

6th AFMD Program



Metro station "UNIVERSITET" or "Lomonosovky Prospect"

119991, Moscow, Leninskie gory, 1, b.3. Chemistry Department

Tuesday, 25.07.17, Venue: Chemistry Department of MSU,

2-nd floor, Main hall + Main lecture hall (BCA)

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| Registration starts from 16⁰⁰ | |
| Welcome reception and party 17⁰⁰ | |
| Chairs and Co-Chairs introduction 18²⁰ | |
| Organizing committee and program presentation 18⁴⁰ Prof. Z. Shen and Dr. S. Savilov | |
| Buses to the hotels | 20 ⁰⁰ |

Wednesday, 26.07.17

***Venue: Chemistry Department of MSU,
Main lecture hall (BCA)+North lecture
hall (NCA)***

| | <i>Main author</i> | <i>Presentation title</i> | <i>Time</i> |
|--|--|---------------------------|------------------|
| | Chair – Dr. Savilov Serguei | | |
| | Open Ceremony by Acad. Valery Lunin, Prof. Bo Liedberg, Acad. Sergey Aldoshin and Acad. Wei Huang | | 09 ⁰⁰ |
| | Award ceremony of Acad. HUANG Wei as foreign RAS member | | 09 ¹⁰ |
| | Lecture by Acad. Wei Huang. Recent Advances in Flexible Electronics. | | 09 ²⁰ |

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| | Lecture by Acad. Sergey Aldoshin. Single molecule magnets: challenge in new perspective magnetic materials | 09 ⁵⁵ |
| | Coffee break | 10 ³⁰ |
| | Plenary – Prof. Andrey Shevelkov. Iron Compounds with Strong Electron Correlations for advanced materials for energy | 10 ⁴⁰ |
| | Plenary – Prof. Huo Fengwei. Metal-Organic Frameworks Materials. | 11 ²⁰ |
| | Lunch | 12 ⁰⁰ |

Session A. Energy storage devices (BCA)

Chair – Prof. Lu Li

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|-----|-------------------------|--|------------------|
| 001 | Keynote – Hailong Wang | Synthesis of phase pure Li ₂ FeSiO ₄ cathode materials for LIBs | 13 ⁰⁰ |
| 002 | Invited - Shaolin Mu | Preparation of poly(aniline-CO-5-aminosalicylic acid) nanowires and the Zn/Co polymer rechargeable batteries | 13 ³⁵ |
| 247 | Invited - Daniil Itkis | SOLID ELECTROLYTES WITH NASICON STRUCTURE FOR ADVANCED LITHIUM BATTERIES | 14 ⁰⁵ |
| 106 | Keynote - Heong Kang | NANOCAPACITOR DEVICE FOR ELECTRIFICATION OF MOLECULAR FILMS | 14 ³⁵ |
| 030 | Contribution - Li Sheng | Surface capacitive contributions for high rate anode materials | 15 ¹⁰ |
| | Coffee break | | 15 ³⁰ |

Session B. Energy storage devices - 2 (BCA)

Chair – Prof. Andrey Shevelkov

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|-----|-------------------------------------|---|------------------|
| 107 | Plenary - Lu Li | Solid Electrolyte for Solid State and Li-Air Batteries for Future Energy Storage | 15 ⁴⁰ |
| 012 | Plenary - Sergey Varfolomeev | Chemistry of biomass: energetics and bioplastics from hydrocarbons to carbohydrates | 16 ²⁰ |
| R | Keynote - Leonid Kustov | IONIC LIQUIDS: NEW ADVENTURES IN SPACE AND ON THE EARTH | 17 ⁰⁰ |
| 005 | Invited - Shi Siqi | Application of Computational Materials | 17 ³⁵ |

