



COST Action CA20129

MultIChem

MultIChem Working Group meeting Frankfurt, Germany, July 25-26, 2024

The meeting of MultIChem Working Groups 1 and 2 will focus on experimental and computational multiscale modelling studies of irradiation- and chemistry-driven multiscale phenomena, particularly the phenomena underlying the radiation-induced formation of nanostructures on surfaces. The focus will be made on the research studies relevant to technological applications discussed within the Action, including

- electron and ion beam irradiation of deposited metal clusters and nanoparticles;
- electron and ion beam irradiation of organic and inorganic films;
- radiation-driven chemistry in nanofabrication with charged particle beams.

The meeting is organized by the [MBN Research Center](#) (Frankfurt, Germany).

The meeting will follow the International Workshop “Focused Electron Beam Induced Processing” (FEBIP 2024; <http://febip2024.de/>), which will take place at the Goethe University Frankfurt from July 22 to 24, 2024.

Scientific Program

Thursday, July 25

14 ⁰⁰ – 14 ¹⁰	Workshop opening
14 ¹⁰ – 14 ⁴⁰	Andrey Solov'yov , MBN Research Center, Frankfurt am Main, Germany <i>Multiscale modelling of the FEBID process with MBN Explorer and MBN Studio</i>
14 ⁴⁰ – 15 ¹⁰	Nigel J. Mason , University of Kent, Canterbury, UK <i>Electron induced chemistry on surfaces – What we know and what we need to know</i>
15 ¹⁰ – 15 ⁴⁰	Michael Huth , Physikalisches Institut, Goethe University, Frankfurt am Main, Germany <i>Precursor parameters for FEBID growth simulation based on continuum model</i>
15 ⁴⁰ – 16 ⁰⁰	Coffee break
16 ⁰⁰ – 16 ²⁵	Alexey Verkhovtsev , MBN Research Center, Frankfurt am Main, Germany <i>Irradiation-induced fragmentation of organometallic complexes studied with MBN Explorer</i>
16 ²⁵ – 16 ⁵⁰	Fred Currell , The Dalton Cumbrian Facility (DCF), The University of Manchester, UK <i>The Dalton Cumbrian Facility, a Data engine for multiscale irradiation-driven chemistry on surfaces</i>
16 ⁵⁰ – 17 ¹⁵	Marcus Webb , Department of Mathematics University of Manchester, Manchester, UK <i>MIRaCLE: a toolkit for macroscale inhomogeneous radiation chemistry</i>
17 ¹⁵ – 17 ⁴⁰	Richard Palmer , Swansea University, Swansea, UK <i>Potential energy surface of size-selected cluster structures probed by variable-temperature electron microscopy experiments</i>
18 ¹⁵ – 21 ⁰⁰	Social dinner

