

## Program of Inter Academia 2015

Monday, September 28, 2015

ROOM 41

9:10 **Opening Remarks**

### Plenary Talks

**Chair: Prof. M. Nagatsu**

9:40	<b>PT-1</b>	<b>New perspectives in low-dimensional titania-based materials</b> D. Luca <sup>1</sup> , C. T. Teodorescu-Soare <sup>1</sup> , M. Dobromir <sup>1</sup> , G. Stoian <sup>2</sup> , R. P. Apetrei <sup>1</sup> , and N. Lupu <sup>2</sup> (1 Alexandru Ioan Cuza University, Romania, 2 National Institute of Research & Development for Technical Physics, Romania)	2
10:10	<b>PT-2</b>	<b>Surface Acoustic Wave Sensors for Human and Structural Health Monitoring</b> J. Kondoh (Graduate School of Science and Technology, Shizuoka University, Japan)	4

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### Terahertz

**Chair: Prof. L. Sirghi and Dr. M. Takeda**

11:00	<b>O-1A1</b>	<b>Theoretical Study on the Intensity Generation Mechanisms of the Terahertz Spectrum of Liquid Water</b> H. Torii (Faculty of Education and Graduate School of Science and Technology, Shizuoka University, Japan)	8
11:20	<b>O-1A2</b>	<b>A Method for Classifying Materials of Objects Detected by the Sub-THz Passive Body Scanner</b> N. Hiromoto <sup>1</sup> , K. Mori <sup>2</sup> , and J. Sato <sup>2</sup> (1 Shizuoka University, Japan, 2 KSK Corporation, Japan)	10
11:40	<b>O-1A3</b>	<b>Monitoring of crystal structure conversion of pharmaceuticals by a CW THz spectroscopic imaging system</b> T. Sasaki <sup>1</sup> , T. Sakamoto <sup>2</sup> , and J. Nishizawa <sup>3</sup> , (1 Research Institute of Electronics, Shizuoka University, Japan, 2 Division of Drugs, National Institute of Health Sciences, Japan, 3 Nishizawa Memorial Center, Tohoku University, Japan)	12

### Plasma Physics

**Chair: Prof. L. Poperenko and Prof. T. Mieno**

13:20	<b>O-1A4</b>	<b>Functionalization of Nanoscopic Probes by Plasma Assisted Thin Film Deposition</b> L. Sirghi, A. Apetrei, V. Anita, and M. Dobromir (Alexandru Ioan Cuza University, Romania)	14
13:40	<b>O-1A5</b>	<b>Detection of trace substances by Ion Mobility Spectrometry</b> M. Sabo and Š. Matejčík (Department of Experimental Physics, Comenius University Bratislava, Slovakia)	16
14:00	<b>O-1A6</b>	<b>Production of Carbon Nano-Particles including Amino Acids by Impact Reactions in Nitrogen Gas by Use of a Gas-Gun</b> T. Mieno <sup>1</sup> , K. Ookouchi <sup>2</sup> , K. Kondo <sup>2</sup> , S. Hasegawa <sup>3</sup> , and K. Kurosawa <sup>4</sup> (1 Grad. School of Science & Technology, Shizuoka University, Japan, 2 Dept. Physics, Shizuoka University, Japan, 3 ISAS/JAXA, Japan, 4 PERC, Chiba Inst. Technology, Japan)	18
14:20	<b>O-1A7</b>	<b>Non-equilibrium plasma sustained by traveling wave at atmospheric pressure</b> E. Benova (Sofia University, Bulgaria)	20
14:40	<b>O-1A8</b>	<b>THE STUDY SYSTEM IN PHYSICS FACULTY OF TARAS SHEVCHENKO NATIONAL UNIVERSITY OF KYIV</b> M. V. Makarets and L. V. Poperenko (1 Taras Shevchenko National University of Kyiv, Faculty of Physics, Ukraine)	22