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| | | Science in the Development of Lithium-Ion Battery Materials | |
| Session C. NTU - MSU 3-rd Workshop (NCA) | | | |
| Chair – Prof. Leonid Kustov | | | |
| R | Keynote - Ilia Kurochkin | Nanoplasmonics in bioanalytical chemistry | 13 ⁰⁰ |
| M | Invited - Ivan Kasyanov | MICRO-MESOPOROUS MATERIALS OBTAINED BY RECRYSTALLIZATION OF ZEOLITES | 13 ³⁵ |
| 244 | Invited – Raju V. Ramanujan | Magnetocaloric Systems for Thermal Management and Energy Harvesting | 14 ⁰⁵ |
| | Invited - Andrew Clive Grimsdale | Pyridineacenes – Novel Organic semiconductors | 14 ³⁵ |
| 016 | Invited – Dmitry Ivanov | NEW PERSPECTIVES IN STUDIES OF POLYMERS WITH ADVANCED CHARACTERIZATION TECHNIQUES: ultrafast calorimetry coupled to in-situ nano-focus X-ray scattering | 15 ⁰⁵ |
| Session C2. NTU - MSU 3-rd Workshop (NCA) | | | |
| Chair – Prof. Bo Liedberg | | | |
| 238 | Invited - Su Haibin | Multiscale Molecular Simulations: Methodology and Applications | 15 ⁴⁰ |
| | Invited - Elbert Chia Ee Min | Spin-charge conversion in topological materials | 16 ¹⁰ |
| 246 | Invited - Alexander Ulyanov | Raman modes and electron structure of vacancy doped $\text{La}_{1-x}\text{MnO}_{3+\delta}$ manganites | 16 ⁴⁰ |
| 242 | Contribution - Ekaterina Arkhipova | CHARACTERIZATION OF HIGH VOLTAGE IONIC LIQUIDS | 17 ¹⁰ |
| 248 | Contribution - Yulia Tambovtseva | HEAT OF COMBUSTION BEHAVIOUR IN NITROGEN-DOPED CARBON NANOFLAKES | 17 ³⁰ |
| 243 | Contribution - Samarov Alexander | Aromatic-derived Porous Carbon materials for Supercapacitor Electrodes | 17 ⁵⁰ |
| | Moscow river tour from the Entrance hall | | 18³⁰ |

Ship "Chizhik -2" from Leninskie gory Pier at 19-00. Walking distance

Thursday, 27.07.17

Venue: Chemistry Department of MSU,

North lecture hall (NCA)

| Chair – Dr. Serguei Savilov | | | |
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| | Plenary - Chan Siew Hwa | Co-Electrolysis of Flue Gas using High-Temperature Solid Oxide Electrolyzer Cells | 09 ³⁰ |
| 116 | Keynote - Lutz Lange | Elemental analysis in modern science | 10 ¹⁰ |
| | Introduction of Elementar GMBH , Germany by Dr. Lange Lutz | | 10 ⁴⁵ |
| | Introduction of TOKYO BOEKI by Dr. Dmitry Yurkovets | | 11 ⁰⁰ |
| | Coffee break | | 11 ¹⁵ |
| Session A. Energy harvesting (NCA) | | | |
| Chair – Acad. Huang Wei | | | |
| 111 | Keynote - Troshin Pavel | Materials chemistry for emerging photovoltaics | 11 ⁴⁰ |
| 004 | Invited - Xin Lu | ENERGY HAVERSTING USING PVDF-Ag HYBRID SYSTEM | 12 ¹⁰ |
| 230 | Contribution - Boyun Jang | Porous microspheres granulated from Si-SiOx core-shell nanoparticles for Li-ion battery's anode | 12 ⁴⁰ |
| | Lunch | | 13 ⁰⁰ |
| Session B. Solar cells (NCA -2) | | | |
| Chair – Dr. Eugeny Karpushkin | | | |
| | Keynote - Chen Zhong | Design and Synthesis of Visible-light Active NaTaO ₃ Photocatalyst via Controlled Doping | 14 ⁰⁰ |
| 213 | Contribution - Hao Wang | Decorated ZnO nanorods and its applications on perovskite solar cell | 14 ³⁵ |
| 204 | Contribution - Mehdi Molaei | Synthesis of PbS QDs by a new photochemical method and investigating photoluminescence | 14 ⁵⁵ |

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| | | properties | |
| 212 | Contribution - Masoud Karimpour | Synthesis of Ag ₂ S and Ag ₂ S-ZnS QDs using a rapid microwave method and investigating optical properties | 15 ¹⁵ |
| 202 | Contribution - Yamuna Munusamy | SOLAR ENERGY CONVERSION EFFICIENCY OF CROSSLINK PMMA COATED MYRISTIC ACID/REDUCED GRAPHENE OXIDE NANOCOMPOSITE PHASE CHANGE MATERIAL | 15 ³⁵ |
| 218 | Contribution - Mustafa Eginligil | HELICITY DEPENDENT PHOTOCURRENTS IN GRAPHENE AND 2D SEMICONDUCTORS | 15 ⁵⁵ |

