Conference Program ICNcT 2013, Sibiu, ROMANIA



Conference Program ICNcT 2013 Sibiu 2013

ABOUT THE CONFERENCE

The Academy for Technical Sciences of Romania, the Romanian Association for Nonconventional Technologies – ARTN, "Lucian Blaga" University of Sibiu, Polytechnic University Bucharest, and "Transylvania" University Brasov. With the support of the Ministry of National Education, have the honour to organize in Sibiu during the 12th – 15th of June 2013, *The International Conference of Nonconventional Technologies - ICNcT 2013*.

The conference is part of the most representative global scientific manifestations' gallery of its kind and has a 42 year old tradition in the scientific world. The 2013 16th edition subscribes to the current context in which *nanotechnologies* are the future of the planet and their importance in the economic development of regions is heavily considered.

Under the conditions in which states, governments, developers and investors from different fields seek the most efficient strategies for reducing costs and energy consumption, field researches, acknowledged and patented inventions, the results of the research centres and institutions in the field of non-conventional technologies become sure solutions.

An added value is given to the academic event by co-opting in the international scientific committee certain remarkable personalities from the field of non-conventional technologies and, organizing the conference in Sibiu, the European Capital of Culture in 2007, will offer guests and participants alike the opportunity to spend a few unforgettable days in the beautiful burg.

The papers presented during the Conference will be published in *The Non-Conventional Technologies Review*, scientific publication established in 1997 with quarterly issuing, B+ Review, indexed in three international data bases: Copernicus, ProQuest and under indexation in two more international data bases.

CONFERENCE TOPICS

- Basic physical phenomena and processes of the nonconventional processing procedures;
- Machineries and equipment for non-conventional processing;
- Experimental Research and Nonconventional Processing Technologies
- Nonconventional technologies management and other nonconventional processes;

CONFERENCE CHAIRS

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Professor Idan BUNDREA	Romania
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	I
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$International\ Conference\ of\ Nonconventional\ Technologies\quad ICNcT\ 2013$ $The\ 16^{th}\ Edition\ ,\ 12\text{-}15\ of\ June\ 2013\ ,\ Sibiu\ ,\ ROMANIA$

Professor Sabahudin Jašarević Professor Sabahudin Ekinovik Professor Safet Brdarević	University of Zenica, Bosnia and Herzegovina
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CONFERENCE PROGRAMME

Wednesday, 12th of June		
18:00- 21:00	Registration	Location: Room IM 100, 4, Emil Cioran Street
19:00	Welcome reception	Location: University Canteen. 31, Victoriei Street
	Thursday, 13th of Ju	ine
8:00-12:00	Registration	Location: University Library, Aula Magna, 4, Lucian Blaga Street
9:00-9:55	Opening ceremony	Chair: Liviu Roşca, dean, Faculty of Engineering, "Lucian Blaga" University of Sibiu Location: University Library, Aula Magna, 4, Lucian Blaga Street
Welcome sp	eech presented by the University Boa	rd and Guests
10:00- 11:45	Reynote speeches Professor Constantin Oprean,	Location: University Library, Aula Magna, 4, Lucian Blaga Street The Eco-Bio-Economy in
	President of "Lucian Blaga"	the Knowledge-Based
	University of Sibiu, Romania Professor Navalusic Slobodan, Institute for Production Engineering, Faculty of Technical Sciences, Novi Sad, Serbia	Program systems with haptic interaction
	Professor Nicolae Bâlc, Technical University of Cluj-Napoca, Romania	Selective Laser Melting Research and Applications
	Professor Moussa Karama, Ecole Nationale d'Ingénieurs de Tarbes, Equipe M2SP, France	Probabilistic Approaches and Reliability Design - Application to the transportation field
	Professor Ragazzi Marco, Dipartimento di Ingegneria Civile e Ambientale dell'Università degli	Ten years of research activities between two Italian and Romanian

