quality

A. Socalici, E. Popa, T. Heput, F. Dragoi
(POLITEHNICA University of Timisoara, Romania)

P07 - Research on Increasing the Nitrogen Removal Efficiency by Changing the Secondary Treatment Parameters

E. Ardelean, M. Ardelean, T. Heput, F. Drăgoi
(POLITEHNICA University of Timisoara, Romania)

P08 - Properties and microstructure of HVOF thermally sprayed carbide based coatings

I. Hulka, D. Utu, V.A. Serban
(POLITEHNICA University of Timisoara, Romania)

P09 - Research about relation between the microstructures and mechanical properties of metal coating layers

A. Oláh, M.H. Țierean
(Transilvania University of Brasov, Romania)

P10 - The effect of laser shock processing on corrosion resistance of stainless steel AISI 316 L

I.B. Roman, M.H. Țierean, L.S. Baltés, J. M. Rosca
(Transilvania University of Brasov, Romania/ Las Palmas de Gran Canaria University, Spain)

P11 - Determination of flexural properties of rigid PUR foams using Digital Image Correlat

T. Voiconi, E. Linul, L. Marșavina, T. Sadowski, M. Kneć
(POLITEHNICA University of Timisoara, Romania / Lublin University of Technology Lublin/Poland)

P12 - Using numerical simulation in cyclic extrusion forming processes

I. Popa
(Transilvania University of Brasov, Romania)

P13 - The effect of Mo and Al on the corrosion behavior of titanium and some of its alloys for biomedical applications

J.M. Rosca, L.S. Baltés, M.H. Țierean
(Las Palmas de Gran Canaria University, Spain/ Transilvania University of Brasov, Romania)

P14 - Influence of the electric field voltage on the microhardness of the layers coated by thermal spraying

I.C. Roata, A. Pascu, E.M. Stanciu
(Transilvania University of Brasov, Romania/SC Optoelectronica 2001 SA, Romania)

P15 - Damage Detection in Structures Welded with Flux Cored Wire Using Vibration Testing

A. Tocarciuc, L. Bereteu, G. Drăgănescu
(POLITEHNICA University of Timisoara, Romania)

P16 - Measurement of Young's Modulus and Shear Modulus of some Structures Welded Using Flux Cored Wire by Vibration Tests

L. Bereteu, M. Vodă, G. Draganescu
(POLITEHNICA University of Timisoara, Romania)

P17 - Research on Microstructure and Properties of the Active Surface of Bimetallic Tools for Plastic Deformation at Hot or Cold

M.A. Luca, T. Pisu Machedon
(Transilvania University of Brasov, Romania)

P18 - An axiomatic design view on part Orientation schemes

F.V. Banciu, G. Draghici, E. Pamintas
(POLITEHNICA University of Timisoara, Romania)

P19 - Experimental and numerical investigations of TBC behaviors after aging, subjected to tension and bending

T. Sadowski, P. Golewski
(Lublin University of Technology Lublin/Poland)

P20 - Description of degradation process of rubberized lean concrete

T. Sadowski, D. Pietras
(Lublin University of Technology Lublin/Poland)

P21 - The influence of the sintering temperature on the wear testing for some steels samples obtained by powder metallurgy

B.A. Olei, O. Gingu, I.N. Popescu
(University of Craiova, Romania/ VALAHIA University of Târgoviște, Romania)

P22 - Wear behaviour of New CoCrMoTi Dental Alloys

N. Ghiban, A. Ghiban, B. Ghiban, C.M. Borțun
(University Politehnica Bucharest, Romania/„Victor Babeș” Medicine and Pharmacy University, Timișoara, Romania)

P23 - A study on metal-ceramic thermal expansion compatibility

M. Miculescu, M. Branzei, F. Miculescu, M. Bane
(University Politehnica Bucharest, Romania)

P24 - Implant surface finishing influence on tissue-implant anchoring

F. Miculescu, L.Toma Ciocan, M. Miculescu, M. Bane, M. Brânzei
(University Politehnica Bucharest, Romania/
University for Medicine and Pharmacy "Carol Davila" from Bucharest)

P25 - Determination of Mechanical Properties of Chondrocytes in Articular Cartilage using Atomic Force Microscopy