Session C. New materials and synthetic approaches (NCA)

Chair – Prof. Shaolin Mu

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| 109 | Plenary - Prof. Zexiang Shen | Engineering the Properties in 2D Materials by layer thickness and stacking order | 16 ³⁰ |
| 101 | Keynote – Chen Yu | NANOSTRUCTURED ANODE MATERIALS FOR SODIUM ION BATTERIES | 17 ⁰⁵ |
| 007 | Invited - Mikhail Povarennykh | The Discovery of Carbon Nanotubes in Natural Rocks | 17 ⁴⁰ |
| 207 | Contribution - Chen Jie | Colloidal Synthesis of TiO ₂ -Based Mesoporous Hybrid Shells as Powerful Visible Light Photocatalysts | 18 ¹⁰ |

Session D. Bulk materials. (NCA-2)

Chair – Dr. Troshin Pavel

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| 226 | Keynote - Hong Yan | KINETIC CRYSTAL GROWTH IN AQUEOUS ENVIRONMENT | 14 ⁰⁰ |
| | Contribution - Ichkitidze Levan | LASER STIMULATION THE CONDUCTIVITY OF FILMS OF NANOMATERIALS | 14 ³⁵ |
| 250 | Contribution - Sun Young Lee | AGING BEHAVIOR OF NITRILE BUTADIENE RUBBER | 14 ⁵⁵ |
| | Contribution - Lien-Chun | Polybenzimidazole Asymmetric | 15 ¹⁵ |

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| | Hsu | Membranes for Fuel Cells High Temperature Proton Exchange Membranes | |
| R | Contribution - Anastasia Kholodkova | Synthesis of barium titanate in water medium for dielectric ceramics production | 15 ³⁵ |
| 023 | Contribution WANG Xiaoshan | Vertical Heterostructures Based on 2D Materials: Wet-Chemical Synthesis, Characterization and Application | 15 ⁵⁵ |
| | Coffee Break | | 16 ¹⁵ |
| Session E. Hybrid Materials (NCA-2) <p style="text-align: right;">Chair – Prof. Alexander Nizovskii</p> | | | |
| | Keynote - Ni Jianfeng | SELF-SUPPORTED NANOARRAY ELECTRODES ENABLING SUPERIOR SODIUM STORAGE | 16 ³⁰ |
| 024 | Contribution - ZHANG Zhipeng | Epitaxial deposition of organic-inorganic hybrid perovskite crystals on MoS2 nanosheets | 17 ⁰⁵ |
| 206 | Contribution - Vorrada Lorywenyong | THE ENHANCEMENT OF PHOTOANODE EFFICIENCY IN DSSCS WITH TiO2/GRAPHENE NANOCOMPOSITE | 17 ²⁵ |
| 027 | Contribution - CHEN Yonghua | Methylammonium Acetate (MAAc): A Promising Material for Highly Efficient Perovskite Optoelectronics | 17 ⁴⁵ |
| | Contribution - Tovstopyat Alexander | MODIFICATION OF THE FUNCTIONAL PROPERTIES OF GLASS-CERAMIC MATERIALS AT LOW-PRESSURE RF PLASMA STREAM | 18 ⁰⁵ |
| | Contribution Youn-Jea Kim | THERMAL PERFORMANCE OF A STRETCHABLE HEATER WITH MOGUL-PATTERNED FILM CONFIGURATIONS | 18 ²⁵ |

Friday, 28.07.17

Venue: Chemistry Department of MSU,

North lecture hall (NCA)

