

DySoN 2016 Program

Monday, 03 October 2016

12 ⁰⁰ - 16 ⁰⁰	Participants registration
14 ⁰⁰ - 14 ⁴⁵	DySoN2016 Opening Andrey V. Solov'yov , MBN Research Center, Frankfurt am Main, Germany <i>Multiscale modelling of Meso-Bio-Nano systems with MBN Explorer: biomedical and nanotechnology applications</i>
14 ⁴⁵ - 16 ¹⁵	<u><i>Afternoon session I: Structure and dynamics of clusters, nanoparticles and biomolecules</i></u> <u>Chair: Nigel J. Mason</u> Eric Surraud , Universite Paul Sabatier, Toulouse, France <i>Dissipation in clusters and molecules</i> Julius Jellinek , Argonne National Laboratory, Lemont, USA <i>Solving the problem of anharmonic densities of states</i> Kit Bowen , Johns Hopkins University, Baltimore, USA <i>Dipole bound anions, quadrupole bound anions, and double Rydberg anions</i>
16 ¹⁵ - 16 ⁴⁵	Coffee break
16 ⁴⁵ - 18 ⁴⁵	<u><i>Afternoon session II: Nanoscale phase and morphological transitions</i></u> <u>Chair: Shiv N. Khanna</u> Nigel J. Mason , Open University, Milton Keynes, UK <i>Exploring morphology and chemical synthesis in ices and thin films</i> Michael Moseler , Fraunhofer Institute for Mechanics of Materials IWM, Freiburg, Germany <i>Mechanically driven phase transitions and the formation of tribomaterial nanolayers</i> Florent Calvo , University Joseph Fourier - Grenoble 1, France <i>Evidence for non-statistical behavior in the collision-induced fragmentation of water clusters</i> Thomas Schlathölder , Zernike Institute for Advanced Materials, University of Groningen, the Netherlands <i>Radiation damage on the molecular level: from free oligonucleotides to DNA origami</i>
19 ⁰⁰ - 21 ⁰⁰	Welcome Reception

Tuesday, 04 October 2016

9 ³⁰ - 11 ⁰⁰	<u><i>Morning session I: Multiscale physics of radiation damage processes</i></u> <u>Chair: Andrey V. Solov'yov</u> Eugene Surdutovich , Oakland University, Rochester, USA <i>Multiscale approach to the physics of ion-beam cancer therapy: from prediction to experiment</i> Pablo de Vera , Queen's University Belfast, UK <i>Molecular dynamics insights into the biological effects of shock waves induced by ions</i> Alexey Verkhovtsev , Instituto de Física Fundamental, CSIC, Madrid, Spain <i>Predictive assessment of biological damage due to ion beams</i>
11 ⁰⁰ - 11 ²⁰	Coffee break
11 ²⁰ - 13 ⁰⁰	<u><i>Morning Session II: Biomedical applications of radiation</i></u> <u>Chair: Eugene Surdutovich</u> Steffen Greulich , German Cancer Research Center (DKFZ), Heidelberg, Germany <i>Assessing microscopic energy-deposition pattern in ion-beam therapy using fluorescent nuclear track detectors</i>

	<p>Martin Falk, Institute of Biophysics of the CAS, Brno, Czech Republic <i>The biological mechanism of metal nanoparticle-mediated radiosensitization</i></p> <p>Malgorzata Smialek, Gdansk University of Technology, Gdansk, Poland <i>Oligonucleotide-modified nanoparticles for cancer therapy</i></p> <p>Ilko Bald, Institut für Chemie - Physikalische Chemie, Universität Potsdam, Germany <i>Probing low-energy electron induced DNA damage using DNA nanostructures and metal nanoparticles</i></p>
13 ⁰⁰ - 14 ³⁰	Lunch
14 ³⁰ - 16 ³⁰	<p><u>Afternoon session I: Nanostructured materials</u> <u>Chair: Michael Moseler</u></p> <p>Richard Palmer, University of Birmingham, Birmingham, UK <i>Fulfilling Feynman's vision: arranging the atoms in size-selected clusters and a route to manufacturing</i></p> <p>Simon Connell, University of Johannesburg, Republic of South Africa <i>The search for diamond crystal undulator radiation</i></p> <p>Victor Balykin, Institute of Spectroscopy, Russian Academy of Sciences, Troitsk, Russia <i>Giant optical nonlinearity of a single plasmonic nanostructure</i></p> <p>David Field, Aarhus University, Aarhus, Denmark <i>Spontaneously electrical solids</i></p>
16 ³⁰ - 17 ⁰⁰	Coffee break
17 ⁰⁰ - 18 ³⁰	Poster session and H2020-RISE-PEARL management board meeting

