

11th International Conference on Global Research and Education INTER-ACADEMIA 2012

26-30 August, 2012

FINAL PROGRAM

Sunday, 26 August

Arrivals

18.00 – 20.00 Registration – Hotel Ramada Plaza Budapest, Lobby

20.00 – 21.30 Welcome Reception

Monday, 27 August

08.00 – 09.00 Registration - Hotel Ramada Plaza Budapest, Lobby (the registration desk will be open during all sessions and breaks)

09.00 – 09.30 **Opening – Room A**

09.30 – 10.20 **Plenary Session 1 – Room A**

(Chair: Annamária R. Várkonyi-Kóczy)

Single Dopant Atom Transistors: New Era of Electronics

Michiharu Tabe (Japan)

10.20 – 10.50 Coffee Break

10.50 – 11.40 **Plenary session 2 – Room A**

(Chair: Michiharu Tabe)

Introduction to Hungarian Suzuki

Speaker tba.

11.40 – 13.00 Paralell Sessions

Room A: Session 1A - Measurement, Diagnostics, Electrical and Electronic Engineering I.

(Chair: Endre Ruzsinkó)

11.40 – 12.00 Advanced Electroplating Process for Cylinder Block of Automobile Engines

H. Muramatsu, S. Masuhara (Japan)

12.00 – 12.20 Features of the Electrical Characteristics of In/CdTe/Au Diode Structures

Developed for High Energy Radiation

V.A. Gnatyuk, O.I. Vlasenko, M.O. Semenenko, S.N. Levytskyi, T. Aoki,

A. Koike (Japan)

12.20 – 12.40 Carrier transport properties in CdTe radiation detector probed by laser pulses

T. Ito, Y. Suzuki, A. Koike, H. Mori, Y. Neo, H. Mimura and T. Aoki (Japan)

12.40 – 13.00 Implementation of Path Planning Algorithm for Autonomous Robot

H. Brahmi, O. Bali, M. Masmoudi (Tunisia)

Room B: Session 1B – Films and Thin Films I.

(Chair: Kenji Murakami)

11.40 – 12.00 AFM Study of RE-(Ag, Al, Cu)-doped of Films Prepared by Sol-gel Method

A.V. Semchenko, V.V. Sidsky, V.B. Zalesskiy, V.V. Malyutina Bronskaya (Belarus)

12.00 – 12.20 The Influence of Carbon Plasma Lasing Regimes on the Properties of Deposited Carbon Coatings

D.G. Piliptsov, A.V. Rogachev, N.N. Fedosenko, A.S. Rudenkov (Belarus)

12.20 – 12.40 Effects of Particle Size and Dye on the Performance of Dye-sensitized Solar Cells Based on ZnO Film

D. Liyanage, K. Premarathne, G.R.A. Kumara, R.M.G. Rajapakse,

K. Murakami (Japan)

12.40 – 13.00 Effects of Ti and TiN Interlayer on Structure and Mechanical Properties of Carbon Nitride Films Prepared by Cathode Arc Deposition

B. Zhou, X. Jiang (Belarus)

13.00 – 14.30 Lunch

14.30 – 15.50 Paralell Sessions

Room A: Session 2A – Measurement, Diagnostics, Electrical and Electronic Engineering II.

(Chair: Ryszard Jablonski)

14.30 – 14.50 Vibration Diagnostic Examination for Measuring of Shaft Alignment Problem

József Zoltán Szabó (Hungary)

14.50 – 15.10 Ultrasonic Method of Measuring the Particles 0.1-10 μ m in Emulsions Using Photon Counting

R. Jablonski, V. Ryssakov (Poland)

15.10 – 15.30 Electromagnetic and Thermal Simulation for Room-Temperature THz Antenna-Coupled Microbolometers

M. Aoki, M. Takeda, N. Hiromoto (Japan)

15.30 – 15.50 Analysis of Electricity Cost and Power Supplying Capability in Japan

S. Matsuda, R. Ichihashi, H. Kubota (Japan)

Room B: Session 2B – Films and Thin Films II.

