POST MEETING REPORT FORM
Deadline for Submission: within 1 month after the meeting

For Symposia and Focus Meetings the Post Meeting Report should be sent to the AGS. For Symposium reports all the following documents should be submitted, while for Focus Meetings documents (i), (ii) and (v) are required:

(i) Final scientific program, list of invited review speakers and session chairs including their gender;

(ii) Summary of the scientific highlights of the meeting (1 page, to be published on the IAU website);

(iii) List of participants, including their distribution by country and gender (double bar chart);

(iv) List of recipients of IAU grants, stating the country and gender;

(v) An Executive Summary of the Meeting (1-2 pages) to be published on the IAU website. Note: for Symposia, two separate reports should be produced in PDF format. The one for the web should only answer (i), (ii) and (v).

For Regional Meetings the Post Meeting Report should include the documents referred above from (i) to (v) as well as a proposal for the next venue, and be sent to the GS.

1. Meeting Identification Number: Symposium _X_  Focus Meeting ___  Regional Meeting ___

2. Meeting Title: Laboratory Astrophysics: From observations to Interpretation

3. Coordinating Division: B

4. Dedication of meeting (if any): First IAU Laboratory Astrophysics Symposium

5. Location (city, country): Cambridge, UK

6. Dates of meeting: 14-19 April 2019

7. Number of participants: 167
8. Total Amount of IAU Grant funds received (in euros): 20,000.00

9. Number of IAU Grant recipients: 32

10. List of represented countries: see attached list

11. Report submitted by: Dr. Farid Salama

12. Date and place: 30 June 2019; Mountain View, California, USA

Post Meeting Report IAU S350

(i) Final scientific program, list of invited review speakers and session chairs including their gender

See attached document #1: “IAUS350_scientific_program”

Session chairs: gender distribution: names/gender:

Session 1: F. Salama (M)
Session 2: C. Walsh (F)
Session 3: D. Heard (M)
Session 4: A Dawes (F)
Session 5: D. Benoit (M)
Session 6: H. Linnartz (M)
Session 7: C. Joblin (F)
Session 8: S. Ioppolo (M)
Session 9: A. Meijer (M)
Session 10: E. Sciamma-O’Brien (F)
Session 11: F. Wang (F)
Session 12: N. Mason (M)
Session 13: G. Del Zanna (M)
Session 14: O. Shalabiea (M)
Session 15: H. Fraser (F)

9 Male, 6 Female
## Schedule

### Monday 15th April

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00</td>
<td>WELCOME</td>
<td>F. Salama (Chair of SOC)</td>
<td></td>
</tr>
<tr>
<td>09:15</td>
<td>SESSION 1</td>
<td>E. van Dishoeck (P)</td>
<td>Laboratory astrophysics: key to understanding the Universe</td>
</tr>
<tr>
<td>10:00</td>
<td></td>
<td>A. Boogert (I)</td>
<td>From Diffuse Clouds to Protostars: Outstanding Questions about the Evolution of Ices</td>
</tr>
<tr>
<td>10:15</td>
<td></td>
<td>O. Berné (I)</td>
<td>Observations and modeling of the photochemical evolution of carbonaceous macromolecules in star-forming regions</td>
</tr>
<tr>
<td>10:30</td>
<td></td>
<td>COFFEE BREAK</td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td>SESSION 2</td>
<td>I. Sims</td>
<td>Experimental determination of reaction product branching ratios at low temperatures for astrochemistry</td>
</tr>
<tr>
<td>11:15</td>
<td></td>
<td>C. Jäger (R)</td>
<td>Laboratory experiments on cosmic dust and ices</td>
</tr>
<tr>
<td>11:45</td>
<td></td>
<td>A. Canosa (I)</td>
<td>Gas phase reaction kinetics of complex organic molecules at temperatures of the interstellar medium</td>
</tr>
<tr>
<td>12:00</td>
<td></td>
<td>S. Schlemmer (I)</td>
<td>The Spectroscopy of Molecular Ions related to H3+</td>
</tr>
<tr>
<td>12:15</td>
<td></td>
<td>D. Qasim</td>
<td>Synthesis of solid-state Complex Organic Molecules (COMs) through accretion of simple species at low temperatures</td>
</tr>
<tr>
<td>12:30</td>
<td></td>
<td>LUNCH BREAK</td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td>SESSION 3</td>
<td>N. Ysard (R)</td>
<td>Dust evolution: going beyond the empirical</td>
</tr>
<tr>
<td>14:30</td>
<td></td>
<td>C. Romero Rocha</td>
<td>Potential energy surfaces of elemental carbon clusters: from theory to applications in astrochemistry</td>
</tr>
<tr>
<td>14:45</td>
<td></td>
<td>C. Puzzarini (I)</td>
<td>Prebiotic molecules in interstellar space: rotational spectroscopy and quantum chemistry</td>
</tr>
<tr>
<td>15:00</td>
<td></td>
<td>Z. Awad</td>
<td>N-bearing Species in Massive Star Forming Regions</td>
</tr>
<tr>
<td>15:15</td>
<td></td>
<td>COFFEE BREAK</td>
<td></td>
</tr>
<tr>
<td>15:45</td>
<td>SESSION 4</td>
<td>M. Palumbo</td>
<td>Laboratory investigations aimed at building a database for the interpretation of JWST spectra</td>
</tr>
<tr>
<td>16:00</td>
<td></td>
<td>H. Cuppen</td>
<td>Simulations of energy dissipation and non-thermal desorption on amorphous solid water</td>
</tr>
<tr>
<td>16:15</td>
<td></td>
<td>C. Kemper (I)</td>
<td>The dust budget problem in galaxies near and far</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>END OF SCIENCE SESSIONS AT 16:30</td>
</tr>
<tr>
<td>17:15</td>
<td></td>
<td>COLLEGE TOURS</td>
<td></td>
</tr>
<tr>
<td>17:30</td>
<td></td>
<td>POSTERS WITH REFRESHMENTS</td>
<td></td>
</tr>
<tr>
<td>19:30</td>
<td></td>
<td>DINNER</td>
<td></td>
</tr>
</tbody>
</table>