	Studi di Trento, Italy	Universities: waste management, energy production, health impact and site remediation	
11:45- 12:00	Coffee Break		
12:00- 13:30	Location: University Library, Aula Magna, 4 Lucian Blaga Street		
	The awarding of the Doctor Honoris Causa degree to Prof. Dr. Eng. Detlef Zühlke, University of Kaiserslautern, Professor for industrial automation, Director of the Center for Human-		
	Machine-Interaction at the German Research Center for Artificial Intelligence (DFKI) GmbH		
13:30- 15:00	Lunch	Location: University Canteen. 31, Victoriei Street	
	Parallel Paper Sessions		
	Session A	Location: room IM 201, 4, Emil Cioran Street	
15.00	Session B	Location: room IE 101, 4, Emil Cioran Street	
15:00- 19:00	Session C	Location: Senate Hall, 10, Victoriei Street	
	Session D	Location: room IE 102, 4, Emil Cioran Street	
	Workshop EVLIA	Location: room 11, 10, Banatului Street	
17:00- 17:15	Coffee Break	Location: 4, Emil Cioran Street	
20:00	Conference banquet	Location: Împăratul Romanilor Hotel, 4, Nicolae Balcescu Street	
Friday, 14th of June			
9:30-11:30	Keynote speeches	Location: Avram Iancu Auditorium, 5-7, Victoriei Street	
	elu Radian, Drexel University, rofessional Studies, Philadelphia, a	Smart Grid Research and Education – Status and Future Developments	

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Professor Valeriu Dulgheru, Technical University of Moldova, Chişinău, Republic of Moldova		Nonconventional Innovative Technologies in Power Engineering – One of the Solutions to Humankind's Global Problems.
Professor Da	an Maniu Dușe, Professor Gabriel	
Octavian Negrea, "Lucian Blaga" University of Sibiu, Romania; "Gheorghe Lazar" National College Sibiu, Romania		Where do good engineers come from?
Professor Cl	audiu Vasile Kifor; Lal Mohan Baral,	An integrated DMAIC-
"Lucian Blag	ga" University of Sibiu, Romania;	Knowledge Management
Ahsanullah	University of Science and	Model for Six Sigma Quality
Technology,	Bangladesh	Management
Professor Ru	uxandra Vidu, University of	Nanostructures: synthesis
California Da	avid SUA	and energetic applications
Eng. Gheorghe Jitianu, Sc.D., EDMing SERV CONSULT - Bucuresti		Technical Solutions Used in Developing Romanian Equipment for Electro-Discharge Machining;
11:30-	Coffee Break	Location: 5-7, Victoriei
12:00	33.133 2.33.1	Street
12:00-	ARTN Meeting	Location: room 11, 10,
14:00	3 3 8	Banatului Street
14:00-	Lunch	Location: University
15:30		Canteen. 31, Victoriei
		Street
15:30-	ARTN Meeting	Location: room 11, 10,
17:00		Banatului Street
18:00	Gala Dinner	Location: Hanul din Tulgheş
		(National Museum
		Complex "Astra"), No 16-
		20, Pădurea Dumbrava
		Street
Saturday, 15th of June		
10:00-	Concluding remarks and closing of	Location: Avram lancu
10:30	the conference	Auditorium, 5-7, Victoriei Steet
10:30	Theatre Festival	

Paper Sessions

Session A

Basic physical phenomena and processes of the nonconventional processing procedures

Room IM 201, 4 Emil Cioran Street

Chair: Professor Carmen Simion, Professor Nikolaos Vaxevanidis, Professor Niculae Marinescu, Professor Dumitru Mnerie

