

1st CELINA annual meeting

The participants of CELINA have met for the first time during March 19-22, 2014 in Erlangen, Germany. The aim of the meeting was to introduce everyone to the aims of CELINA and to the present state-of-the-art of the field. At the same time, the Working Groups of COST Action CM1301 were established and defined their scientific goals for the first year of the Action. Following this meeting, the first new collaborative projects have been agreed on. We thank Hubertus Marbach for hosting the meeting and making our stay most enjoyable.



3D plot of SEM image:
"CELINA" written with electron beam induced deposition (EBID) with the precursor iron pentacarbonyl on Si(100) in the Erlangen lab.

Short Term Scientific Missions – STSM

STSMs allow participants to make visits to labs in another participating country to initiate new collaborative projects. CELINA still has funds available and thus accepts applications for STSMs to take place before end of November. Detailed information on the application process is listed on the CELINA webpage.

Applicant	Host	Project	Dates
P Limao Vieira Universidade Nova de Lisboa, Caparica (PT)	S Denifl Institute for Ion Physics and Applied Physics, Innsbruck (AT)	Electron induced decomposition of W(CO)6 in helium nanodroplets	14/02/14 22/02/14
E Szymanska The Open University, Milton Keynes (UK)	A Mauracher Institute for Ion Physics and Applied Physics, Innsbruck (AT)	Theoretical approach to study the electron induced dissociation	18/02/14 05/03/14
J Kocisek J. Heyrovsky Institute of Physical Chemistry, Prague (CZ)	S Matejčík Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava, Bratislava (SK)	Clusters for Focused Electron Beam Induced Deposition	07/04/14 02/05/14
E Carrasco Universität Erlangen-Nürnberg, Erlangen (DE)	G García Instituto de Física Fundamental (CSIC), Madrid (ES)	Electron irradiation studies on carbon precursors adsorbed on Si substrates	11/08/14 24/08/14
F Ferreira da Silva Universidade Nova de Lisboa, Caparica (PT)	S Matejčík Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava, Bratislava (SK)	Electron Induced Fluorescence to Fe(CO)5	30/06/14 08/07/14
R Thorman University of Iceland Science Institute, Reykjavik (IS)	I Utke EMPA Laboratory for Mechanics of Materials and Nanostructures, Thun (CH)	EBID characterization of ruthenium and rhodium-centered organometallic precursors	15/07/14 16/10/14
M Gutowski Heriot-Watt University, Edinburgh (UK)	P Swiderek University of Bremen, Bremen (DE)	Development of Computational Protocols for FEBID Processes	14/07/14 18/07/14

<p>WG1 <i>Electron-induced reactions of FEBID precursors</i> Chair: Janina Kopyra (Siedlce University, PL) Vice-chair: Oddur Ingolfsson (University of Iceland, IS)</p>	<p>WG2 <i>Synthesis of novel FEBID precursors</i> Chair: Sven Barth (Vienna University of Technology, AT) Vice-chair: Patrik Hoffmann (EMPA Thun, CH)</p>	<p>WG3 <i>Application of novel precursors in the FEBID process</i> Chair: Ivo Utke (EMPA Thun, CH) Vice-chair: Roser Valenti (University of Frankfurt, DE)</p>
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Upcoming meetings

Second meeting of Working Group 1

Location: Belgrade, Serbia

Date: August 28, 2014

Jointly with the 27th Summer School and International Symposium on the Physics of Ionized Gases

Webpage: <http://www.spig2014.ipb.ac.rs/>

Second meetings of Working Groups 2 and 3

Location: Frankfurt, Germany

Date: July 2014

Jointly with the FEBIP 2014

Webpage: <http://febip2014.physik.uni-frankfurt.de>

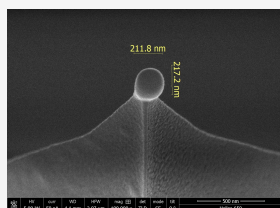


Mini-Colloquium about “Nanofabrication using focused electron and ions beams” in the “Condensed Matter in Paris” conference, 25th-26th August 2014

Condensed Matter in Paris 2014 (<http://cmd25jmc14.sciencesconf.org/>) is an international conference covering all aspects of condensed matter physics. In the framework of this large conference, supported by the European Physical Society, a Mini-colloquium will be organized entitled “Nanofabrication using focused electron and ions beams”.

Focused Electron and Ions Beams are used for high-resolution imaging and nanofabrication. In this Mini-Colloquium, the latest advances of their use for nanofabrication will be reviewed. The content of the contributions will focus on the description of novel theoretical and experimental results, covering basic physical phenomena as well as applications.

200 nm-diameter cobalt nanosphere grown by Focused Electron Beam Induced Deposition on the tip of a cantilever for studies of Ferromagnetic Resonance Force Microscopy. H. Lavenant et al., *Nanofabrication* (2014) in press.



The main topics of this event will be:

- Patterning by Focused Ion Beam
- Focused beam induced deposition and etching
- Growth of functional materials (magnetic, photonic, superconducting,...) by Focused beam induced deposition
- Purity of nanostructures grown by Focused beam induced deposition
- New sensing and biosensing concepts based on the use of Focused Beams
- Nanomanipulation inside FIB-SEM

The Keynote invited speakers of the Mini-colloquium are: Loïc Auvray (*University Paris Diderot-CNRS, France*), Christelle Prinz (*Lund University, Sweden*), Alexandra Mougou (*University of Orsay, France*), Rosa Córdoba (*TU/e Eindhoven, The Netherlands*), Heinz D. Wanzelboeck (*TU Vienna, Austria*). The Organizers of the Mini-colloquium are José María De Teresa, *ICMA, CSIC-University of Zaragoza, Spain*, and Jacques Gierak, *LPN-CNRS, Marcoussis, France*.

Sponsors: FEI, ZEISS, RAITH-VISTEC