Friday, July 26

09 ⁰⁰ – 09 ²⁵	Felipe Fantuzzi , School of Chemistry and Forensic Science, University of Kent, Canterbury, UK <i>Multiscale problems in supramolecular chemistry</i>
09 ²⁵ – 09 ⁵⁰	Lisa McElwee-White , Department of Chemistry, University of Florida, USA <i>Comparing precursor behavior in different techniques: Ru precursors for FEBID, FIBID and PACVD</i>
09 ⁵⁰ – 10 ¹⁵	Oddur Ingólfsson , Department of Chemistry, University of Iceland, Reykjavik, Iceland <i>Selectivity and thermochemistry in dissociative electron attachment – a potential path towards chemical control</i>
10 ¹⁵ – 10 ⁴⁰	Aleksandra Butrymowicz-Kubiak , Nicolaus Copernicus University in Toruń, Toruń, Poland <i>Electron-molecule interaction studies for new Pd(II) complexes and preliminary FEBID tests</i>
10 ⁴⁰ – 11 ¹⁰	Coffee break
11 ¹⁰ – 11 ³⁵	Brendan Dromey , School of Mathematics and Physics, Queens University Belfast, Belfast, UK <i>Interactions of quasi-monoenergetic laser driven protons in H₂O: Revealing anomalies in solvation dynamics in the nascent physicochemical stage</i>
11 ³⁵ – 12 ⁰⁰	Artur Tamm , Physics of Ionic Crystals Laboratory, University of Tartu, Tartu, Estonia <i>Ultrafast electron-ion coupling driven dynamics in laser excited tungsten</i>
12 ⁰⁰ – 12 ²⁵	Roberto Fallica , imec, Leuven, Belgium <i>Irradiation- and chemistry-driven phenomena in extreme ultraviolet (EUV) lithography of photoresists at imec</i>
12 ²⁵ – 13 ³⁰	Lunch
13 ³⁰ – 13 ⁵⁵	Anatoli I. Popov , Institute of Solid State Physics, University of Latvia, Riga, Latvia <i>Nanostructure formation and related processes under ion irradiation</i>
13 ⁵⁵ – 14 ²⁰	Suzana Petrovic , “VINČA” Institute of Nuclear Sciences, Belgrade, Serbia <i>Laser-texturing of Ti/Zr multilayer thin films for biomedical application</i>
14 ²⁰ – 14 ⁴⁵	Milan Dimitrijević , Astronomical Observatory, Belgrade, Serbia <i>Spectral line broadening and the corresponding databases</i>
14 ⁴⁵ – 15 ⁰⁰	Workshop closing

Venue and Travel Information

The meeting will take place at the [Frankfurt Innovation Center for Biotechnology \(FIZ\)](#), located at the Riedberg campus of Goethe University Frankfurt. The address of the venue is: Altenhöferallee 3, 60438 Frankfurt am Main, Germany.

The venue can be reached from the Frankfurt city center using the U-Bahn line U8, stop “Uni Campus Riedberg”. The [following map](#) shows the location of the FIZ building on the Riedberg Campus and the location of public transport stops in its vicinity. For more details on public transportation, please see the website rmv.de.

Accommodation

Participants are requested to book their own accommodation. The preferred hotel option is [Relexa Hotel](#), located within walking distance (ca. 10 min) from the venue. Other accommodation options can be found (e.g. on Booking.com) according to the daily allowance rate (see below).

Reimbursement of the travel expenses

The MultiChem COST Action provides financial support to reimburse the participants of the meeting for their travel expenses. Detailed information about the COST reimbursement rules can be found in the [Annotated Rules for COST Actions](#) (see Sect. A1-3.1 “Travel reimbursement rules”, pp. 82-89).

The number of participants to be reimbursed is limited by the MultiChem budget allocated for this meeting. In order to be reimbursed, you must receive an official invitation through e-COST indicating that you are eligible for the reimbursement. After the meeting, you will be required to fill in your online travel reimbursement request (OTRR) through the link you will find in the invitation email.

When arranging your travel and accommodation, please consider the following rules (see the Annotated Rules for COST Actions for complete and detailed information):

- Any transport you take in your country (airplane, train, bus, car...) is reimbursed based on the supporting documents provided (tickets for flights, trains and buses; proof of distance for car travel, e.g. by Google maps). Taxi, car rental, fuel and parking expenses are not eligible.
- For the flight ticket: it must be a return and economy class ticket from the country of your primary affiliation (as registered in e-COST) to the country of the meeting.
- Your stay in Frankfurt should be covered under the [flat-rate Daily Allowance \(DA\)](#). The DA is intended to cover accommodation, meals and transport in the host country. No receipts will be required.
- The maximum DA rate that can be claimed is calculated according to the actual number of days you attend the meeting, as confirmed by your signature on the official attendance list for each day of the meeting, plus one day.
- On travel days, the DA is based on departure and arrival times (see p. 83 of the Annotated Rules for COST Actions).

Contact information

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**COST Action MultiChem
Chair**

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