- 1. Alin Vasile Mnerie, Dumitru Mnerie, Andrei Huţanu şi Mihai Condescu, Global analysis of cutting system by electrical erosion with wire electrode.
- 2. Carmen Purcar, Mihail Aurel Ţîţu, *Theoretical studies on electrodischarge machining with rotating electrod tool.*
- 3. Carmen Simion, Carmen Purcar, *Mathematical premodelling of the electrcontact discharge machining*.
- 4. Cornel Ciupan, Emilia Ciupan și Silvia Ferenţ-Pipaş, *Neural model for abrasive water jet cutting machine.*
- 5. Daniel Ghiculescu, Niculae Marinescu, Sergiu Nanu și Daniela Ghiculescu, Some aspects of finite element modelling of MICRO-EDM and Ultrasonic EDM with time dependent radius of plasma channel.
- 6. Daniel Ursu, Nicu Pașca și Ioan Grozescu, *Thermal and structural analysis* for a reactor used in hydrothermal synthesis under supercritical condition.
- 7. Marius Bibu, Mariana Dumitru, Cristian Deac, *New considerations on the ionic nitriding of structural alloy steels*.
- 8. Ovidiu Ciocan, Viorel Paunoiu și Constantin Gheorghies, *Physical aspects of structural modifications in hydrostatic extrusion.*
- 9. Sorin Ilie, Adrian Miuţescu, Viorel Nicolae și Gheorghe Crivac, Investigating the quality of catalytic converters microstructure by X-RAY diffraction and X-RAY fluorescence spectrometry.
- 10. Alexandru Sergiu Nanu, Niculae Ion Marinescu, Liviu Daniel Ghiculescu, Estimations on main manufacturing elements of cost specific to EDM operations.
- 11. Tudor Deaconescu, Andrea Deaconescu, *Magneto-Abrasive Finishing Of Complex Surfaces*.
- 12. Tudor Deaconescu, Andrea Deaconescu, *Optimisation of abrasive jet cutting by means of Taguchi methods*.
- 13. Viorel Bucur, Mihail Aurel Ţîţu şi Vasile Făgărăşan, Contact breaking electrical erosion modern technology of metal forming.

14. Mihail Aurel Țîțu, Viorel Bucur, *Steel strip employed as transfer object to cut off alloy steel using contact breaking electrical erosion.*

Session B

Machineries and equipment for non-conventional processing Room IE 101, 4 Emil Cioran Street

Chair: Professor Libuse Sykorova, Professor Valeriu Dulgheru, Professor Laurenţiu Slătineanu, Professor Liviu Roşca

- 1. Elena Stela Muncut, Lavinia Ioana Culda, Gheorghe Sima, Doina Mortoiu, The study of increased height at MIG CMT continuous or pulse combined braze-welding of the thin sheets of galvanized steel and aluminum.
- 2. Emanoil Toma, Carmen Mihaela Simion, Laurean Bogdan, *Improving of Stepper Motor behaviour used on cinematic chain of Machine-Tools for electrical discharge machining.*
- 3. George Bălan, Mihail Aurel Ţîţu, Evolution of unconventional energy source.
- 4. Helene Badarau-Suster, Tiberiu Macarie, *Determination of parameters influencing handling and stability car unconventional method of measuring the real time.*
- 5. Ion Bostan, Valeriu Dulgheru, Ion Bodnariuc, *Technological aspects of kinematic planetary precessional transmissions with plastic wheels.*
- 6. Libuse Sykorova, Imrich Lukovics, Jana Knedlova și Oldrich Suba, Waterjet cutting and surface quality.
- 7. Liliana Popa, Andreea Ispas, Research on the influence of working parameters on cutting water jet.
- 8. Mihai Bogdan, Virtual home alarm system with NI MYDAQ and LABVIEW.
- 9. Mihai Bogdan, Virtual signal generator using the NI-USB 6008 data acquisition devices.
- 10. Rareş Pancu, Constantin Bungău, Macedon Ganea, *Thermographic diagnosis at machine tools*.
- 11. Victor Nederita, Claudiu Isarie, Rodica Ciudin, Mihail Aurel Țîțu, *Gas discharge lamps used for pet morphological changes.*
- 12. Victor Nederita, Rodica Ciudin, Claudiu Isarie, Mihail Aurel Țîțu, și Valentin Petrescu *Flash lamps used for surface treatments- case study.*
- 13. Laurenţiu Slătineanu, Margareta Coteaţă, Irina Beşliu, Lorelei Gherman, Layers affected by thermal processes in the case of some nonconventional machining methods.

