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3rd World Chemistry Conference and Exhibition

(WCCE-2019)

June 13-15 ,2019, Brussels, Belgium

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3rd World Chemistry Conference and Exhibition

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Scientific Program

June 13, 2019
Thursday
Hall: Armstrong

3rd World Chemistry Conference and Exhibition

Keynote Session

Time	Topic	Speakers
09:00-09:30	Preparation of Novel Nucleoside Analogues from Cyclobutane Precursors as Potential Antiviral Agents	**Edward Lee-Ruff** York University, Canada
09:30-10:00	Building with bubbles. Is it the start of a New generation of Catalysts?	**Suresh Bhargava** RMIT University, Australia
10:00-10:30	A faster, energy efficient way to manufacture fiber-reinforced thermoset-matrix composites using frontal polymerization	**Philippe H. Geubelle** University of Illinois, USA

Group Photo

Coffee Break 10:30-10:50@ Foyer

Conference Agenda | Morning Session

Sessions Polymer Chemistry, Multidisciplinary Chemistry

Chairs
Edward Lee-Ruff, York University, Canada
Isabelle Lampre, University Paris-Sud, France

10:50-11:10	The Case for Entropy Driven Fluorophilic Association in Fluorocarbon Functionalized Polymers	**T. E Hogen Esch** University of Southern California, USA
11:10-11:30	Super-elastic functional hydrogel strengthened by cement-released nanoparticles at low-content	**Guoxing Sun** Institute of Applied Physics and Materials Engineering, University of Macau, Macao
11:30-11:50	Mono- and bimetallic Gold-Silver nanoparticles stabilized by calix[8]arenes: radiolytic synthesis, characterizations and applications	**Isabelle Lampre** University Paris-Sud, France
11:50-12:10	Fighting against auto- and background fluorescence	**Péter Kele** Research Centre for Natural Sciences, Hungarian Academy of Sciences, Hungary
12:10-12:30	Responsive polymeric materials for sensors and catalytic applications	**Samarendra Maji** SRM Institute of Science and Technology, India

Time	Topic	Speakers
12:30-12:50	Magnetic and Impedance Analysis of Fe2O3 Nanoparticles for chemical Warfare Agent Sensing Applications	**Adam J Hauser** The University of Alabama, United States
12:50-13:10	Effect of molecular weight distribution on the fatigue behavior of polymers	**Denis Rodrigue** Université Laval, Canada
	Lunch Break 13:10 -14:00 @ Restaurent	
Sessions	**Chemicals and Materials Science, Multidisciplinary Chemistry**	
Chairs	**Eric Buhler,** University Paris Diderot, France **Yasuhiko HAYASHI,** Okayama University, Japan	
14:00-14:20	Investigating the Removal of Tabun Nerve Agent Using Fe2O3 Nanoparticles	**Jennifer R. Soliz** U.S. Army Combat Capabilities Development Command Chemical Biological Center, USA
14:20-14:40	Integration of molecular machines into supramolecular polymeric materials	**Eric Buhler** University Paris Diderot, France
14:40-15:00	Tuning of BiFeO3 multiferroic properties by light doping with Nb	**Aleksandar Radojković** Institute for Multidisciplinary Research, University of Belgrade,Serbia
15:00-15:20	Joule heating in carbon nanotube yarns under different atmospheres	**Yasuhiko HAYASHI** Okayama University, Japan
15:20-15:40	Synthesis and characterization of luminescent silica	**Ilaria Zanoni** CNR-ISTEC-National Research Council of Italy and University of Trieste, Italy
15:40-16:00	Atomic-scale characterization of nanocarbons for hydrogen energy application using high-resolution transmission electron microscopy	**Kun'ichi Miyazawa** Tokyo University of Science, Japan

Time	Topic	Speakers
	Coffee Break 16:00-16:20 @ Foyer	
16:20-16:40	Colorless-to-Black Solid-state Electrochromic Devices with High Optical Contrast Based on Cross-linked Poly(4-vinyltriphenylamine)	**Ping Liu** South China University of Technology, China
16:40-17:00	New class of artificial enzyme composed of Mn-porphyrin, imidazole, and cucurbit[10]uril toward use as a therapeutic antioxidant	**Riku Kubota** Tokyo Metropolitan University, Japan
17:00-17:20	Vacuum ultraviolet photoluminescence of diamonds	**Bing-Ming Cheng** National Synchrotron Radiation Research Center, Taiwan
17:20-17:40	Free Volume Properties of High Performance Aramid Fibers	**Ramasubbu Ramani** Defence Bioengineering and Electromedical Laboratory, India
	Panel Discussions	