| Chair – Prof. Dr. Chen Zhong | | | |
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| 011 | Plenary - Alexander Nizovskii | INTERACTION OF GA-IN EUTECTICS WITH COMMERCIAL ALUMINUM ALLOYS. FORMATION OF NANOSTRUCTURED MATERIAL FOR HYDROGEN CARTRIDGES | 09 ⁴⁰ |
| O | Keynote – Serguei Savilov | Modification of Carbon Nanomaterials for Supercapacitors and Batteries application | 10 ²⁰ |
| 104 | Keynote - Tohru Sekino | MATERIALS TUNING OF TITANIA NANOTUBES FOR ENVIRONMENTAL AND ENERGY APPLICATIONS | 11 ⁰⁰ |
| | Sponsor Presentation - Grishchenko Roman | New solutions and instruments of NETZSCH company for thermal analysis | 11 ³⁵ |
| | Lunch | | 12 ⁰⁰ |
| Session A. Carbon materials. (NCA) | | | |
| Chair – Dr. Lu Xin | | | |
| | Keynote - Hui Xia | Nanostructured electrode designs for high performance supercapacitors | 13 ⁰⁰ |
| 256 | Contribution - Alexander Ulyanov | B-site substituted lanthanum manganites. Destruction of electron pathway effect on Curie temperature | 13 ³⁵ |
| 252 | Contribution - Eugenia Suslova | ROLE OF BULK AND SURFACE ENTHALPY OF FORMATION OF OXIDIZED CARBON NANOTUBES | 13 ⁵⁵ |
| 253 | Contribution - Strokova Natalia | Water and hexane adsorption on carbon nanotubes surface doped with oxygen and nitrogen atoms | 14 ¹⁵ |
| 251 | Contribution - Chernyak Sergei | Thermal properties and kinetics study of oxidized carbon nanoflakes | 14 ³⁵ |
| | Coffee Break | | 15 ⁰⁵ |

Session B. New materials and processing. (NCA)

Chair – Prof. Xia Hui

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| 249 | Invited - Eugeny Karpushkin | NOVEL MEMBRANES FOR REDOX FLOW BATTERIES | 15 ⁴⁰ |
| 017 | Contribution - Anna Romanchuk | CERIUM DIOXIDE NANOPARTICLES BEHAVIOUR IN AQUEOUS SOLUTIONS | 16 ¹⁵ |
| 021 | Contribution - MA Zhongyuan | N-doped vanadium oxide for energy storage | 16 ³⁵ |
| 222 | Contribution - Wu Tian (Changed to Dr. Liu) | EXCELLENT PERFORMANCE FOR WATER PURIFICATION ACHIEVED BY ACTIVATED POROUS BORON NITRIDE NANOSHEETS | 16 ⁵⁵ |
| 019 | Contribution - Lei Jie | Regenerated collagen film as substrate for flexible pressure sensor | 17 ¹⁵ |

Session C. MOFs (NCA-2)

Chair – Dr. ZHANG Weina

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| 225 | Keynote - Liu Yinong | Bio-inspired Composite – Nanometric Design of Bulk Materials | 13 ⁰⁰ |
| 022 | Contribution - WANG Zhiwei | Highly selective VOC sensors based on proton-conductive hydrogen-bonded organic frameworks | 13 ³⁵ |
| 020 | Contribution - WANG Yu | Encapsulated organocatalyst within core-shell metal-organic frameworks | 13 ⁵⁵ |
| 018 | Contribution - ZHOU Weiqiang | Selenium-containing polymer@metal-organic frameworks nanocomposites as an efficient multi-responsive drug delivery system | 14 ¹⁵ |
| 029 | Contribution - ZHANG Weina | Incorporation of Nanoparticles in Metal-Organic Frameworks for Selective Catalysis | 14 ³⁵ |
| 217 | Contribution - Zhu Xiashi | Fe ₃ O ₄ @IONIC LIQUID- β -CYCLODEXTRIN POLYMER MAGNETIC | 14 ⁵⁵ |

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| | | SOLID PHASE EXTRACTION COUPLED WITH HPLC FOR THE SEPARATION/ANALYSIS OF CONGO RED IN REAL SAMPLE | |
| Session E. New materials (NCA-2) | | | |
| Chair – Prof. Ni Jiangfeng | | | |
| 245 | Contribution - Novotortsev Roman | APPLICATION OF THE RICE HUSK ASH: A SOURCE OF FINE "TIRE" SILICA, OIL SORBENT AND SILICON | 15 ⁴⁰ |
| 237 | Contribution - Chengyin Wang | EXPLOITATION OF USING RED GYPSUM TO PRODUCE CALCIUM SULFATE HEMIHYDRATE WHISKERS AS COMPOSITE REINFORCING MATERIAL | 16 ⁰⁰ |
| 229 | Contribution - Joonsoo Kim | ELECTRICAL AND THERMAL PROPERTIES OF Sb ₂ O ₃ DOPED (Ba _{1-x-y} Sr _x Ca _y)TiO ₃ -BASED PTC THERMISTOR FOR PREHWATING OIL | 16 ²⁰ |
| R | Contribution - Veselova Svetlana | EFFECT OF INTERSTITIAL HYDROGEN AND NITROGEN ON STRUCTURAL AND MAGNETIC PROPERTIES OF THE Sm-Ho-Fe AND Sm-Fe-Al ALLOYS | 16 ⁴⁰ |