Wednesday, 05 October 2016

9 ¹⁵ - 10 ⁴⁵	<p><u>Morning session I: Surfaces and interfaces</u> <u>Chair: Florent Calvo</u></p> <p>Wolfgang Ernst, Graz University of Technology, Graz, Austria <i>Surface deposition of metal clusters and nanowires formed in superfluid helium droplets</i></p> <p>Yuri Vainer, Institute of Spectroscopy, Russian Academy of Sciences, Troitsk, Russia <i>Anomalous spectral dynamics in ultrathin subsurface layers and nanofilms of amorphous polymer</i></p> <p>Nouari Kebaili, Laboratoire Aime Cotton, CNRS, Orsay, France <i>Preformed clusters deposition: a probe for surface states characterization</i></p>
10 ⁴⁵ - 11 ¹⁰	Coffee break
11 ¹⁰ - 12 ⁵⁰	<p><u>Morning session II: Structure and dynamics of clusters, nanoparticles and biomolecules</u> <u>Chair: Julius Jellinek</u></p> <p>Rodolphe Antoine, University Lyon 1, France <i>Optical properties of silver and gold quantum clusters: playing with colors and photons</i></p> <p>Michael Beuve, Université Claude Bernard Lyon 1, Lyon, France <i>Nanox, a multi-scale model to predict biological effects and hadrontherapy</i></p> <p>Elette Engels, School of Physics, University of Wollongong, Australia <i>Synchrotron microbeam radiation therapy: enhancement with high-Z nano-structured ceramic particles</i></p> <p>Vadim Ivanov, Peter the Great St. Petersburg Polytechnic University, Russia <i>Ab initio calculations of potential and electron density distribution of C₆₀⁺, C₆₀ and C₆₀⁻</i></p>
12 ⁵⁰ - 13 ⁰⁰	Conference photo
13 ⁰⁰ - 14 ³⁰	Lunch

14 ³⁰ - 16 ⁰⁰	<p><u>Afternoon Session I: Electron transport in molecular systems</u> <u>Chair: Patrick Rousseau</u></p> <p>Kurt Stokbro, QuantumWise A/S, Copenhagen, Denmark <i>First principles simulation of electron transport across a metal-insulator interface</i></p> <p>Vincenzo Guidi, Universita di Ferrara, Italy <i>Gas sensing via chemoresistive effect in nanosizes semiconductors</i></p> <p><u>Conference discussion</u></p> <p>Jean-Patrick Connerade, Imperial College, London, UK <i>From nuclear to meso systems: how small is simple and how large is complex?</i></p>
16 ³⁰ - 18 ³⁰	Conference tour

