

85th IUVSTA Workshop on Nanoporous Materials for Green Energy Conversion and Storage
 October 14 - 19, 2018, Schloss Seggau Castle, Austria

| Sunday October 14 | | |
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| 17:00-19:00 | | Registration |
| 19:00-21:00 | | Welcome reception |
| Monday October 15 | | |
| 08:30-09:00 | Christian Mitterer, Nikolaos Kostoglou, Claus Rebholz | Welcome note, introduction to IUVSTA and Workshop |
| 09:00-10:00 | Thomas Kienberger (Montanuniversität Leoben, Austria) | Energy-storages - a critical system component in energy transitions |
| 10:00-10:30 | Eva-Maria Steyskal , Michael Seidl, Roland Würschum (Graz University of Technology, Austria) | Formation of nanoporous metals by electrochemical dealloying analyzed by in-situ resistometry |
| 10:30-11:00 | | Coffee break |
| 11:00-12:00 | Matthias Thommes (Friedrich Alexander University of Erlangen-Nuremberg, Germany) | Recent advances in the physisorption characterization of hierarchically structured nanoporous materials |
| 12:00-13:30 | | Lunch break |
| 13:30-14:30 | Ana Kalijadis , Biljana Babic (University of Belgrade, Serbia) | How are traditional and up-to-date carbon materials made? (Part I) |
| 14:30-15:30 | Biljana Babic , Ana Kalijadis (University of Belgrade, Serbia) | How are traditional and up-to-date carbon materials made? (Part II) |
| 15:30-16:00 | | Coffee break |
| Poster session 16:00-18:00 | Huan Doan (University of Bristol, U.K.), Yanan Fang, Bingqing Yao, Zhili Dong, Timothy J. White (Nanyang Technological University, Singapore), Asel Sartbaeva, Ulrich Hintermair (University of Bath, U.K.), Valeska P. Ting (University of Bristol, U.K.) | Controlled formation of hierarchical metal-organic frameworks using CO ₂ -expanded solvent systems |
| | Markus Göblier , Eva-Maria Steyskal (Graz University of Technology, Austria), Heinz Krenn (University of Graz, Austria), Lukas Lührs, Jörg Weissmüller (Hamburg University of Technology, Germany), Roland Würschum (Graz University of Technology, Austria) | Nanoporous metals prepared by alloy corrosion - tuning of electrical, mechanical and magnetical properties |
| | Nikolaos Kostoglou , Christian Koczvara, (Montanuniversität Leoben, Austria), Christian Prehal (Graz University of Technology, Austria), Biljana Babic (University of Belgrade, Serbia), Christos Tampaxis, Georgia Charalambopoulou, Theodore Steriotis (National Center for Scientific Research Demokritos, Greece), Kyriaki Polychronopoulou (Khalifa University of Science and Technology, UAE), Georgios Constantinides (Cyprus University of Technology, Cyprus), Oskar Paris (Montanuniversität Leoben, Austria), Claus Rebholz (University of Cyprus, Cyprus), Christian Mitterer (Montanuniversität Leoben, Austria) | Nanoporous activated carbon cloth for H ₂ adsorption, selective CO ₂ /CH ₄ separation and supercapacitor energy storage |
| | Christian Prehal , Aleksej Samojlov, Heinz Amenitsch, Stefan Freunberger (Graz University of Technology, Austria) | Phase evolution in Li-O ₂ batteries as seen by in-situ small angle X-ray scattering |
| 18:30-19:30 | | Dinner |
| Tuesday October 16 | | |
| 08:30-09:30 | Oskar Paris (Montanuniversität Leoben, Austria) | In-situ small angle scattering from nanoporous materials for actuation and energy applications |
| 09:30-10:00 | Christian Koczvara (Montanuniversität Leoben, Austria), Christian Prehal (Montanuniversität Leoben & Graz University of Technology, Austria), Simon Rumswinkel, Michael S. Elsässer (Paris Lodron University Salzburg, Austria), Heinz Amenitsch (Graz University of Technology, Austria), Nicola Hüsing (Paris Lodron University Salzburg, Austria), Oskar Paris (Montanuniversität Leoben, Austria) | Hierarchically ordered mesoporous carbon: an ideal model material to investigate supercapacitor-charging behavior |