(chair: Marius Dobromir)

14.30 – 14.50 Surface Modification of TiO₂ Electrode by Diethyldithiocarbamate for Dye Sensitized Solar Cells

D.M.B.P. Ariyasinghe, K. Murakami, M. Shimomura (Japan)

14.50 – 15.10 Synthesis and Characterization of Sputtered N:TiO₂ Thin Films Under Extended Dopant Range Conditions

A. V. Manole, M. Dobromir, V. Nica, R. Apetrei, G. Rusu, D. Luca

15.10 – 15.30 Structural and Elemental Characterization of RF-sputtered WO₃/TiO₂ Thin Film Bilayers

V. Dăscăleanu, D. Macovei, C.-M. Teodorescu, D. Luca (Romania)

15.30 – 15.50 The Using of SrBi₂Ta₂O₉ Sol-gel Layers for Fram

V.V. Sidsky, A.V. Semchenko, O.I. Tyulenkova, V.V. Kolos, A.S. Turtsevich, S.A. Soroka (Belarus)

15.50 – 16.50 Poster Session with Coffee Break (6 minutes/poster presentation)

(Chair: Stefan Matejcik)

1) Diagnostics of Pupils' Mathematical Abilities Using E-Learning Techniques and Materials

A. Šapkova, P. Daugulis (Latvia)

2) Registration of Transverse Acoustic Waves in Crystals in Rotating Electric Field

Sergei D. Barsukov, Sergei A. Khakhomov, Igor V. Semchenko, Oleg M. Demidenko (Belarus)

3) Research of Double Polarities Selective Area Growth of GaN by Using MOVPE

T. Nakano, Y. Fujita, Y. Inoue, M. Sumiya, S. Fuke (Japan)

4) Solubilization and Methane Fermentation of Spent Grain Using Water in High Temperature and Pressure Region

Idzumi Okajima, Shogo Suzuki, Takeshi Sako (Japan)

5) Development of a Low-cost Automatic Followspot Tracking System

K.Tyszka, R. Jabłoński (Poland)

6) Features of Photoluminescence Response of Modified CdTe(111) Single Crystal Surface Layers

D.V. Gnatyuk, L.V. Poperenko, O.I. Dacenko, T. Aoki (Ukraine)

- 7) Gasification and Hydrogen Production from Macro Algae with Subcritical Water
S. Torii, K. Hayashi, I. Okajima and T. Sako (Japan)
- 8) Microwave Assisted Synthesis of New Highly Fluorescent Pyrrolo-imidazole
G. Zbancioc, C. Moldoveanu, D. Mantu, I. Mangalagiu (Romania)
- 9) Multi-Fingered Robotic Hand: Control Review and Proposal of New Control Architecture
R. Boughdiri, H. Bezine and A. M. Alimi (Tunisia)
- 10) The Calculation of All Tensors Components of the Dielectric, Magnetic and Chiral Polarizabilities for Helices With the Optimal Parameter
I.A. Faniayeu, V.S. Asadchy (Belarus)

16.50 – 18.30 Paralell Sessions

Room A: Session 3A – Plasma Physics, Surface Processing, and Material Science

(Chair: Endre Ruszinkó)

- 16.50 – 17.10 Ultrasound Treatment and Steady-state Creep of Metals
E. Ruszinkó (Hungary)
- 17.10 – 17.30 Progress in Fabrication of Smallest Microdrills
L. Kudla (Poland)
- 17.30 – 17.50 Crystalline Quality Analysis of Different Concentration In-doped Cd_{0.9}Zn_{0.1}Te Detectors by Photoluminescence Method
Iu. Nasieka, O. Strilchuk and A. Medvid (Ukraine)
- 17.50 – 18.10 Surface-Wave-Sustained Discharges – Modelling and Applications
E. Benova, T. Bogdanov, P. Marinova (Bulgaria)
- 18.10 – 18.30 Synthesis of Sol-Gel Method of Functional Nanostructured SiO₂-GeO₂
D.L. Kovalenko, V.E. Gaishun, V.V. Vaskevich (Belarus)

Room B: Session 3B – Signal and Image Processing

(Chair: Dániel Kovács)

- 16.50 – 17.10 Pitfalls in Structuring a Reliable Texture Database for Image and Video Shots
Convenient Evaluation: Cognitive Discussion
Mihaela Costin (Romania)
- 17.10 – 17.30 Laser Volumetric Marking and Recording of Digital Information
V.A. Gnatyuk, K.D. Kanev, V. Mizeikis, T. Aoki, S.V. Gagarsky, L.V. Poperenko (Ukraine)
- 17.30 – 17.50 Multimodal Video Description Framework for Understanding Child's Social Development
T. Nagao, M. Fujita, S. Ishikawa, Y. Takebayashi (Japan)