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### Informatics 1

**Chair: Prof. A. R. Várkonyi-Kóczy and Prof. Y. Miyazaki**

11:00	<b>O-1B1</b>	<b>A Human Computer Interactions Framework for Biometric User Identification</b> K. Kanev <sup>1</sup> , M. De Marsico <sup>2</sup> , and P. Bottoni <sup>2</sup> (1 Graduate School of Informatics, Shizuoka University, Japan, 2 Department of Computer Science, Sapienza University of Rome, Italy)	24
11:20	<b>O-1B2</b>	<b>Towards Advanced Networking and M-services with Enhanced Information Security and Integrated Support for Big Data Analytics</b> P. Hung <sup>1</sup> , K. Kanev <sup>1,2</sup> , Y. Shirai <sup>2</sup> , K. Yuura <sup>2</sup> , M. Nishigaki <sup>2</sup> , H. Mineno <sup>2</sup> , and V. Wilkinson <sup>2</sup> (1 University of Ontario Institute of Technology, Canada, 2 Shizuoka University, Japan)	26
11:40	<b>O-1B3</b>	<b>Innovative Way of Offering Master's Program on Data Analytics</b> R. P. Barneva <sup>1</sup> , V. E. Brimkov <sup>2</sup> , J. O. Carbonara <sup>2</sup> , J. Favata <sup>2</sup> , B. Sherman <sup>2</sup> , and K. Kanev <sup>3</sup> , (1 The State University of New York at Fredonia, USA, 2 SUNY Buffalo State, USA, 3 Shizuoka University, Japan)	28

### Informatics 2

**Chair: Prof. K. Kanev and Prof. M. Luca**

13:20	<b>O-1B4</b>	<b>An Interactive Tool for Sketch-Based Annotation</b> M. Antico <sup>1</sup> , D. Avola <sup>1</sup> , P. Bottoni <sup>1</sup> , A. Hawash <sup>2</sup> , K. Kanev <sup>3</sup> , and F. P. Presicce <sup>1</sup> (1 Department of Computer Science, Sapienza University of Rome, Italy, 2 Department of Computer Information Systems, An-Najah National University of Palestine, 3 Graduate School of Informatics, Shizuoka University, Japan)	30
13:40	<b>O-1B5</b>	<b>User Authentication System Based on Keystroke Timing in E-Learning Settings</b> Y. Miyazaki <sup>1</sup> and A. Kouno <sup>2</sup> (1 Graduate School of Integrated Science and Technology, Shizuoka University, Shizuoka, Japan, 2 Graduate School of Informatics, Shizuoka University, Shizuoka, Japan)	32
14:00	<b>O-1B6</b>	<b>Brain-inspired model for multiagent semantic image interpretation</b> M. Luca <sup>1</sup> and V. Tulceanu <sup>2</sup> (1 Institute of Computer Science, Romanian Academy, Iași Branch, 2 Faculty of Computer Science, "Al. I. Cuza" University of Iași, Romania)	34
14:20	<b>O-1B7</b>	<b>A Fuzzy Information Measure for Image Quality Improvement</b> A. R. Várkonyi-Kóczy <sup>1,2,3</sup> and J. T. Tóth <sup>3</sup> (1 Institute of Mechatronics and Vehicle Engineering, Óbuda University, Hungary, 2 Integrated Intelligent Systems Japanese-Hungarian Laboratory, 3 Department of Mathematics and Informatics, J. Selye University, Slovakia)	36
14:40	<b>O-1B8</b>	<b>Engineering of Microbial Garbage Treating Plants</b> S. Matsuda (Department of Applied Chemistry and Biochemical Engineering, Shizuoka University, Japan)	38

**Tuesday, September 29, 2015**

## ROOM 43

**Special session 1 for young researchers and students (Oral)**

**Chair: Prof. E. Benova and Prof. D. Moraru**

9:00	<b>OY-A1</b>	<b>Cost-effective auditory evoked magnetoencephalography</b> A. Jodko-Władzińska <sup>1</sup> , R. Kühler <sup>2</sup> , J. Hensel <sup>2</sup> , T. Pałko <sup>1</sup> , and T. Sander <sup>3</sup> (1 Warsaw University of Technology, Faculty of Mechatronics, Poland, 2 Physikalisch-Technische Bundesanstalt, Department of Acoustics and Dynamics, Germany, 3 Physikalisch-Technische Bundesanstalt, Department of Biosignals, Germany)	42
9:10	<b>OY-A2</b>	<b>Brain-computer interfacing for interaction in ad-hoc heterogeneous sensor agents</b> V. Tulceanu <sup>1</sup> , and M. Luca <sup>2</sup> (1 Faculty of Computer Science, "Al. I. Cuza" University of Iasi, Romania, 2 Institute of Computer Science, Romanian Academy, Iasi Branch)	44
9:20	<b>OY-A3</b>	<b>Framework for Sense Disambiguation of Mathematical Expressions</b> T. Watabe, Y. Miyazaki, and S. Tanaka (Graduate School of Science and Technology, Shizuoka University, Japan, Graduate School of Integrated Science and Technology, Shizuoka University, Japan, College of Letters, Ritsumeikan University, Japan)	46
9:30	<b>OY-A4</b>	<b>Fuzzy Classifier Hyper-matrices for Rapid Data Classification</b>	48