| 10:00-10:30 | Christian Prehal , Aleksej Samojlov, Heinz Amenitsch (Graz University of Technology, Austria), Oskar Paris (Montanuniversität Leoben, Austria), Stefan Freunberger (Graz University of Technology, Austria) | Phase evolution in Li-O ₂ batteries studied by operando small angle X-ray scattering |
| 10:30-11:00 | | Coffee break |
| 11:00-12:00 | Marina Enterría (CIC Energigune, Spain), José L. Figueiredo (University of Porto, Portugal), Nagore Ortiz-Vitoriano (CIC Energigune, Spain & IKERBASQUE, Spain) | Nanostructured porous carbons for electrochemical energy storage |
| 12:00-13:30 | | Lunch break |
| 13:30-14:30 | Werner Sitte , Edith Bucher, Christian Berger, Andreas Egger, Nina Schrödl (Montanuniversität Leoben, Austria) | Porous electrodes for solid oxide fuel and electrolysis Cells |
| 14:30-15:00 | Arlavinda Rezqita (Austrian Institute of Technology, Austria), Fabian Bohrn (Austrian Institute of Technology & Vienna University of Technology, Austria), Raad Hamid (Austrian Institute of Technology, Austria), Günter Faflek (Vienna University of Technology, Austria), Corina Täubert (Austrian Institute of Technology, Austria) | Synthesis and electrochemical evaluation of porous Mg-substituted lithium vanadium (III) phosphate as high voltage cathode material for Li-ion batteries |
| 15:00-15:30 | Daniel Alegre , Eider Oyarzabal, Francisco Tabares (CIEMAT, Madrid, Spain) | Micro and nano-porous materials as support of liquid metals for fusion energy |
| 15:30-16:00 | | Coffee break |
| 16:00-17:00 | | Round-table discussion (1): Synthesis & characterization of porous materials |
| 17:00-18:00 | | Wine tasting |
| 18:00-19:30 | | Dinner |
| Wednesday October 17 | | |
| 08:30-09:30 | Heinz Amenitsch (Graz University of Technology, Austria & Austrian SAXS Beamline, Elettra, Italy) | Insights into nanoporous materials revealed with small angle scattering |
| 09:30-10:00 | Rashko Rashkov , Vasil Bachvarov, Galin Borisov (Bulgarian Academy of Sciences, Bulgaria) | Multicomponent catalysts containing nonprecious metal for water splitting |
| 10:00-10:30 | Jiří Čapek , Šárka Batková, Jiří Houška (University of West Bohemia, Czech Republic), S. Haviar, T. Duchoň (Charles University, Czech Republic), Miloš Krbal (University of Pardubice, Czech Republic) | HiPIMS deposition of Ta-O-N coatings with modified surface by metallic nanoclusters for water splitting application |
| 10:30-11:00 | | Coffee break |
| 11:00-12:00 | Abhijeet Lale (Université Limoges, France), Umit B. Demirci, (Université Montpellier, France), Samuel Bernard (Université Limoges, France) | Polymer-derived mesoporous ceramics in nitride systems as catalyst supports and co-catalysts for hydrogen evolution reactions |
| 12:00-13:30 | | Lunch break |
| 13:30-14:30 | Nikolaos D. Charisiou (Western Macedonia University of Applied Sciences, Greece), Kyriaki Polychronopoulou , A. Asif (Khalifa University of Science and Technology, UAE), Maria A. Goula (Western Macedonia University of Applied Sciences, Greece) | Catalytic materials for the steam reforming of hydroxy-containing hydrocarbons towards H ₂ production |
| 14:30-15:00 | Guillaume Maurin (CNRS, Université Montpellier, France) | Computational-guided discovery of MOFs towards energy and environmental-related applications |
| 15:30-16:00 | | Coffee break |
| 16:00-16:30 | Georgia Basina , Dana AlShami, Kyriaki Polychronopoulou, Vasileios Tzitzios (Khalifa University of Science and Technology, UAE), Vaithilingam Balasubramanian (University of Minnesota, USA), Fadi Dawaymeh, Georgios N. Karanikolos, Yasser Al Wahedi (Khalifa University of Science and Technology, UAE) | Hierarchical AlPO ₄ -5 and SAPO-5 microporous molecular sieves with mesoporous connectivity for water sorption applications |