Thursday, 06 October 2016

9 ³⁰ - 11 ⁰⁰	<p><u>Morning session I: Propagation of particles through medium: H2020 RISE-PEARL Project</u> <u>Chair: Simon Connell</u></p> <p>Andrei Korol, MBN Research Center, Frankfurt am Main, Germany <i>Investigation of channeling and crystalline undulators with MBN Explorer</i></p> <p>Hartmut Backe, Institute of Nuclear Physics, Johannes Gutenberg University, Mainz, Germany <i>Channeling experiments with electrons at the Mainz Microtron MAMI</i></p> <p>Enrico Bagli, Istituto Nazionale di Fisica Nucleare (INFN), Ferrara, Italy <i>The DYNECHARM++ toolkit for the simulation of the particle interaction with crystals</i></p>
11 ⁰⁰ - 11 ³⁰	Coffee break
11 ³⁰ - 13 ⁰⁰	<p><u>Morning Session II: Collision processes, fusion, fission, fragmentation</u> <u>Chair: Eric Suraud</u></p> <p>Franco Gianturco, University of Innsbruck, Innsbruck, Austria <i>Coulomb crystals in cold traps: chemical reactors and probes for quantum dynamics</i></p> <p>Patrick Rousseau, CEA-CIMAP, Caen, France <i>Energetic processing of carbon-containing nanoparticles by ion collisions</i></p> <p>Jorge Kohanoff, Queen's University Belfast, UK <i>Excess electrons and holes in irradiated systems: from DNA to nuclear waste forms</i></p>
13 ⁰⁰ - 14 ³⁰	Lunch
14 ³⁰ - 16 ⁰⁰	<p><u>Afternoon session I: Propagation of particles through medium: H2020 RISE-PEARL Project</u> <u>Chair: Andrei Korol</u></p> <p>Werner Lauth and Hartmut Backe, Institute of Nuclear Physics, Johannes Gutenberg University, Mainz, Germany <i>Status report of undulator experiments at the Mainz Microtron MAMI</i></p> <p>Laura Bandiera, Istituto Nazionale di Fisica Nucleare (INFN), Ferrara, Italy <i>Bent crystals as a tool for electron beams manipulation</i></p> <p>Andrea Mazzolari, Universita di Ferrara, Italy <i>Recent developments in manufacturing of crystalline undulators</i></p>
16 ⁰⁰ - 16 ³⁰	Coffee break
16 ³⁰ - 18 ⁰⁰	<p><u>Afternoon session II: Modelling of nano- and biomolecular systems</u> <u>Chair: Florent Calvayrac</u></p> <p>Ulf Saalman, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany <i>Dynamical coupling of electrons and ions in X-ray-induced dynamics</i></p> <p>Masato Nakamura, Nihon University, Funabashi, Japan <i>Stability and fragmentation of multiply charged van der Waals clusters</i></p>

	Alexey Verkhovtsev, Kaspar Haume, Pablo de Vera (ESRs of FP7-ITN-ARGENT Project and MBN Research Center, Frankfurt am Main) <i>Recent updates of the RADAM (Radiation DAMage) database</i>
19 ⁰⁰ - 22 ³⁰	Conference Dinner

Friday, 07 October 2016

9 ¹⁵ - 11 ⁰⁰	<p><u><i>Morning session I: Clusters and nanoparticles: structure, reactivity and catalysis</i></u> <u><i>Chair: Jean-Patrick Connerade</i></u></p> <p>Shiv N. Khanna, Virginia Commonwealth University, Richmond, USA <i>Effect of support in reducing sintering, improving catalytic activity, and stabilizing magnetic order in deposited clusters</i></p> <p>Andrew Wheatley, University of Cambridge, UK <i>Improving the photocatalytic potential of nanostructured tin oxide</i></p> <p>Florent Calvayrac, Institut des Molecules et Materiaux, Universite du Maine, Le Mans, France <i>Structure, magnetism, thermal and optical properties of some functionalized iron oxide nanoparticles and clusters of medical and industrial interest</i></p> <p>Hisato Yasumatsu, Cluster Research Laboratory, Toyota Technological Institute, Chiba, Japan <i>Size dependence of catalytic CO-oxidation driven by uni-sized Pt clusters directly bound to Si surface through steady-state and transient measurements</i></p>
11 ⁰⁰ - 11 ³⁰	Coffee break
11 ³⁰ - 12 ⁵⁰	<p><u><i>Morning session II: Irradiation driven transformations of complex molecular systems</i></u> <u><i>Chair: Jorge Kohanoff</i></u></p> <p>Katrine Aalbæk Jepsen, University of Southern Denmark, Odense, Denmark <i>Recognition of DNA-UV damage by repair enzymes</i></p> <p>Christian Kexel, MBN Research Center, Frankfurt am Main, Germany <i>Molecular simulation of interstellar ice surfaces</i></p> <p>Kaspar Haume, Open University, Milton Keynes, UK <i>Transport of secondary electrons from gold nanoparticles through PEG coating</i></p>
12 ⁵⁰ - 13 ⁰⁰	Conference Closing
13 ⁰⁰ - 14 ³⁰	Lunch and Departure