

Belarus-Swedish Workshop

Novel materials for energy conversion and storage

(June 8-9, 2016, Minsk)

GENERAL SCHEDULE

Wednesday June 8, 2016, Conference Hall

15:00 – 16:55 PLENARY SESSION

16:55 – 17:15 *Coffee Break*

17:15 – 18:15 PLENARY SESSION

Thursday June 9, 2016, Conference Hall

09:30 – 11:35 PLENARY SESSION

11:35 – 12:10 *Coffee Break*

12:10 – 14:10 PLENARY SESSION

14:10 – 15:00 *Lunch*

15:00 – 17:00 ROUND TABLE

17:00 – 17:20 CONCLUSIVE REMARKS

PROGRAM

Wednesday June 8, 2016

PLENARY SESSION

Chairman D.B. Migas

- 15:00 **Welcome to Belarus-Swedish Workshop on Novel materials for energy conversion and storage**
D. B. Migas (Co-Chairman of the Organizing Committee)
N.V. Skorodumova (Co-Chairman of the Organizing Committee)
- 15:10 **Research and education activity in the Department of Micro- and Nanoelectronics of Belarusian State University of Informatics and Radioelectronics**
V.E. Borisenko
Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus
- 15:25 **Propagation and generation of THz electromagnetic waves in carbon nanostructures**
S. Maksimenko, K. Batrakov, P. Kuzhir, M. Shuba
Institute for Nuclear Problems, Belarusian State University, Minsk, Belarus
- 15:55 **InkJet patterning of functional materials towards sustainable energy**
L. Belova
Royal Institute of Technology, Stockholm, Sweden
- 16:15 **Endogenic oil synthesis: what can we learn from Nature?**
A. B. Belonoshko
Royal Institute of Technology, Stockholm, Sweden
- 16:35 **Frontiers of two dimensional hexagonal dichalcogenides for solar energy processing**
A. V. Krivosheeva, V. L. Shaposhnikov, V. E. Borisenko, A. Yu. Alexeev
Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus

Coffee Break

PLENARY SESSION

Chairman N.V. Skorodumova

- 17:15 **Theoretical study of ionic conductivity in ceria by the colour diffusion algorithm**
O. Vekilova
Uppsala University, Uppsala, Sweden
- 17:35 **Defect interaction and ordering in Gd-doped ceria**
P. Zhgun
Uppsala University, Uppsala, Sweden
- 17:55 **Extending simulation time and length scales with kinetic Monte-Carlo**
M. Leetmaa
Royal Institute of Technology, Stockholm, Sweden

Thursday June 9, 2016

PLENARY SESSION

Chairman A. B. Belonoshko

- 9:30 **Beta-battery based on Ni⁶³/macroporous silicon**
A. Dolgij and V. Bondarenko
Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus
- 9:45 **TiO₂-based nanostructures for photocatalytic water purification**
N. M. Denisov, A. V. Baglov V. E. Borisenko
Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus
- 10:00 **Sol-gel synthesis of strontium titanate films and their properties for capacitors, memristors and photosensitive structures**
N.V. Gaponenko, H. Sohrabi Anaraki, M.V. Rudenko, L.S. Khoroshko
Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus
- 10:15 **Stimulated and laser emission in Cu(In,Ga)Se₂ thin films for light-absorbing layers of solar cells**
V. N. Pavlovskii, I. E. Svitsiankou, E. V. Lutsenko, G. P. Yablonskii, A. V. Mudryi, V. D. Zhivulko,
O. M. Borodavchenko
Stepanov Institute of Physics, National Academy of Sciences of Belarus, Minsk, Belarus
- 10:35 **Polaron fomatation and mobility in WO₃**
N.V. Skorodumova
Royal Institute of Technology, Stockholm, Sweden
- 11:55 **Quantum confinement effects in anatase TiO₂ nanowires**
D. B. Migas¹, A. B. Filonov¹, V. E. Borisenko¹, N. V. Skorodumova²
¹ *Belarusian state University of Informatics and Radioelectronics, Minsk, Belarus*
² *Royal Institute of Technology, Stockholm, Sweden*
- 11:15 **Free energies from molecular dynamics**
S. I. Simak
Linköping University, Linköping, Sweden

Coffee Break
PLENARY SESSION

- 12:10 **Chairman L. Belova**
Temperature induced modification of the mid-infrared response of single-walled carbon nanotubes
M. V. Shuba¹, A. G. Paddubskaya², P. P. Kuzhir¹, S. A. Maksimenko¹, G. Valusis², N. A. Poklonski³,
G. Kenanakis⁴, and M. Kafesaki⁴
¹*Institute for Nuclear Problems, Belarus State University, Minsk, Belarus*
²*Center for Physical Sciences and Technology, Vilnius, Lithuania*
³*Department of Physics, Belarus State University, Minsk, Belarus*
⁴*Institute of Electronic Structure and Laser, Foundation for Research and Technology Hellas, Heraklion, Greece*
- 12:30 **Physical (including thermal) properties of graphene on various substrates**
E.A. Kolesov¹, O.V. Korolik¹, M.S. Tivanov¹, I.V. Komissarov²
¹*Belarusian State University, Minsk, Belarus*
²*Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus*
- 12:50 **CoPd nanoporous thin films with perpendicular magnetic anisotropy for designing of percolated recording media**
J. Fedotova, Yu. Kasiuk, V. Bayev
Research Institute for Nuclear Problems of Belarusian State University, Minsk, Belarus
- 13:10 **Quantitative Mobility Spectrum Analysis for characterization of the materials for energy conversion**
A. S. Fedotov
Belarusian State University, Minsk, Belarus
- 13:30 **Nanostructured materials for photoelectrochemical energy conversion**
E. A. Bondarenko¹, M. E. Kazyrevich¹, O. V. Korolik¹, A. I. Kulak², M. V. Malashchonak¹, A. V. Mazanik¹,
E. A. Streltsov¹, M. S. Tivanov¹
¹*Belarusian State University, Minsk, Belarus*
²*Institute of General and Inorganic Chemistry, National Academy of Sciences of Belarus, Minsk, Belarus*
- 13:50 **Electromagnetic properties of graphene/polymer sandwiches**
P. P. Kuzhir¹, A. G. Paddubskaya^{1,2}, N. I. Valynets¹, K. G. Batrakov¹, S. A. Maksimenko¹, T. Kaplas³,
Y. Svirko³, P. Lambin⁴
¹*Institute for Nuclear Problems, Belarusian State University, Minsk, Belarus*
²*Center of Physical Science and technology, Vilnius, Lithuania*
³*Institute of Photonics, University of Eastern Finland, Finland*
⁴*Physics Department, Universite' de Namur, Namur Belgium*
- Lunch**
- 15:00 **Round table**
- 17:00 **Conclusive remarks**