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Tuesday 16th April

SESSION 5  CHAIR: D. Benoît

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00</td>
<td>K. Altwegg</td>
<td>Interpretation of in situ mass spectra at comet 67P</td>
</tr>
<tr>
<td>09:30</td>
<td>Y. Pendleton</td>
<td>A window on the composition of the early solar nebula: Pluto, 2014MU69, and Phoebe</td>
</tr>
<tr>
<td>09:45</td>
<td>A. Belloche</td>
<td>Molecular complexity in the interstellar medium</td>
</tr>
<tr>
<td>10:00</td>
<td>F. Pignatale</td>
<td>Fingerprints of the protosolar cloud collapse in the Solar System: refractory inclusion distribution and isotopic anomalies in meteorites</td>
</tr>
<tr>
<td>10:15</td>
<td>H. Sabbah</td>
<td>Characterization of Large Carbonaceous Molecules in Cosmic Dust Analogues and Meteorites</td>
</tr>
<tr>
<td>10:30</td>
<td></td>
<td>COFFEE BREAK</td>
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</table>

SESSION 6  CHAIR: H. Linnartz

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
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<tbody>
<tr>
<td>11:00</td>
<td>V. Mennella</td>
<td>Catalytic formation of H(_2) on Mg-rich amorphous silicates</td>
</tr>
<tr>
<td>11:15</td>
<td>K. Bowen</td>
<td>Laboratory Measurements of Deuterium Reacting with Isotopologues of H(_3^+)</td>
</tr>
<tr>
<td>11:30</td>
<td>N. Watanabe</td>
<td>Detection of OH radicals on amorphous solid water</td>
</tr>
<tr>
<td>11:45</td>
<td>M. Nuevo</td>
<td>Formation of Complex Organic Molecules in Astrophysical Environments: Sugars and Derivatives</td>
</tr>
<tr>
<td>12:00</td>
<td>F. Dulieu</td>
<td>Hydrogenation and binding energies on dust grains as selective forces for the formation and observation of interstellar molecules</td>
</tr>
<tr>
<td>12:15</td>
<td>M. Stockett</td>
<td>Intrinsic absorption profile and radiative cooling rate of a PAH cation revealed by action spectroscopy in the cryogenic electrostatic storage ring DESIREE</td>
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<tr>
<td>12:30</td>
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<td>LUNCH BREAK</td>
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SESSION 7  CHAIR: C. Joblin

