FOURTH INTERNATIONAL WORKSHOP ON
SCATTERING OF ATOMS AND MOLECULES FROM SURFACES

FINAL PROGRAM

TUESDAY, SEPTEMBER 24

11:00 Registration & Coffee Break

13:00 LUNCH BREAK

15:00 Opening Remarks

General Talks

15:15 W. Allison
“Overview of SAMS-4: Scattering at Surfaces – Quo vadis?”

16:00 P. Saalfrank
“Two pieces of system-bath dynamics for energy transfer at surfaces”

16:40 B. Holst & A. Jardine
“Future of helium scattering”

17:00 Poster Session & Coffee break

WEDNESDAY, SEPTEMBER 25

2D Materials

9:00 A. Politano
“Low-energy plasmons in Dirac/Weyl materials”

9:40 B. Holst
“Measuring the Bending Rigidity of 2d Silica – New Light on the Yakobson Paradox”
Coffee Break

10:50
W. Ernst
“Surface structure and dynamics of topological insulators from helium atom scattering”

11:30
A. Ruckhofer
“The Atom-Surface Interaction Potential of Topological Insulators from Helium Scattering”

Quantum Scattering

11:50
E. Pollak
“Theory and Manifestations of Quantum Reflection”

12:30
B.S. Zhao
“Matter-Wave Diffraction from a Periodic Array of Half Planes”

LUNCH BREAK

Metals

14:30
M. Alducin
“Ultrafast dynamics of CO adsorbates on metal surfaces under thermal and non-thermal conditions”

15:10
J. Subotnik
“Different ways of understanding dynamics at surfaces”

15:50
H. Ueta
“Rotational-state distribution and ortho-para conversion of molecularly chemisorbed H₂ on Pd(210)”

16:10
D. Farías
“Diffraction of CH₄ from a Metal Surface”

16:30
A. Rivero
“Ab initio Molecular Dynamics Study of alignment resolved O₂ scattering from highly oriented pyrolytic graphite”
**THURSDAY, SEPTEMBER 26**

**Hydrogen & Oxygen Scattering**

9:00  K. Fukutani
“Rotational dynamics of molecular hydrogen on a surface and in scattering”

9:40  S. Sibener
“Spatio-Temporal Visualization of Interfacial Chemical dynamics via Combined Gas-Surface Scattering and STM/AFM Imaging”

10:20 Coffee break

10:50  H. Chadwick
“Using Rotational Waves to Probe Gas-Surface Dynamics”

11:10  J.R. Manson
“Effect of static surface disorder on the diffraction of H\(_2\) from Ru(0001)”

**Graphene & Graphite**

11:30  G. Benedek
“The electron-phonon coupling strength of 2D materials from He atom reflectivity”

12:10  A. Wodtke
“Imaging covalent bond formation by H-atom scattering from Graphene”

**LUNCH BREAK**

14:30  M. Hernández
“Interaction and dynamic between rare gases and 2d layered materials”


**Dynamics & Diffusion**

15:10 R. Marquardt
“The Diffusion Rates of Adsorbates from Time Dependent Quantum Dynamics”

15:50 A. Tamtoegl
“The Range of dynamics Studied with Atom-Surface Scattering: Verifying Rate Theory Across 14 Orders of Magnitude”

16:10 **Coffee break**

16:40 Q. Shi
“Charge transfer and vibrational relaxation at surfaces: Theoretical studies based on non-perturbative reduced dynamics”

17:20 P. Fouquet
“Surface friction processes revealed by a combination of neutron and helium atom scattering”

21:00 **Conference dinner**

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**FRIDAY, SEPTEMBER 27**

**Neutral Helium Microscopy**

9:00 A.P. Jardine
“Contrast in Scanning Helium Microscopy: New Opportunities and Challenges in Atom Surface Scattering”

9:40 S.D. Eder & M.G. Barr
“Fundamentals of imaging in the scanning helium microscope: image formation, contrast mechanisms, and applications”
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<th>Time</th>
<th>Speaker</th>
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<tr>
<td>10:20</td>
<td>N. Avidor</td>
<td>“Towards Motion Based Chemical Contrast in Helium Scattering”</td>
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<td>10:40</td>
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<td><strong>Coffee break</strong></td>
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**Helium Atom Scattering**

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<tr>
<td>11:10</td>
<td>P. Roncin</td>
<td>“Inelastic diffraction of fast atoms on surfaces, Lamb-Dicke regime, local Debye model and phonons modes”</td>
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<td>11:30</td>
<td>C. Díaz</td>
<td>“Prominent out-of-plane diffraction in Helium scattering from a methyl-terminated Si(111) surface”</td>
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<td>11:50</td>
<td>A. Muzas</td>
<td>“PSMS-CRP reactive potential energy functions: from frozen to mobile surface atoms”</td>
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<td>12:10</td>
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<td><strong>Concluding Remarks</strong></td>
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