14. Viorel Nicolae, Sorin Ilie, Elena Neagu, Radu Racotă, Adrian Gligor, Mihail Aurel Țîțu, *Considerations on building plastic fuel tanks and their attempt to fire test.*

Session C

Experimental Research and Nonconventional Processing Technologies

Senate Hall, 10 Victoriei Street

Chair: Professor Moussa Karama, Professor Constantin Oprean, Professor Gheorghe Amza, Professor Alexandru Boroiu

- 1. Victor Munoz, Marianne Perrin, Marie-Laetitia Pastor, Hélène Welemane, Arthur Cantarel şi Moussa Karama, *Application of non destructive testing to the detection of aeronautical defects in composite structures*.
- 2. Constantin Oprean, Mihail Aurel Ţîţu, Claudiu Pîrnău, Alina Vanu, New occupational standard "Sustainable development manager", a pilar of the development of alternative technologies in the context of smart sustainable integrated development.
- 3. Cristian Pisarciuc, Study of Process Parameters at Electrical Discharge Machining of Polycrystalline Diamond.
- 4. Alexandru Boroiu, Mihail Aurel Ţîţu, Constantin Oprean, Andrei-Alexandru Boroiu, *Decrease product reliability validation costs by nonconventional tests*.
- 5. Gheorghe Amza, Adrian Milică, Valentin Petrescu, *Thermo-ultrasonic metal printing device.*
- 6. Gheorghe Amza, Oana Elena Amza, Dan Nitoi, Zoia Apostolescu, Valentin Petrescu, *Theoretical and experimental endodontic ultrasonic devices used.*
- 7. Ioan Groza, Richard Hermann, Mircea Krepelka, Surface quality modeling using distribution parameters of roughness to the processing magneto-abrasives.
- 8. Libuse Sykorova, Imrich Lukovics, Jana Knedlova și Oldrich Suba, *CO2 Laser Micromachining and the Laser Emission Distribution of groove profile.*
- 9. Mihail Aurel Țîțu, Ion Liviu Roșca, *Contributions regarding shaping some* technological parameters at the dimensional processing through electric erosion.
- 10. Nikolaos Vaxevanidis, Nikolaos Fountas, Efstathios Tsakiris, Gregoris Kalogeropoulos și John Sideris, *Multi-parameter analysis and modeling of surface finish in electro-discharge machining of tool steel.*

- 11. Oana Elena Amza, Gheorghe Amza, Valentin Petrescu, Zoia Apostolescu, Experimental research on the use of ultrasound to find hidden canals and calcified and achieve access to the pulp chamber.
- 12. Toderita Nemes, Catalin Nemes și Claudiu Isarie, *Experimental research* on creating functional models by powder metallurgy in the austenitic stainless steel alumina system.
- 13. Toderita Nemes, Catalin Nemes și Valentin Petrescu, *Experimental* research on the microstructure and properties of some functional models created by powder aggregation in an austenitic steel and alumina system.
- 14. Traian Buidoş, Mircea-Petru Ursu şi Dan Crăciun, *Theoretical and experimental research concerning EDM of complex and revolution-profiled surfaces.*

Session D

Nonconventional technologies management and other nonconventional processes

room IE 102, 4 Emil Cioran Street

Chair: Professor Miloš Madić, Professor Richard Hermann, Professor Gheorghe Obaciu, Professor Călin Deneș

- 1. Alin Pop, Ioan Mihaila, Ioan Radu, Florin Blaga, *Parameters influence on wrinkling in deep drawing cylindrical cups.*
- 2. Carmen Dobrin, Ioan Bondrea, *The power of genetic algorithm in modelling a company resource schedualing.*
- 3. Călin Deneș, Valentin Grecu, Experimental Research on Dimensional Precision of Small Revolution Surfaces Processed by WEDM.
- 4. Constantin Ocnărescu, Maria Ocnărescu, Viorel Vulturescu, *Determining* the drilling force regression at drilling composites materials.
- 5. Constantin Ocnărescu, Viorel Vulturescu, Maria Ocnărescu, *Comparative* study on determining the drilling torque regression at drilling composites materials.
- 6. Dumitru Şoaită, Is EDM the best available clean technology?
- 7. Marius Bogdan Bozga, Marcel Sabin Popa, Stefan Sattel, Dan Preja, *Unconventional technologies in preparation of microgeometry edges on cutting tools.*
- 8. Mihail Aurel Țîțu, Liviu Ion Roșca, Sorin Borza, *Software for the analysis of the complete factorial experiment in mechanical engineering.*