June 14, 2019
Friday
Hall: Armstrong

	Keynote Session	
09:00-09:30	Graphene Coating for Corrosion Resistance	**Raman Singh** Monash University - Clayton Campus, Australia
09:30-10:00	Modeling motor molecules	**Michel A. Van Hove** Hong Kong Baptist University, Hong Kong
10:00-10:30	Metal-free reduction and organocatalytic stereoselective reactions of nitro derivatives	**Maurizio Benaglia** Università degli Studi di Milano, Italy
Sessions	**Biochemistry and Medicinal Chemistry, Renewable Energy & Emerging Energy Materials**	
Chairs	**Michel A. Van Hove,** Hong Kong Baptist University, Hong Kong **Maureen Kendrick Murphy,** Huntingdon College, USA	
10:30-10:50	Metals in Biological Systems: What is Nature Telling Us?	**Maureen Kendrick Murphy** Huntingdon College, USA
10:50-11:10	Azobenzene-tethered DNA for photo-regulation of nano-structures	**Hiroyuki Asanuma** Nagoya University, Japan

Time	Topic	Speakers
	Coffee Break 11:10 -11:30 @ Foyer	
11:30-11:50	Long Term Cell Culture, Micromanipulation and Time Lapse Assays with a Novel Versatile on-Stage Microfluidic System	**Yao-Xiong Huang** Ji Nan University, China
11:50-12:10	A single-tube approach for in vitro diagnostics using diatomaceous earth and optical sensor	**Yong Shin** University of Ulsan College of Medicine and Asan Medical Center, South Korea
12:10-12:30	Discovery of the D2/D3/5-HT1A/5-HT2A receptor antagonist SIPI6398: Preclinical Candidate as antipsychotic Therapy	**Xiaowen Chen** Shanghai Institute of Pharmaceutical Industry, China
12:30-12:50	meso-dihydroguairetic acid derivatives. Molecular entities with potential use for the treatment of tuberculosis	**María del Rayo Camacho-Corona** Universidad Autónoma de Nuevo León, Mexico
12:50-13:10	A pentanoic acid derivative targeting matrix metalloproteinase-2 (MMP-2) blocks proliferation and invasion in cancer cells	**Tarun Jha** Jadavpur University, W. B, India
13:10-13:30	Synthesis of hierarchical silica monolith by Pickering emulsions to encapsulate spinach chloroplasts for CO2 adsorption	**Alicia Sommer Marquez** Yachay Tech University, Ecuador
	Lunch Break 13:30 -14:20 @ Restaurent	
Sessions	**Organic Chemistry, Industrial Chemistry and Green Chemistry**	
Chairs	**Prof. Raman Singh,** Monash University - Clayton Campus, Australia **Hiroyuki Asanuma,** Nagoya University, Japan	
14:20-14:40	Nitroxides in physicochemistry and technology of cotton and cellulose	**Likhtenshtein Gertz** Ben-Gurion University of the Negev Beer-Sheva, Israel & Institute of Problems of Chemical Physics, Russian Academy of Science, Moscow Region, Russia

Time	Topic	Speakers
14:40-15:00	Synthetic Approach to Icetexanes by using Transition Metal-Catalyzed Cyclizations	**Chang Ho Oh** Hanyang University, South Korea
15:00-15:20	Asymmetric synthesis with cinchona-based cyclodextrin organocatalysts in a synthesis separation integrated continuous flow reactor	**Jozsef Kupai** Budapest University of Technology and Economics, Hungary
15:20-15:40	Boron trifluoride etherate-catalyzed selenation of aryl alkyl ketones with selenium dioxide: a facile single step synthesis of 2,2'-selenobis(1-arylalkyl-1-one)	**Bekington Myrboh** North Eastern Hill University, India
15:40-16:00	A new approach to supplemental instruction using study skills education, writing interventions, and deliberate practice improves course performance and affect in the first quarter of general chemistry	**Cynthia A. Stanich** University of Washington, USA
16:00-16:20	Large-scale Formation of Polymer Blushes in Air	**Atsushi Hozumi** National Institute of Advanced Industrial Science and Technology (AIST), Japan
	Coffee Break 16:20 -16:40 @ Foyer	
16:40-17:00	Peat, a valuable and underused raw material	**Jüri Liiv** Tartu University, Estonia
17:00-17:20	Green synthesis of propanoic acid by hydrocarboxylation of ethylene over supported rhodium catalysts	**Jenó Bódis** Babeş-Bolyai University, Romania
17:20-17:40	Nanoporous Carbon for Removal of Water Contaminants and Gold Processing: Fullerene-Like Curved Carbon Sheet Structures	**Chun-Yang-Yin** Newcastle University in Singapore, Singapore
17:40-18:00	Selective Aerobic Oxygenation of Hydrocarbons Using Photoredox Catalysts	**Kei Ohkubo** Osaka University, Japan
	Panel Discussions	