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>14:00</td>
<td>S. Russell</td>
<td>Carbonaceous chondrites as probes of protoplanetary disk conditions</td>
</tr>
<tr>
<td>14:15</td>
<td>V. Deguin</td>
<td>Amorphous Solid Water (ASW) particle production for collision experiments</td>
</tr>
<tr>
<td>14:30</td>
<td>P. Theulé</td>
<td>Chemical dynamics in interstellar ice</td>
</tr>
<tr>
<td>14:45</td>
<td>M. Burchell</td>
<td>Survival of Shells of Icy Satellites Against Hypervelocity Impact</td>
</tr>
<tr>
<td>15:00</td>
<td>J. Thrower</td>
<td>Laboratory evidence for the formation of hydrogenated fullerenes molecules</td>
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<tr>
<td>15:15</td>
<td></td>
<td>COFFEE BREAK</td>
</tr>
<tr>
<td>15:45</td>
<td>L. Wiesenfeld</td>
<td>Quenching of interstellar carbenes: interaction of C(_3)H(_2) with He and H(_2)</td>
</tr>
<tr>
<td>16:00</td>
<td>F. Ciesla</td>
<td>Chemical Evolution of Planetary Materials in a Dynamic Solar Nebula</td>
</tr>
</tbody>
</table>

END OF SCIENCE SESSIONS AT 16:30

17:15  COLLEGE TOURS
17:30  POSTERS WITH REFRESHMENTS

END OF POSTER SESSION AT 19:00

19:30  DINNER

BAR OPEN UNTIL 23:00
### Wednesday 17th April

**SESSION 8**  
**CHAIR: S. Ioppolo**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00</td>
<td>Y. Aikawa (R)</td>
<td>Gas-dust chemistry of volatiles in the star and planetary system formation</td>
</tr>
<tr>
<td>09:30</td>
<td>J. Olofsson (I)</td>
<td>Dust production and characterization in young debris disks</td>
</tr>
<tr>
<td>09:45</td>
<td>B. Kerkeni</td>
<td>Understanding Propyl-cyanide and its isomers Formation: Ab initio Study of the Reaction Kinetics</td>
</tr>
<tr>
<td>10:00</td>
<td>S. Bromley</td>
<td>Using atomistically detailed simulations to understand the formation, structure and composition of astrophysical silicate dust grains</td>
</tr>
<tr>
<td>10:15</td>
<td>R. Teague (I)</td>
<td>Tracing The Physical Conditions of Planet Formation with Molecular Excitation</td>
</tr>
<tr>
<td>10:30</td>
<td></td>
<td>COFFEE BREAK</td>
</tr>
</tbody>
</table>

**SESSION 9**  
**CHAIR: A. Meijer**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>11:00</td>
<td>A. Petrignani</td>
<td>High-resolution electronic spectroscopy study of neutral gas-phase PAH species</td>
</tr>
<tr>
<td>11:15</td>
<td>K. Lee</td>
<td>Interstellar aromatic chemistry: a combined laboratory, observational, and theoretical perspective</td>
</tr>
<tr>
<td>11:30</td>
<td>D. Dubois</td>
<td>Benzene Condensation on Titan’s Stratospheric Aerosols: An Integrated Laboratory, Modeling and Observational Approach</td>
</tr>
<tr>
<td>11:45</td>
<td>V. Vuitton (I)</td>
<td>Chemical composition of (exo-)planetary haze analogues by very high-resolution mass spectrometry</td>
</tr>
<tr>
<td>12:00</td>
<td>N. Sie</td>
<td>Temperature and Thickness effects on Photodesorption of CO Ices</td>
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**END OF SCIENCE SESSIONS AT 12:30**

<table>
<thead>
<tr>
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<tr>
<td>12:30</td>
<td>LUNCH BREAK</td>
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<tr>
<td>13:30</td>
<td>CONFERENCE TRIPS</td>
</tr>
<tr>
<td>Trips will finish between 16:30 and 17:30</td>
<td></td>
</tr>
<tr>
<td>19:30</td>
<td>GALA DINNER</td>
</tr>
</tbody>
</table>