- 17.50 – 18.10 Real-Time High Precision 3D Shape Measurement Method
Takeshi Hashimoto, Hidemichi Aoshima, András Rövid, Takayuki Suzuki (Japan)
- 18.10 – 18.30 A Prototype System for Generating a Variety of Relative Expressions from Visual Information and Viewpoints
Yasuhiro Noguchi, Hideki Asoh, Akira Takagi, Ichiro Kobayashi, Makoto Kondo, Naoto Iwahashi, Yukihiro Itoh (Japan)

Tuesday, 28 August

- 09.00 – 09.50 **Plenary Session 3 – Room A**
(Chair: Ryszard Jablonski)
Social Media Analytics in the Age of Big Data
Hiroshi Ishikawa (Japan)
- 09.50 – 10.40 **Plenary Session 4 – Room A**
(Chair: Mihaela Costin)
Static Equilibria of Rigid Bodies: Old Stories and New Shapes
Péter Várkonyi (Hungary)
- 10.40 – 11.10 Coffee Break
- 11.10 – 12.30 Paralell Sessions**
- Room A: Session 4A – Intelligent Systems and Control**
(Chair: Hidenori Mimura)
- 11.10 – 11.30 Development of Multi-gated Field Emitters
H. Mimura, Y. Neo, Toru Aoki, T. Yoshida, and M. Nagao (Japan)
- 11.30 – 11.50 Converting Multi-Agent PDDL to Extensive Form Games
D.L. Kovacs, T. P. Dobrowiecki (Hungary)
- 11.50 – 12.10 Comparative Study of Fuzzy Operators in Risk Level Calculation
E. Tóth-Laufer, M. Takács (Hungary)
- 12.10 – 12.30 An Input Data Compression Method for Classification Problems
B. Tusor, A. R. Várkonyi-Kóczy (Hungary)
- Room B: Session 4B – Chemical Applications and Liquids**
(Chair: Hiroya Ikeda)
- 11.10 – 11.30 Ultrasound Assisted Synthesis of New Ionic Liquids Imidazole Based
C. Moldoveanu, G. Zbancioc, V. Antoci, I. Mangalagiu (Romania)

- 11.30 – 11.50 Wettability of Polymer Surfaces Treated by Plasma
D. Spridon, Teodora Teslaru, Pierre Wahl, Nicoleta Dumitrascu (Romania)
- 11.50 – 12.10 Numerical Tracking of Methane Gas/Hydrate and Oil Droplet in Deep Water Spill
Y. Takagi, T. Ban, Y. Okano, S. Kunikane, S. Kawahara, N. Kato, K. Ohgaki (Japan)
- 12.30 – 14.30 Lunch**
- 14.30 – Visit to Népszínház Campus of Óbuda University

Wednesday, 29 August

- 09.00 – 09.50 **Plenary Session 5 – Room A**
(Chair: Annamária R. Várkonyi-Kóczy)
Intelligent Predictive Control for Thermal Comfort and Energy Savings in Public Buildings
Antonio Ruano (Portugal)
- 09.50 – 10.20 Coffee Break
- 10.20 – 12.00 Paralell Sessions**
Room A: Session 5A – Nanotechnology
(Chair: Leszek Kudla)
- 10.20 – 10.40 Optical Properties of Nanocomposite Coatings, Deposited From Pulsed Cathode Plasma
A.V. Rogachev, D.G. Piliptsov, T.N. Fedosenko, A.S. Rudenkov (Belarus)
- 10.40 – 11.00 Morphology and Structure of Antibacterial Nanocomposite Organic-Polymer and Metal-Polymer Coatings Deposited From Active Gas Phase
A.V. Rogachou, M.A. Yarmolenko, A.A. Rogachev, D.V. Tapalski, D.L. Gorbachev (Belarus)
- 11.00 – 11.20 Deep-energy Phosphorus Donor Atoms in Ultrathin-Channel Silicon Transistors
D. Moraru, E. Hamid, T. Mizuno, M. Tabe (Japan)
- 11.20 – 11.40 Construction of Wafer Bonding Technique for SiGe-on-Insulator Substrates Applicable to SiGe Nanowire Thermopile
H. Ikeda, Y. Suzuki, K. Miwa, F. Salleh and Y. Hayakawa (Japan)
- 11.40 – 12.00 SEM Investigation of Nanostructure Xerogels Obtained by the Sol-Gel Method
V.E. Gaishun, M.N. Kapshaj, Ya.A. Kosenok, L.V. Sudnik (Belarus)

Room B: Session 5B – Biomedical Materials and Bioengineering

(Co-Chairs: Dumitru Luca and Hitoshi Muramatsu)