Time	Topic	Speakers
Sessions	**Spectroscopy, Plastics, Paints and Synthetic Materials and Miscellanious Talks**	
Chair	**suyoshi Nishi,** Ibaraki University, Japan	
09:00-09:20	DNA-mediated global positioning system	**Jian-Jun SHU** Nanyang Technological University, Singapore
09:20-09:40	Design and Synthesis of Artificial Supramolecular Systems Possessing Highly Cooperative Functions	**Tatsuya Nabeshima** University of Tsukuba, Japan
09:40-10:00	Cyanobacterial biopolymers with ultra-high molecular weight and their biofunction	**Maiko Okajima** JAIST, Japan
10:00-10:20	Molecular design of high-performance, degradable bioplastics	**Tatsuo Kaneko** JAIST, Japan
10:20-10:40	Studies on the effect of chlorpyrifos on hatching and morphology of anuran amphibians Polypedates teraiensis and Duttaphrynus melanostictus embryos using scanning electron microscopy	**Rupa Nylla K. Hooroo** North Eastern Hill University, India
10:40-11:00	Study of electronic transport properties of graphene-polymer nanocomposites	**Roxana M. Del Castillo** Universidad Nacional Autónoma de México, Mexico
	Coffee Break 11:00 -11:15@ Foyer	
11:15-11:35	XAFS study on americium oxides and americium and uranium mixed dioxide	**Tsuyoshi Nishi** Ibaraki University, Japan
11:35-11:55	Chirality and purity characterization of organic crystals using low frequency Raman spectroscopy	**Hagit Aviv** Bar-Ilan University, Israel
11:55-12:15	The surface chemistry of magnetite particles in high temperature water	**Sonja Vidojkovic** TU Delft, Netherlands
12:15-12:35	Green and comprehensive utilization of K-feldspar	**Jiangyan Yuan** China University of Geosciences (Beijing), P.R.China
12:35-12:55	Controlled synthesis of Ni0.85Se nanosheets with different morphologies and their electrochemical performances in supercapacitor	**Yuqing Kuai** China University of Geosciences, China"
	Lunch Break 12:55 -14:00 @ Restaurent	
	Thanks giving & Closing Remarks	

Tuning of $BiFeO_3$ multiferroic properties by light doping with Nb

Aleksandar Radojković[1], Danijela Luković Golić[1], Jovana Ćirković[1], Damir Pajić[2], Filip Torić[2], Aleksandra Dapčević[3], Zorica Branković[1] and Goran Branković[1]

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[2]*Department of Physics, Faculty of Science, University of Zagreb, Bijenička cesta 32, 10000 Zagreb, Croatia*

[3]*Department of General and Inorganic Chemistry, Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, 11120 Belgrade, Serbia*

$BiFeO_3$, as one of few multiferroic perovskites, is distinguished by some drawbacks such as high leakage current, low remnant magnetic polarization, high electric coercive field and difficulties of pure phase synthesis that still keep it away from any practical use in electronics. There have been many attempts to improve overall properties of $BiFeO_3$ by A- or B-site doping or by both. It was found that B-site doping with Nb can potentially improve both ferroelectric and magnetic properties of $BiFeO_3$. In this study, $BiFe_{1-x}Nb_xO_3$ (x=0.002; 0.005 amd 0.01) bulk ceramics were investigated in the quest for the more integral understanding of changes in multiferroic properties caused by light Nb doping (≤ 1 mole%). $BiFe_{1-x}Nb_xO_3$ powders were synthesized by hydro evaporation method and only traces of the secondary phases were observed. Multiferroic properties of bulk ceramics were investigated using X-ray diffraction (XRD) analysis, scanning electron spectroscopy (SEM), polarization (PMTS) and magnetization (SQUID) techniques. It was shown that even the small percentages of Nb could notably change the electric and magnetic behavior of $BiFeO_3$. The electric conductivity differed by two orders of magnitude between samples doped with 0.2 and 1% Nb. The ferroelectric behavior strongly depended on the conduction mechanism, and transition from space-charge-limited current (SCLC) conduction to trap-filled limited (TFL) conduction regime reflected on a change in hysteresis patterns, particularly for the samples with 0.2 and 0.5% Nb. ZFC-FC magnetization curves were separated for all Nb concentrations and the degree of separation increased with Nb doping. Weak ferromagnetic behavior was observed from the hysteresis measurements and the increase of remnant magnetization with Nb concentration. Coercive magnetic field changed drastically compared to the pure $BiFeO_3$, namely, the sample with 1% Nb exhibited very high coercive magnetic field of ~10 kOe.

Biography

Aleksandar Radojković is a Research Fellow at the Institute for Multidisciplinary Research, University of Belgrade. His research is mainly focused on synthesis and characterization of ceramic materials with ferroelectric and multiferroic properties, as well as materials used for solid oxide fuel cells. He has also been active in a project dealing with commercialization of active packaging solutions based on environmentally safe materials.