BAR OPEN UNTIL 23:00

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Thursday 18th April

**SESSION 10**  
**CHAIR: E. Sciamma-O’Brien**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker (Affiliation)</th>
<th>Topic</th>
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</thead>
<tbody>
<tr>
<td>09:00</td>
<td>I. Kamp (R)</td>
<td>Protoplanetary disks, debris disks and solar system</td>
</tr>
<tr>
<td>09:30</td>
<td>N. Ligterink</td>
<td>The formation of prebiotic building blocks of peptides on interstellar dust grains</td>
</tr>
<tr>
<td>09:45</td>
<td>B. Sivaraman (I)</td>
<td>Complex molecules in astrochemical impact conditions</td>
</tr>
<tr>
<td>10:00</td>
<td>J. Pickering (R)</td>
<td>Recent advances in experimental laboratory astrophysics for stellar astrophysics applications and future data needs.</td>
</tr>
<tr>
<td>10:30</td>
<td><strong>COFFEE BREAK</strong></td>
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</tr>
</tbody>
</table>

**SESSION 11**  
**CHAIR: F. Wang**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker (Affiliation)</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00</td>
<td>M. Montgomery (I)</td>
<td>The Wootton Center for Astrophysical Plasma Properties: First Results for Helium</td>
</tr>
<tr>
<td>11:15</td>
<td>I. Topala</td>
<td>Comparative study of 3.4 micron band features from carbon dust analogs obtained in pulsed plasmas at low and atmospheric pressure</td>
</tr>
<tr>
<td>11:30</td>
<td>T. Schmidt</td>
<td>Quantifying the aliphatic hydrocarbon content of interstellar dust using multiple laboratory spectroscopies</td>
</tr>
<tr>
<td>11:45</td>
<td>D. Gobrecht</td>
<td>From Molecules to Dust: Alumina cluster seeds</td>
</tr>
<tr>
<td>12:00</td>
<td>L. Zhang</td>
<td>Physical parameter estimation with MCMC from X-ray observations</td>
</tr>
<tr>
<td>12:15</td>
<td>M. Van de Sande</td>
<td>AGB outflows as tests of chemical kinetic and radiative transfer models</td>
</tr>
<tr>
<td>12:30</td>
<td><strong>LUNCH BREAK</strong></td>
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**SESSION 12**  
**CHAIR: N. Mason**

<table>
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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>14:00</td>
<td><strong>Poster Winner 1</strong></td>
</tr>
<tr>
<td>14:15</td>
<td><strong>Poster Winner 2</strong></td>
</tr>
<tr>
<td>14:30</td>
<td>K. Kotake (R)</td>
</tr>
<tr>
<td>15:00</td>
<td>J. Mao</td>
</tr>
<tr>
<td>15:15</td>
<td><strong>COFFEE BREAK</strong></td>
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</tbody>
</table>

**PANEL DISCUSSION**  
**MODERATOR: F. Salama (IAU S350)**

15:45  
The Future of Laboratory Astrophysics (the role of IAU Commission B5)  
J.-H. Fillion (PCMI), H. Fraser (IAU Comm B5), D. Hudgins (NASA SMD), H. Linnartz (NL), N. Mason (Europlanet), V. Mennella (ECLA), D. Savin (LAD), O. Shalabiea (Africa/ME), F. Wang (China), N. Watanabe (Japan)

**END OF SCIENCE SESSIONS AT 17:15**

17:15 | COLLEGE TOURS |
18:00 | POSTERS WITH REFRESHMENTS |

**END OF POSTER SESSION AT 19:00**

19:30 | DINNER |

BAR OPEN UNTIL 23:00

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### Friday 19th April

**SESSION 13**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00</td>
<td>J. Tennyson (R)</td>
<td>The ExoMol project: molecular line lists for the opacity of exoplanets and other hot atmospheres</td>
</tr>
<tr>
<td>09:30</td>
<td>R. Bérard</td>
<td>Using cold plasma to investigate the mechanisms involved in cosmic dust formation: role of C/O ratio and metals</td>
</tr>
<tr>
<td>09:45</td>
<td>K. Lind (I)</td>
<td>Non-LTE spectroscopy for Galactic Archaeology</td>
</tr>
<tr>
<td>10:00</td>
<td>J. Lawler</td>
<td>Quantitative Atomic Spectroscopy, a Review of Progress in the Optical-UV Region and Future Opportunities using X-Ray FELs</td>
</tr>
<tr>
<td>10:15</td>
<td>A. Jerkstrand (I)</td>
<td>The origin of the elements: diagnosing the nucleosynthesis production in supernovae</td>
</tr>
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</table>