Saturday, 29.07.17

Venue: Chemistry Department of MSU,

North lecture hall (NCA)

| Chair – Dr. Sergei Chernyak | | | |
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| 013 | Keynote - Goodilin Eugeny | Soft chemistry design of silver-based nanostructured materials for surface-enhanced Raman spectroscopy | 09 ³⁰ |
| 102 | Keynote - Jihuai Wu | THREE GENERATION OF PHOTOVOLTAIC DEVICES | 10 ¹⁰ |
| I | Invited - Evshchik Elizaveta | POLYMER ION-CONDUCTING MEMBRANES FOR SUB-ZERO TEMPERATURE ELECTROCHEMICAL DEVICE APPLICATIONS | 10 ⁵⁰ |
| R | Contribution - Vershinin Anatoly | Engineering analysis of composite materials using CAE Fidesys | 11 ³⁰ |
| Lunch | | | 12 ⁰⁰ |

Session A. Bio-compactable materials (NCA)

Chair – Prof. Eugene Goodilin

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| 003 | Invited Duong Hai Minh | ADVANCED FABRICATION AND APPLICATIONS OF Bio-inspired AND CARBON NANOTUBE NANOMATERIALS | 13 ⁰⁰ |
| 220 | Contribution Dan Shan | Br-PADAP Embedded in Cellulose Acetate Electrospun Nanofibers: Colorimetric Sensor Strips for Visual Uranyl Recognition | 13 ³⁵ |
| 028 | Contribution - Yu Haidong | Magnetic Levitation and Paper-based Diagnostics | 14 ⁰⁵ |
| 214 | Contribution - Sun Ya-Ping | CARBON DOTS: FUNDAMENTALS AND APPLICATIONS | 14 ³⁵ |
| Coffee Break | | | 15 ⁰⁰ |

Session B. Composite materials (NCA-2)

Chair – Prof. Huo Fengwei

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| | Contribution - Artem Malakho | GAS PERMEATION OF GRAPHITE MATERIAL AS A FUNCTION OF | 13 ³⁵ |
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| | | EXPANSION TEMPERATURE AND SEATING STRESS | |
| | Contribution - Sameh Boudiba | NEW ANTHRACENE - CONTAINING POLYMER, SYNTHESIS, CHARACTERIZATION AND PHOTOVOLTAIC APPLICATION | 13 ⁵⁵ |
| 203 | Contribution Achanai Buasri | THE FABRICATION OF MULTICOLOR ELECTROCHROMIC DEVICE BASED ON REDUCED GRAPHENE OXIDE/ BIAXIALLY ORIENTED POLYPROPYLENE USING SILVER NANOPARTICLES | 14 ¹⁵ |
| 006 | Invited - Niroki Hagai | FABRICATION OF ALL-SOLID-STATE PHOTOVOLTAIC LITHIUM ION BATTERY | 14 ³⁵ |
| POSTERS | | | |
| Available during coffee breaks | | | |
| 201 | Poster - Ik-Jae Lee | Electrical and optical properties of amorphous zinc tin oxide thin films | |
| 254 | Poster - Yeong-Mu Ko | MECHANICAL PROPERTIES OF CERAMIC/POLYMER COMPOSITE BLOCKS FOR CAD/CAM DENTAL RESTORATION | |

Sunday, 30.07.17

River tour outside Moscow and closing banquet

**Conference cruise tour from North River Port
buses start 8⁰⁰ from the hotels, back - 20³⁰ !**

Ship departure time 10-00 from North River Port (Metro "Rechnoy vokzal")

Monday, 31.07.17

**Sightseeing tour to Sergiev Posad
(Zagorsk). Fee 60 USD**

Buses start 10⁰⁰ from the hotels *Return to the hotels - 22⁰⁰ !*