

Scientific Program SAMS-2016

Tuesday 23.08.2016:

1:30 pm – 2:00 pm Registration

Plenary Session Room 359

2:00 pm Opening remarks *Øyvind Frette*, Head of the department
Helge K. Dahle, Dean of the faculty

2:15 pm – 3:05 pm Plenary 1
Scattering of Atoms and Molecules from Surfaces- A Journey through Time, *E. Pollak*,
Weizmann Institute of Science, Rehovoth, Israel

3:10 pm – 4:00 pm Plenary 2
Energetic Gas-Surface Encounters at Ice Interfaces, *S. Sibener*, University of Chicago, US

4:00 pm – 6:00 pm Reception & Poster session

Wednesday 24.08.2016:

Session A- Quantum Scattering Room 359

9:00 am – 9:40 pm A1 Invited
Universal diffraction of atoms and molecules from a quantum reflection grating,
B. S. Zhao, Ulsan National Institute of Science and Technology, Ulsan, Korea

9:40 am – 10:20 am A2 Invited
Quantum Diffraction from Charged Surfaces, *B. A. Stickler*, University of Duisburg-Essen,
Germany

10:20 am – 10:50 am Coffee break

10:50 am – 11:30 am A3 Invited
**The Quantum Reflection Effect in the Scattering of He Atoms from a Microstructured
Grating**, *S. Miret-Artes*, Instituto de Fisica Fundamental, Madrid, Spain

Session B- Graphene and Graphite Room 359

11:30 am – 12:10 pm B1 Invited
Surface chemical reactions at epitaxial graphene and materials “beyond graphene”,
A. Politano, University of Calabria- Department of Physics, Calabria, Italy

12:10 pm – 12:30 pm B2

State-to-state scattering of methane from clean and graphene covered Ni(111),
M. van Reijzen, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

12:30 pm – 1:30 pm Lunch break

1:30 pm – 2:10 pm B3 Invited

Phonon dynamics of graphene on metals, *D. Farías*, Universidad Autónoma de Madrid, Spain

2:10 pm – 2:30 pm B4

Ballistic diffusion in poly-aromatic hydrocarbons on graphite: the role of the molecular size, *I. Calvo Almazán*, Cavendish Laboratory, University of Cambridge, UK

2:30 pm – 3:00 pm Coffee break

Session C- Metals I Room 359

3:00 pm – 3:40 pm C1 Invited

Inelasticity in H atom scattering from surfaces, *O. Bünermann*, University of Göttingen and MPIBPC Göttingen, Germany

3:40 pm – 4:00 pm C2

Nitrogen Dynamics at a clean Fe(111) Surface, *M. Ahmed Nosir*, Centro de Fisica de Materiales CFM/MPC (CSIC-UPV/EHU), Donostia International Physics Center (DIPC), Universidad del País Vasco, Spain

4:00 pm – 4:40 pm C3 Invited

Hot atom dynamics upon adsorption on surfaces studied by ab initio molecular dynamics simulations, *A. Gross*, Institute of Theoretical Chemistry, Ulm University, Germany

4:40 pm – 5:00 pm C4

Theoretical study of He and Ne diffraction from Ru(0001) using vdW DFT-based potentials, *M. del Cueto Cordones*, Universidad Autónoma de Madrid, Spain

Thursday 25.08.2016:

Session D- Spin Echo Room 359

9:00 am – 9:40 pm D1 Invited

Adsorbate dynamics on the nanoscale: does the lowest barrier give the quickest route for diffusion?, *W. Allison*, Cavendish Laboratory, University of Cambridge, UK

9:40 am – 10:20 am D2 Invited

Molecular Interferometry – using the spin echo spectrometer to study molecule-surface interactions, *G. Alexandrowicz*, Technion - Israel Institute of Technology, Israel

10:20 am – 10:50 am Coffee break

10:50 am – 11:30 am D3 Invited

Organic semiconductor film growth: mesoscopic structure formation and microscopic diffusion processes of shape anisotropic molecules, *G. Witte*, Philipps-University Marburg, Germany

11:30 am – 11:50 am D4

Diffusion of hydrogen on Pd(111): surface spin echo measurements as a window on energetics and nonadiabatic coupling, *P. Townsend*, Cavendish Laboratory, University of Cambridge, UK

11:50 am – 12:10 pm D5

The diffusion of cyclooctatetraene on Cu(111) observed in the angstrom-picosecond regime, *J. A. Lau*, Cavendish Laboratory, University of Cambridge, UK

Session E- Metals II Room 359

12:10 pm – 12:30 pm E1

The effect of dimensionality on non-adiabatic dynamics at metallic surfaces: the case of NO on Au(111), *J. C. Tremblay*, Freie Universität Berlin, Germany

12:30 pm – 1:30 pm Lunch break

1:30 pm – 2:10 pm E2 Invited

Atoms and molecules at metal surfaces: Dynamics with electronic friction, *P. Saalfrank*, Institut für Chemie, Universität Potsdam, Germany

2:10 pm – 2:30 pm E3

The enigmatic HCl + Au(111) reaction: a puzzle for theory and experiment, *G. Fuechsel*, Institute of Chemistry, Gorlaeus Laboratories, Leiden University, Netherlands

2:30 pm – 2:50 pm E4

Dynamics of CO scattering and adsorption on Ru(0001): microscopical elucidation of the results of molecular beam experiments, *I. Lončarić*, Centro de Física de Materiales CFM/MPC (CSIC-UPV/EHU), Donostia-San Sebastián, Spain

2:50 pm – 3:20 pm Coffee break

3:20 pm – 4:00 pm E5 Invited

When electron-hole pairs affect the scattering and adsorption of atoms and molecules on metal surfaces, *M. Alducin*, Materials Physics Center (CSIC-UPV/EHU), Spain

4:00 pm – 4:40 pm E6 Invited

Electron-Phonon Interaction Approach to Atom-Surface Scattering, *J. Manson*, Department of Physics and Astronomy, Clemson University, USA

7:00 pm Conference Dinner

Friday 26.08.2016:

**Session F- Neutral Helium Microscopy
Room 359**

9:00 am – 9:40 pm F1 Invited

Unlocking new contrast in a scanning helium microscope, *P. Dastoor*, Centre for Organic Electronics, University of Newcastle, Australia

9:40 am – 10:00 am F2

Atom Eyes: „The NEutral helium Microscope NEMI”, *S. D. Eder*, Department of Physics and Technology, University of Bergen, Norway

10:00 am – 10:20 am F3

Additional details of pinhole NAM, and an alternate configuration, *P. Witham*, Oregon Physics LLC, Portland State University, USA

10:20 am – 10:40 am F4

Imaging with helium using an improved electron impact ionisation detector, *D. J. Ward*, Cavendish Laboratory, University of Cambridge, UK

10:40 am – 11:10 am Coffee break

**Session G- Non-Metallic Surfaces
Room 359**

11:10 am – 11:40 pm G1 Invited

SiO₂: Bilayer and Bulk Surface Structural and Mechanical Properties Investigated using Helium atom Scattering, *B. Holst*, Department of Physics and Technology, University of Bergen, Norway

11:40 am – 12:00 pm G2

Proton order at ice surfaces: can helium scattering provide quantitative answers?, *N. Avidor*, Cavendish Laboratory, University of Cambridge, UK

12:00 pm – 12:20 pm G3

Surface dynamics and atom-surface interaction of topological insulators from helium atom scattering, *A. Tamtögl*, Institute of Experimental Physics, Graz University of Technology, Graz, Austria

12:20 pm – 12.30 pm Concluding remarks