### SESSION 14

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00</td>
<td>W. Liu (R)</td>
<td>Underground nuclear astrophysics experiment in Jinping China: JUNA</td>
</tr>
<tr>
<td>11:30</td>
<td>J. Grumer</td>
<td>Kilonovae and the lanthanides: an atomic theorists perspective</td>
</tr>
<tr>
<td>11:45</td>
<td>S. White</td>
<td>Generation of photoionised plasmas in the laboratory: analogues to astrophysical sources</td>
</tr>
<tr>
<td>12:00</td>
<td>M. Giarrusso</td>
<td>Laboratory plasmas for high-energy Astrophysics</td>
</tr>
<tr>
<td>12:15</td>
<td>H. Schatz (I)</td>
<td>Rare Isotope Physics in the Era of Multimessenger Astronomy</td>
</tr>
<tr>
<td>12:30</td>
<td></td>
<td>LUNCH BREAK</td>
</tr>
</tbody>
</table>

### SESSION 15

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<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:00</td>
<td>P. Young (R)</td>
<td>The Sun: our own backyard plasma laboratory</td>
</tr>
<tr>
<td>14:30</td>
<td>G. Del Zanna</td>
<td>Benchmarked Atomic Data for Astrophysics</td>
</tr>
<tr>
<td>14:45</td>
<td>U. Heiter (I)</td>
<td>Laboratory Astrophysics for the interpretation of stellar spectra</td>
</tr>
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</table>

**END OF SCIENCE SESSIONS AT 15:00**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:00</td>
<td>F. Salama (SOC)</td>
<td>SUMMARY</td>
</tr>
<tr>
<td>15:25</td>
<td>H. Fraser (LOC)</td>
<td>CLOSING REMARKS</td>
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**CLOSE OF MEETING AT 15:30**

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# Posters

Student and PDRA poster presenters are indicated with an asterisk, *

<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>L. Krim</td>
<td>Reduction of C=O functional group through H addition reactions at 10 K: The cases of glyoxal, propanal and methylformate</td>
</tr>
<tr>
<td>2</td>
<td>J. Bouwman</td>
<td>Probing the dissociation of interstellar polyaromatic hydrocarbons</td>
</tr>
<tr>
<td>3</td>
<td>J. Terwisscha van Scheltinga*</td>
<td>Infrared spectra of complex organic molecules in astronomically relevant ice matrices</td>
</tr>
<tr>
<td>4</td>
<td>L. Duc Thong</td>
<td>An updated constraint on variations of the line-structure constant using wavelengths of Fe II absorption line multiplets</td>
</tr>
<tr>
<td>5</td>
<td>P. Sundararajan*</td>
<td>Infrared spectra of protonated and hydrogenated corannulene (C_{26}H_{10}) and sumanene (C_{21}H_{12}) using matrix isolation in solid para-Hydrogen - Implications to the UIR bands</td>
</tr>
<tr>
<td>6</td>
<td>M. Stockett</td>
<td>Non-statistical fragmentation of C_{60} and the formation of endohedral defect fullerenes</td>
</tr>
<tr>
<td>7</td>
<td>C. Arumainayagam</td>
<td>Photochemistry vs. Radiation Chemistry of Cosmic Ice Analogs</td>
</tr>
<tr>
<td>8</td>
<td>O. Shalabiea</td>
<td>N-Bearing Species in Massive Star Forming Regions</td>
</tr>
<tr>
<td>9</td>
<td>A. Meijer</td>
<td>On the formation of Urea in the ISM</td>
</tr>
<tr>
<td>10</td>
<td>A. Ocaña*</td>
<td>Gas-phase reactivity of CH_{3}OH + OH down to 11.7K: Astrophysical implications.</td>
</tr>
<tr>
<td>11</td>
<td>S. Gaertner</td>
<td>Nanoscale Structure of Amorphous Solid Water. What Determines the Porosity in ASW?</td>
</tr>
<tr>
<td>12</td>
<td>W. Sameeera</td>
<td>OH radical on interstellar ices: a quantum chemical study</td>
</tr>
<tr>
<td>13</td>
<td>H. Chaabouni</td>
<td>Thermal desorption of amino complex organic molecules. Effect of the substrate</td>
</tr>
<tr>
<td>14</td>
<td>N. Ligterink*</td>
<td>A new MALDI technique for the investigation of biomolecules in extraterrestrial environments</td>
</tr>
<tr>
<td>15</td>
<td>A. Kar*</td>
<td>Laboratory simulation of light scattering from regolith analogue: Effect of porosity and particle size</td>
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IAU Symposium 350, “Laboratory Astrophysics: From observations to Interpretation” was organized by the IAU Commission B5 and was the first topical Symposium on Laboratory Astrophysics sponsored by the IAU. This Symposium was the first in a series of IAU Symposia to be held every 6 or so years on this topic. The essential role played by laboratory astrophysics in support of astronomy has long been recognized. Laboratory astrophysics is the Rosetta stone that enables astronomers to understand and interpret the cosmos. Astronomy is primarily an observational science detecting photons generated by atomic, molecular, chemical, and condensed matter processes. Our understanding of the universe also relies on knowledge of the evolution of matter (nuclear and particle physics) and of the dynamical processes shaping it (plasma physics). Planetary science, involving in-situ measurements of solar system bodies, requires knowledge from physics, chemistry, and geology. Exploring the question of life elsewhere in the Universe draws on all the above as well as biology. Hence, our quest to understand the cosmos rests firmly on theoretical and experimental research in many different branches of science. Taken together, these astrophysically motivated theoretical and experimental studies are known as Laboratory Astrophysics. The advent of new space, airborne and ground-based telescopes have largely motivated the tenure of this Symposium.