	B. Tusor <sup>1</sup> , and A. R. Várkonyi-Kóczy <sup>1,2,3</sup> (1 Integrated Intelligent Syst. Japanese-Hungarian Lab., Óbuda University, Hungary, 2 Institute of Mechatronics and Vehicle Engineering, Óbuda University, Hungary, 3 Department of Mathematics and Informatics, J. Selye University, Slovakia)	
9:40	<b>OY-A5</b> <b>Physical Properties of novel Cu<sub>1-x</sub>Cd<sub>x</sub>S<sub>2</sub> ternary compound semiconductor thin films by single step solution process for low cost photovoltaic devices</b> V. Nirmal Kumar <sup>1,2,3</sup> , R. Suriakarthick <sup>3</sup> , R. Gopalakrishnan <sup>3</sup> and Y. Hayakawa <sup>2</sup> (1 Graduate School of Science and Technology, Shizuoka University, Japan, 2 Research Institute of Electronics, Shizuoka University, Japan, 3 Crystal Research Lab, Department of Physics, Anna University, India)	50
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##### Special session 2 for young researchers and students (Oral)

**Chair: Prof. M. Tabe and Prof. H. Inokawa**

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9:10	<b>OY-B2</b> <b>Effect of Spray Conditions on Formation of One-dimensional Fluorine-doped Tin Oxide Thin Films</b> A. Bandara <sup>1</sup> , R. M. G. Rajapakse <sup>2</sup> , M. Okuya <sup>3</sup> , M. Shimomura <sup>3</sup> , and K. Murakami <sup>3</sup> (1 Graduate School of Science and Technology, Shizuoka University, Japan, 2 Department of Chemistry, University of Peradeniya, Sri Lanka, 3 Graduate School of Integrated Science and Technology, Shizuoka University, Japan)	58
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**ROOM 43**

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### Short Oral & Poster 1

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#### ROOM 44

##### Special session 4 for young researchers and students (Short Oral & Poster)

Chair: Prof. M. M. Sychoy and Prof. J. Kondoh

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Wednesday, September 30, 2015

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### Material Science and Nanotechnology 1

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10:00	<b>O-3A4</b>	<p><b>Ferroelectric core/magnetic shell approach to control electric properties of</b>  M. M. Sychoy<sup>1</sup>, O. A. Shilova<sup>2</sup>, E. S. Vasina<sup>1</sup>, T. V. Khamova<sup>2</sup>, P. V. Matveichikova<sup>1</sup>, S. V. Diachenko<sup>1</sup>, and A. I. Zhernovoy<sup>1</sup> (1 St. Petersburg State Institute of Technology, Russia, 2 Institute of Silicates Chemistry, Russia)</p>	214

### Material Science and Nanotechnology 2

Chair: Prof. K. Murakami and Prof. H. Ikeda

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#### ROOM 44

##### Nanotechnology and automobile

Chair: Prof. R. Jablonski and Prof. K. Hara

9:00	<b>O-3B1</b>	<b>Three Thresholds of ZnO Crystal Damage by Nd:YAG Laser Radiation</b> A. Medvids <sup>1</sup> , P. Onufrijevs <sup>1</sup> , E. Dauksta <sup>1</sup> , L. Grase <sup>2</sup> , G. Mezinskis <sup>2</sup> and H. Mimura <sup>3</sup> (1Institute of Technical Physics, Riga Technical University, Latvia, 2 Institute of Silicate Materials, Riga Technical University, Latvia, 3Research Institute of Electronics, Shizuoka University, Japan)	222
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##### Material Science and Technology 2

Chair: Prof. Y. Kawata and Prof. S. Matsuda

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11:30 Closing Remarks