



# US-Czech Conference on Advanced Nanotechnology and Chemistry

## Program

Wednesday, January 17, 2018

<b>Opening Session</b>		Chair:
8.15-8.45 am	<i>Registration &amp; Check In</i>	
8.45-8.55 am	Stephen D. O'Regan (US Embassy, ONR Global): Safety Brief + US Embassy Sponsor Address	<b>S. D. O'Regan</b>
8.55-9.05 am	Stephen B. King: Welcome Address of the U.S. Ambassador	
9.05-9.15 am	Radek Zbořil (RCPTM Palacký University Olomouc): Welcome Address of the Chairman	
9.15-9.25 am	Pavel Doleček: Welcome Address of Deputy Minister of Ministry of Education, Youth and Sports of the Czech Republic	
9.25-9.35 am	Eva Zažímalová: Welcome Address of the Chairwoman of Czech Academy of Sciences (CAS)	
9.35-9.45 am	Jaroslav Miller: Welcome Address of the Rector of Palacký University Olomouc	
9.45-10.00 am	Zdeněk Hostomský: Welcome Address of the Director of Institute of Organic Chemistry and Biochemistry CAS	
<b>Introductory Lectures in Nanotechnologies and Chemistry</b>		Chair:
10.00-10.25 am	Yuri Gogotsi: MXenes: New Ultrathin Materials Expand the Flatlands <i>Drexel University</i>	<b>R. Zbořil</b>
10.25-10.45 am	Josef Michl: Arrays of Dipolar Molecular Rotors <i>Institute of Organic Chemistry and Biochemistry CAS / University of Colorado</i>	
10.45-11.00 am	<b>COFFEE BREAK</b>	
<b>Biomedicine</b>		Chair:
11.00-11.20 am	Zdeněk Havlas: History of Success. Czech-US Development of anti-AIDS Drugs <i>Institute of Organic Chemistry and Biochemistry CAS</i>	<b>Y. Gogotsi</b>
11.20-11.45 am	Alexander Kabanov: Nanoparticle-loaded Cells and Exosomes for Treatment of Brain Diseases <i>University of North Carolina, Eshelman School of Pharmacy</i>	
11.45-12.05 pm	Tomáš Etrych: Stimuli-responsive Polymer Nanomedicines for Treatment of Neoplastic and Inflammatory Diseases <i>Institute of Macromolecular Chemistry CAS</i>	



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12.05-12.30 pm	Shaoyi Jiang: Molecular Understanding, Design and Development of Ultra-low Fouling Zwitterionic Materials <i>University of Washington</i>	
12.30 -1.30 pm	<b>LUNCH BREAK</b>	
<b>Nanophotonics, Biosensing, Graphene</b>		<b>Chair:</b>
1.30-1.55 pm	Joshua Caldwell: Novel Materials for Active Infrared Nanophotonics and Optics <i>Vanderbilt University</i>	<b>J. Stroschio</b>
1.55-2.15 pm	Jiří Homola: Optical Biosensors and their Medical and Food Safety Applications <i>Institute of Photonics and Electronics CAS</i>	
2.15-2.40 pm	Jason Hafner: Membrane Structure Analysis by Enhanced Raman Scattering <i>Rice University</i>	
2.40-3.00 pm	Michal Otyepka: Chemistry of Fluorographene - Efficient Way towards Covalently Functionalized Graphene <i>RCPTM Palacký University Olomouc</i>	
3.00-3.20 pm	Radek Zbořil: Carbon Dots and Graphene-Based Materials with Exceptional Optical and Magnetic Properties <i>RCPTM Palacký University Olomouc</i>	
3.20-3.35 pm	<b>COFFEE BREAK</b>	
<b>Advances in Microscopic Imaging</b>		<b>Chair:</b>
3.35-3.55 pm	Pavel Jelínek: Exploring Functionalities of Molecules on Surfaces by means of Scanning Probe Microscopy <i>Institute of Physics CAS / RCPTM Palacký University Olomouc</i>	<b>T. Jungwirth</b>
3.55-4.20 pm	Joseph Stroschio: Development of Scanning Tunneling Microscopy Instrumentation and Application to the Electronic Structure of Graphene Quantum Dots <i>National Institute of Standards and Technology (US)</i>	
4.20-4.45 pm	Sergei V. Kalinin: Imaging in Information Dimension: from Learning Physics to Atom by Atom Fabrication with Electron Beams <i>Oak Ridge National Laboratory, University of Tennessee-Knoxville / Pennsylvania State University / Sung Kyun Kwan University</i>	
4.45-4.50 pm	Closing Remarks of the 1 <sup>st</sup> Day	<b>F. DelRio</b>
4.50-4.55 pm	Closing Remarks of the 1 <sup>st</sup> Day	<b>R. Zbořil</b>
6.30-8.00 pm	<b>RECEPTION AT THE US AMBASSADOR'S RESIDENCE</b> <i>(please arrive between 6:00-6:15 pm for security check)</i>	