This multidisciplinary Symposium brought together astronomers with theoretical, and experimental chemists and physicists to discuss the state-of-the-art research in their respective disciplines and how their combined expertise can address important open questions in modern astronomy and astrophysics.

Active researchers in observational astronomy, space missions, experimental and theoretical laboratory astrophysics and astrochemistry were invited to gather and discuss the major topics and challenges that face today’s Astronomy with the hope that interactions between researchers will result in a solid roadmap for future research that will lead to advances in our understanding of astronomical observations and guide the design of future observational instruments. The scientific discussions were divided between 5 major topics and 3 thematic areas encompassing the breadth and the pluridisciplinarity of the field of Laboratory Astrophysics. The astronomy topics covered are listed below and spanned from star- and planet-formation through stellar populations to extragalactic chemistry and dark matter, complemented by chemistry and physics reaching from fundamental atomic and molecular spectroscopy, through surface reaction dynamics, catalysis, nuclear processes and high-energy physics, including fundamental processes in some of the most extreme environments we can imagine.

The Astronomy Topics covered in IAU S350:
• Star formation and the cosmic matter cycle in the near universe (Laboratory, Observations, Theory & Modeling)
• Solar System formation and the pre-solar nebula (Laboratory, Observations, Theory & Modeling)
• Protoplanetary disks, debris disks and solar system (Laboratory, Observations, Theory & Modeling)
• Stars, stellar populations, and stellar explosions (Laboratory, Observations, Theory & Modeling)
• Reaching beyond our galaxy: from extra galactic chemistry to dark matter (Laboratory, Observations, Theory & Modeling)

In addition to the 5 astronomy topics, topics of general interest to the field were also covered:
• Laboratory Techniques: Spectroscopy, Imaging, Mass Spectrometry, Plasma, Numerical simulations
• Databases
IAUS350 -- Executive Summary

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The Symposium was sponsored by Divisions B, H, F and D and Commissions B5 (organizing Commission), H2 and F3.

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- Laboratory Techniques: Spectroscopy, Imaging, Mass Spectrometry, Plasma, Numerical simulations
- Databases
- Education and Public Outreach (EPO)

To aid the discussion, the Scientific Organizing Committee (SOC) identified a total of 31 invited speakers (16 male and 15 female) that included 1 Plenary, 11 Review, and 19 Invited speakers.

The Scientific Organizing Committee (SOC) reviewed and ranked all submitted abstracts and selected a further 38 contributed oral presentations, taking into account scientific impact, gender, geographical distribution and stage of career. The Plenary talk was allocated 40 mins, invited reviews 30 mins and invited oral contributions 15 mins, including discussion time. 85 poster presentations were also accepted. In total, 167 individuals, 102 males and 65 females, from 27 countries spanning all continents (see attached list of participants) attended with the UK, France and Germany registering the highest numbers of participants. The Symposium had a high gender diversity with
close to 39% female participants. Individual sessions were chaired by members of the SOC and other senior attendees whilst a variety of PDRAs and PhD students supported the logistics throughout the sessions.

The 83 posters (52 male and 31 female) were divided into three sessions on Monday, Tuesday and Thursday, lasting 90 and 60 mins respectively. A small group awarded prizes to 3 individuals. The three winners were offered 15 minutes each to orally present the winning poster.