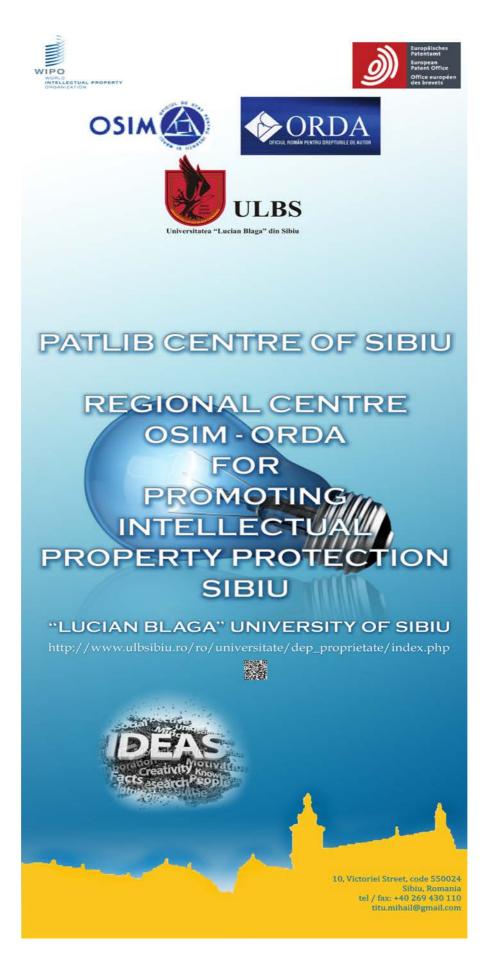
- 9. Sorin Borza, Mihail Aurel Țîțu, Ilie Banu, Assisted design of the experimental research at dimensional processing by electrical erosion with magnetic activation using virtual devices.
- 10. Miloš Madić, Miroslav Radovanović, *Application of the Monte Carlo method for laser cutting optimization*.
- 11. Miloš Madić, Miroslav Radovanović, *Application of the Taguchi method for optimization of laser cutting: a review.*
- 12. Mircea Adrian Dungan, Dumitru Ţucu şi József Jekő, Nonconventional method for evaluating particulate matter and/or composites pollution in critical areas of railway track.
- 13. Richard Hermann, Mihaiela Hermann, Ioan Groza, *Methods and techniques for optimizing dimensional processing using complex, electrical and electrochemical erosion.*
- 14. Mihail Aurel Țîțu, Constantin Oprean, Ion Mărginean, Alexandru Moldovan, Adrian Bogorin-Predescu, *Interpretations at quantum level in the phenomena that accompany the laser beam processing.*

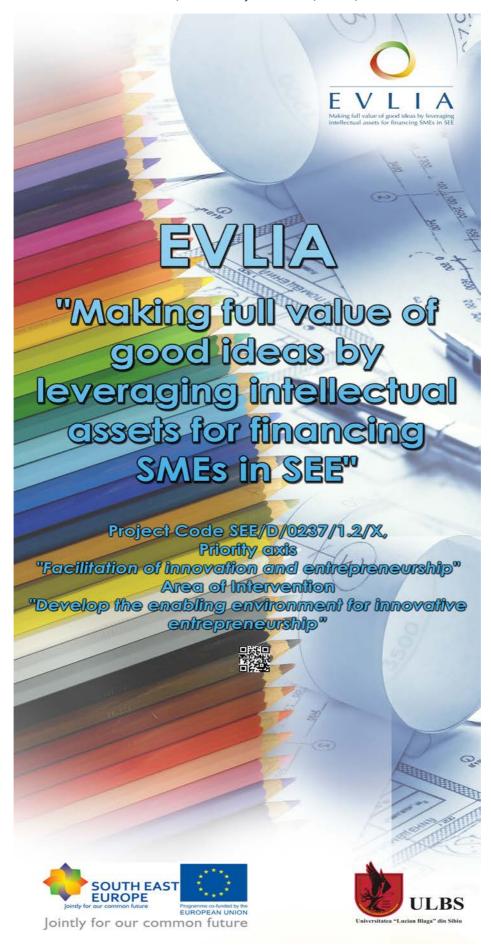
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We invite you to join Sibiu International Theatre Festival, which is the most important performing arts festival in Romania and the third one in Europe as spreading and dimension. For 10 days over 2500 artists and producers from all over the world present 350 events taking place in 60 venues from Sibiu.





ICNcT 2013 Sibiu RO

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