**Thursday, January 18, 2018**

<b>Open to Day Two</b>		
8.15-8.45 am	Registration & Check In	
8.45-8.50 am	Frank DelRio (National Institute of Standards and Technology)/ Radek Zbořil: Welcome and Review of the Day	
<b>Electronics and Spintronics</b>		<b>Chair:</b>
8.50-9.10 am	Tomáš Jungwirth: Spintronics: From Sensors and Data Storage to Digital and Neuromorphic Computing <i>Institute of Physics CAS / University of Nottingham</i>	<b>J. D. Caldwell</b>
9.10-9.35 am	Mark Reed: Nanobioelectronics <i>Yale University</i>	

9.35-10.00 am	Karl Berggren: Superconducting Nanowires: a New Tool for Photodetection and Electronics <i>Massachusetts Institute of Technology</i>	<b>J. D. Caldwell</b>
10.00-10.25 am	Colin Nuckolls: Programmed Reactivity and Self-organization as a Route to Electronic Materials <i>Columbia University</i>	
10.25-10.50 am	Brian Korgel: Silicon Nanocrystals, Nanorods and Nanowires <i>University of Texas</i>	
10.50-11.05 am	<i>COFFEE BREAK</i>	
<b>Advances in Chemistry of Molecules and Materials</b>		Chair:
11.05-11.25 am	Pavel Hobza: Noncovalent Interactions in Host - Guest and Protein - Ligand Complexes <i>Institute of Organic Chemistry and Biochemistry CAS / RCPTM Palacký University Olomouc</i>	<b>J. Michl</b>
11.25-11.45 am	Jiří Šponer: Formamide-based Origin of Life Scenario <i>Institute of Biophysics CAS / RCPTM Palacký University Olomouc</i>	
11.45-12.05 pm	Jana Roithová: Trapping Reactive Intermediates <i>Charles University</i>	
12.05-12.25 pm	Aleš Růžička: Main Group Metal Amidinates: From Unexpected Reactivity of Small Molecules to New Materials <i>University of Pardubice</i>	
12.25 pm-1.25 pm	<i>LUNCH BREAK</i>	
<b>Environmental and Catalytic Technologies</b>		Chair:
1.25-1.50 pm	Rajender S. Varma: Magnetic and Carbon-based Nanocatalysts in Sustainable Chemical Transformations <i>U.S. Environmental Protection Agency / RCPTM Palacký University Olomouc</i>	<b>J. Roithová</b>
1.50-2.10 pm	Jiří Čejka: How to Unzip and then Zip Back again Zeolites <i>J. Heyrovský Institute of Physical Chemistry / Charles University Center of Advanced Materials</i>	
2.10-2.30 pm	Miroslav Černík: Application of Methods Based on Zero-valent Iron Nanoparticles for Remediation of Contaminated Groundwater <i>Institute for Nanomaterials, Advanced Technology and Innovation Technical University Liberec</i>	
2.30-2.55 pm	Hong Yang: Quantifying the Growth of Metal Nanostructures for Energy and Catalysis Applications <i>University of Illinois at Urbana-Champaign</i>	
2.55-3.10 pm	<i>COFFEE BREAK</i>	
<b>Panel Discussion</b>		Chair:
3.10-3.30 pm	Science and Technology Agreement: Christopher Greller (US Department of State), Luděk Moravec (Ministry of Foreign Affairs of the Czech Republic)	<b>F. DelRio</b>
3.30-4.50 pm	Funding Agencies and Opportunities: Sonia Ortega ( <i>National Science Foundation - Europe-Eurasia Office</i> ), Antti Mäkinen ( <i>Office of Naval Research</i> ), Stephen O'Regan ( <i>Office of Naval Research Global</i> ), Jennifer Becker ( <i>US Army Research, Development and Engineering Command</i> ), Petr Matolín ( <i>Technology Agency of the Czech Republic</i> ), Alice Valkárová ( <i>Czech Science Foundation</i> ), Petr Pracna ( <i>Technology Centre of the CAS</i> )	
4.50-4.55 pm	Radek Zbořil: Closing Remarks	
4.55-5.00 pm	Stephen D. O'Regan: Closing Remarks	
7.00-11.00 pm	<i>SOCIAL DINNER/BANQUET in the restaurant Nebozízek, Petřínské sady 14, Praha 1-Malá strana</i>	