Two sessions on public outreach were held with Kimberley Ennico (NASA Ames, USA) and Helen Fraser (Open Univ., UK) discussed “Dust, Ice and Water” and “How to Build a Planet in the Lab”, respectively. Sabrina Goertner organized a lively and very popular education outreach event for school children on the afternoon of Wednesday, April 17. Ewine van Dishoeck (Leiden, NL) made a special presentation on the 100 Years of the IAU and the associated events that are being held yearlong to celebrate this important event for astronomy. She also made a presentation on ‘Women in Astronomy’, summarizing the results of the recent IAU survey. She encouraged participants to contact her with any ideas on how the IAU could grow the number of its female members.

On the fourth day, Farid Salama moderated a Round Table discussion on The Future of Laboratory Astrophysics (the role of IAU Commission B5) to discuss how CB5 can best support the laboratory astrophysics community. The central issues discussed were what can CB5 do (within its mandate) and how can CB5 serve as a bridge between local/national laboratory astrophysics communities and help the exchange experiences and approaches. Prefiled questions from the audience were also discussed. The panel included representatives of IAU CB5, NASA, AAS/LAD, Europlanet, PCMI, ECLA and a few national programs from China, Japan and Africa/ME.

The Symposium proceedings, edited by Farid Salama, Editor with Helen Fraser and Harold Linnartz, co-Editors are to be published by Cambridge University Press.

In addition to the scientific sessions, the attendees enjoyed a welcome reception on Sunday 14 April and a series of social activities that included punting and walking tours, a visit of the Ely Cathedral and a guided tour of the Mullard Radio Astronomy Tour facility on the afternoon of Wednesday 17 April. The conference gala dinner was held at the Jesus College on Thursday 18 April, after which the SOC Chair, Farid Salama, opened the ceremony and introduced the distinguished guest speakers of the evening, Peter Sarre (Univ. Nottingham); Chris Lintott (Oxford Univ.) and Paul Woods (Editor Nature Astronomy) who gave after-dinner speeches on laboratory astrophysics and presented prizes to the poster competition winners. The banquet ceremony ended with Farid Salama giving tokens of the SOC’s appreciation to the LOC members who have done an outstanding work that largely contributed to the success of the meeting.

The organizers would like to thank a number of institutions for providing organizational and financial support: in particular, the IAU for the award of travel grants to 32 participants (22 male and 10 female), some 19 nationalities based in 20 countries; NASA; OU; PCMI; PPN; ESA and the IoP among others.

The Local Organizing Committee, which was very ably chaired by Helen Fraser, who brought her organizational skills and experience to this key role, comprised of David Benoit, Rebecca Coster (admin support), Anita Dawes, Sabrina Gaertner (Outreach), Dwayne Heard, Sergio Ioppolo, Nigel Mason, Anthony J. Meijer (Web-master), Jennifer Noble, Juliet Pickering, Paul Rimmer, Farid Salama, Ella Sciamma-O’Brien, Catherine Walsh, Mark Wyatt, Giulio Del-Zanna. They performed their duties both before and during the Symposium in a highly effective manner and the fact that the Symposium ran so smoothly is a testament to their professional approach and to the fact that many of the LOC remained on site throughout the duration of the meeting to ensure attendees had a stress-free, enjoyable experience.

Farid Salama, SOC Chair, was greatly aided in his duties by the other members of the SOC: Scientific organizing committee, SOC: Paul Barklem, Sweden, Helen Fraser, UK, Thomas Henning, Germany, Christine Joblin, France, Sun Kwok, China, Harold Linnartz, Netherlands, Lyudmila Mashonkina, Russia, Tom Millar, UK, Osama Shalabiea, Egypt, Gianfranco Vidali, USA, Feilu Wang, China, Giulio Del-Zanna, UK
Helen Fraser, LOC Chair, was greatly aided in her duties by the other members of the LOC: David Benoit, Rebecca Coster (admin support), Anita Dawes, Sabrina Gaertner (Outreach), Dwayne Heard, Sergio Ioppolo, Nigel Mason, Anthony J. Meijer (Webmaster), Jennifer Noble, Juliet Pickering, Paul Rimmer, Farid Salama, Ella Sciamma-O’Brien, Catherine Walsh, Mark Wyatt, Giulio Del-Zanna.

Farid Salama
Chair, IAU S350