- 10.20 – 10.40 Roses Produce the Floral Scent Compound 2-phenylethanol Via a New Biosynthetic Pathway in Response to Seasonal Change in Environment
H. Hirata, T. Ohnishi, K. Tomida, H. Ishida, M. Kanda, M. Sakai, N. Watanabe (Japan)
- 10.40 – 11.00 Rayleigh Scattering Study of Bovine Serum Albumin Thermal Aggregation After Exposure to Barrier Discharge Helium Plasma Jet
R. Jijie, V. Pohoata, I. Topala (Romania)
- 11.00 – 11.20 Low Temperature Plasma Processing of ZnO Nanostructures Produced by Pulsed Laser Ablation for Bio-applications
M. A. Ciolan, I. Motrescu, D. Luca, M. Nagatsu (Japan)
- 11.20 – 11.40 Space-Time Behaviour of Reactive Excited Species in Pulsed DBD Plasma Produced Inside of a Closed Container
A. S. Chiper, G. Popa (Romania)
- 11.40 – 12.00 Development of Precipitation Polymerization Process of Acrylic Acid in Supercritical Carbon Dioxide
I. Okajima, S. Suzuki and T. Sako (Japan)

12.00 – 13.30 Lunch

13.30 – 14.50 Young Scientist's Interacademia

Room A: Session 6A – Nanotechnology, Thin films, Bioengineering, Electric and Electronic Devices I.

(Chair: Takeshi Hashimoto)

- 13.30 – 13.50 Seebeck Coefficient of SOI Layer Varied by Bias-Injected Carriers
F. Salleh, Y. Suzuki, K. Miwa, H. Ikeda (Japan)
- 13.50 – 14.10 Micro-Processing of HeLa Cells With an Electron Beam
K. Watanabe, W. Inami, Y. Kawata (Japan)
- 14.10 – 14.30 Electron Beam Induced Changes in Amorphous SbSe Thin Films
O. Shimane, V. Gerbreders, A. Gulbis (Latvia)
- 14.30 – 14.50 Nanoparticles Incorporation for Improvement of Polymer Endurance to UV-Illumination
A.O. Kovalchuk, G. Yu. Rudko, V. I. Fediv, W. M. Chen, I. A. Buyanova (Ukraine)

Room B: Session 6B – Electrical Engineering and Applied Informatics I.

(Chair: József Zoltán Szabó)

- 13.30 – 13.50 A Method of Transmitting Data to Manage Crops using WSNs on a Large-Scale Farm
Y. Aoki, M. Fukuda and T. Watanabe (Japan)
- 13.50 – 14.10 Fundamental Evaluation of Full-Duplex Communication in Multi-hop Networks
K. Tamaki, A. Raptino H., Y. Sugiyama, M. Bandai, S. Saruwatari, T. Watanabe (Japan)
- 14.10 – 14.30 A System to Comprehend a Motorcycle's Behavior using the Acceleration and Gyro Sensors on a Smartphone
T. Kamimura, T. Kitani, T. Watanabe (Japan)
- 14.30 – 14.50 Formation of Negative Ions in Negative Corona Discharge in Wire to Plane Geometry by Ion Mobility- α TOF Mass Spectrometry in Synthetic Air
Š. Matejčík, M. Sabo, Y. Okuyama, H. Itoh

14:50 – 15:20 Coffee Break

15.20 – 16.00 Young Scientist's Interacademia

Room A: Session 7A – Nanotechnology, Thin films, Bioengineering, Electric and Electronic Devices II.

(Chair: Ryszard Jablonski)

- 15.20 – 15.40 Characterization of Nanoscale Lateral PN Junction by Kelvin Probe Force Microscope
R. Nowak, M. Anwar, D. Moraru, T. Mizuno, R. Jablonski, M. Tabe (Japan)
- 15.40 – 16.00 Oxylipin Analogues for Flower Induction Toward Lemna Paucicostata
A. Muratata, T. Kawahashi, R. Akaike, K. Kai, N. Watanabe (Japan)

Room B: Session 7B – Electrical Engineering and Applied Informatics II.

(Chair: József Zoltán Szabó)

- 15.20 – 15.40 New Parameter Fitting Method with Low Computational Cost for Thermodynamic Mode
K. Mizukami, K. Takeda, N. Sugie (Japan)
- 15.40 – 16.00 Distribution Problem in a Multi Processor Environment
D. K. Kiss (Hungary)

19:00 - Conference dinner

Thursday, 30 August

Whole day excursion to Tokaj Wine Region.