| 16:30-18:00 | Christian Mitterer (Montanuniversität Leoben, Austria) & Claus Rebholz (University of Cyprus, Cyprus) | Tutorial on scientific writing |
| 18:00-19:30 | | Dinner |

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| Thursday October 18 | | |
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| 08:30-09:30 | Christos Tampaxis (National Center for Scientific Research Demokritos, Greece & University of Crete, Greece), Filippo Peru (National Center for Scientific Research Demokritos, Greece & National and Kapodistrian University of Athens, Greece), Dimitra Giasafaki, Georgia Charalambopoulou, Theodore Steriottis (National Center for Scientific Research Demokritos, Greece) | Nanoporous carbons as sorbents, supports and scaffolds for H ₂ storage applications |
| 09:30-10:00 | Thomas Dengg, Maxim N. Popov (Materials Center Leoben, Austria) | Atomistic modeling of hydrogen adsorption in porous carbons |
| 10:00-10:30 | Stanislav Haviar , Jiří Čapek, Nirmal Kumar, Šárka Batková (University of West Bohemia, Czech Republic), Filip Dvořák (Charles University, Czech Republic) | Nanocluster-based hydrogen gas sensors (CuO/WO ₃) prepared by advanced magnetron sputtering techniques |
| 10:30-11:00 | Coffee break | |
| 11:00-12:00 | Valeska Ting (University of Bristol, U.K.), Mi Tian (University of Bath, U.K.), Nuno Bimbo (Lancaster University, U.K.), Anibal J. Ramirez-Cuesta (Oak Ridge National Laboratory, USA), Tim Mays (University of Bath, U.K.), Lui Terry, Estefani Marchiori (University of Bristol, U.K.), Dan Reed (University of Birmingham, U.K.), Simon Bending, Simon Hall (University of Bristol, U.K.) | Filling the void: Investigations into extremely high densities of hydrogen in nanoporous carbon materials |
| 12:00-13:30 | Lunch break | |
| 13:30-14:30 | Michael Hirscher , Maurice Schlichtenmayer, Rafael Balderas-Xicohtencatl (Max Planck Institute for Intelligent Systems, Germany) | Nanoporous materials for hydrogen storage |
| 14:30-15:30 | Jing-Yang Chung, Chi-Wei Liao (Feng Chia University, Taiwan), Bor Kae Chang (National Central University, Taiwan), Chen-Yu Wang (National Chiao Tung University, Taiwan) | Hydrogen storage in the composite of chemical hydride and metal-organic frameworks |
| 15:30-16:00 | Coffee break | |
| 16:00-17:00 | Round-table discussion (2): Application performance & future of porous materials | |
| 17:00-18:00 | Guided tour in Seggau Castle | |
| 18:00-19:30 | Dinner | |
| Friday October 19 | | |
| 08:30-09:30 | Volker Schmidt , Matthias Neumann (Ulm University, Germany), Sven E. Wetterauer, Thomas Carraro (Heidenberg University, Germany), Markus Osenberg (TU Berlin, Germany), André Hilger, Ingo Manke (Helmholtz-Zentrum Berlin, Germany), Amalia Wagner, Nicole Bohn, Joachim R. Binder (KIT Karlsruhe, Germany) | Stochastic microstructure modeling of aggregated particle systems |
| 09:30-10:30 | Nikolaos Kostoglou , Christian Koczwar, (Montanuniversität Leoben, Austria), Christian Prehal (Graz University of Technology, Austria), Biljana Babic (University of Belgrade, Serbia), Christos Tampaxis, Theodore Steriottis (National Center for Scientific Research Demokritos, Greece), Kyriaki Polychronopoulou (Khalifa University of Science and Technology, UAE), Oskar Paris (Montanuniversität Leoben, Austria), Cheng-Yu Wang (National Chiao Tung University, Taiwan), Claus Rebholz (University of Cyprus, Cyprus), Christian Mitterer (Montanuniversität Leoben, Austria) | Nanoporous carbon-based materials for energy and environmental applications |
| 10:30-11:00 | Coffee break | |
| 11:00-12:00 | Claus Rebholz (University of Cyprus, Cyprus) | Nanoheaters – miniature matches for thermal actuation |
| 12:00 | Christian Mitterer (Montanuniversität Leoben, Austria) | Closing remarks |
| 12:00-13:30 | Lunch break | |