C. Florea, A. Jakorinne, M. Lammi, A. Davidescu, R.K. Korhonen
(POLITEHNICA University of Timisoara, Romania /
University of Eastern Finland)

P26 - Correlation between Microstructure and Magnetic Properties on MnZn Ferrite with Bi₂O₃ Increasing Addition

I. Cristea, M. Brânzei, I. Ciucă, A. Bibiș, M. Feder
(University Politehnica Bucharest, Romania)

P27 - Mechanical Effects of Simulated Pressure and Temperature Conditions on Porcelain Dental Bridges

M. Tarcolea, D. Vlasceanu, M.C. Cotrut, M.D. Vranceanu, R.M. Comaneanu
(University Politehnica Bucharest, Romania/
University TITU MAIORESCU, Bucharest, Romania)

P28 - Stainless Steel Brackets: In Vitro Corrosion Behaviour And Mechanical Debonding Evaluation

C.M. Cotruț, M. Târcolea, M.D. Vrânceanu, A.I. Gherghilescu, F. Baci, I.C. Ionescu
(University Politehnica Bucharest, Romania/ UMF Carol Davila Bucharest, Romania)

P29 - Edge fillet laser welding of AISI 304 stainless steel

E.M. Stanciu, A. Pascu, I.C. Roata
(SC Optoelectronica 2001 SA, Romania/
Transilvania University of Brasov, Romania)

P30 - Influence of the Si on the high temperature oxidation behaviour of NiCrBSi-Coatings

C. Struebbe, G. Marginean, V.A. Serban
(POLITEHNICA University of Timisoara, Romania /
Westphalian University of Applied Sciences Gelsenkirchen, Germany)

P31 - Influence of milling time on the homogeneity of the Al₂O₃/Ni composite powders obtained by mechanical milling

C. Voicu, F. Popa, P.Pascuta, I. Chicinaș
(Technical University of Cluj-Napoca, Romania)

P32 - Synthesis of the nanocrystalline/nanosized mixed nickel-manganese ferrites by ceramic method and mechanical milling

I. Chicinaș, T.F. Marinca, B.V. Neamțu, F. Popa, V. Pop
(Technical University of Cluj-Napoca, Romania)

P33 - Synthesis of the Fe-10%Si nanocrystalline powder by mechanical alloying

C. D. Stanciu, T.F. Marinca, I. Chicinaș, O. Isnard
(Technical University of Cluj-Napoca, Romania)

P34 - The influence of processing technologies of dental alloys on the microstructure and surface of metallic structure in the case of metal-ceramic prosthesis

I. Antoniac, A. Robu, F. Miculescu, D. Gheorghie
(University Politehnica Bucharest, Romania)

P35 - Experimental research on modern methods of welding pipelines using basic materials X60 and X70

C.M. Hanea, R. Iovanas, I.C. Roata, A. Pascu
(Transilvania University of Brasov, Romania)

P36 - Smart mobile workstation used to transmit data for non-destructive testing of pipelines welded joints

C.M. Hanea, R. Iovanas, A. Pascu, I.C. Roata
(Transilvania University of Brasov, Romania)

P37 - Micro and nanostructures of ultrarapidly cooling of Ti-Zr alloys

A. Raduta, M. Nicoara, C. Locovei
(POLITEHNICA University of Timisoara, Romania)

P38 - Optimizing the Parameters of Reactive Sintering for In-situ Fabrication of Al-Al₂O₃ Composites

M. Nicoara, A. Raduta, C. Locovei, C. Opris, R. Vasii, Gh.T. Surdanu
(POLITEHNICA University of Timisoara, Romania/TEHNOMAG CUG, Cluj-Napoca Romania)

P39 - About Replacement of Nickel as Amorphization Element for Fabrication of Ultra-Rapidly Solidified Zr-Ti Alloys

A. Raduta, M. Nicoara, C. Locovei, M. Stoica, J. Eckert
(POLITEHNICA University of Timisoara, Romania)

P40 - Nodular inhomogeneous graphitization - determining factor of fatigue failure of a crankshaft

M. Liță, C. Opris
(POLITEHNICA University of Timisoara, Romania)