

**ISSI Workshop on  
“Comets: Post 67P Perspectives”  
15-19 January, 2018**

**PROGRAM**

**Monday, 15 January 2018**

***Introduction***

---

**09:00-09:30** Registration in ISSI, Hallerstrasse 6, 1<sup>st</sup> floor

**09:30-09:45** Welcome and Introduction: What we hope to accomplish

**09:45-10:30** Introductory talk

**R. Rodrigo and N. Thomas  
H.-Uwe Keller**

**10:30-11:00 Coffee break**

***I: Shape Model  
Chair: Raphael Marschall***

**11:00-11:30** The shape model and detailed 3D shapes of specific units of 67P **Frank Preusker**

**11:30-12:00** Surface gravity of comet 67P

**12:00-12:30** Projection of data onto the shape model

**Stubbe Hviid  
David Marshall**

**12:30-13:30 Lunch**

***II: Chemical composition  
Chair: Nicolas Thomas***

**13:30-14:00** Ground-based spectroscopy of 67P and other comets

**14:00-14:30** Volatiles in the coma and the nucleus of comet 67P/C-G

**14:30-15:00** The chemistry of 67P as measured by instruments on board the Philae lander

**Michael Mumma  
Martin Rubin**

**Ian Wright**

**15:00-15:30 Coffee Break**

**15:30-16:00** The composition of cometary dust

**16:00-16:30** The chemical composition of 67P surfaces from remote sensing

**16:30-17:00** Change in surface composition and composition caused by sublimation

**Cécile Engrand**

**Gianrico Filacchione**

**Clémence Herny**

**17:00-18:00 General Discussion on Sections I and II**

**18:00 Welcome reception at ISSI**

**Tuesday, 16 January 2018**

***III: Activity and non-gravitational forces***  
***Chairs: Ekkehard Kührt and Colin Snodgrass***

---

- 09:00-09:30** Surface manifestations and features associated with activity **Ramy El-Maarry**  
**09:30-10:00** Interpretation of multi-instrument Rosetta data using gas and dust dynamics simulations **Raphael Marschall**  
**10:00-10:30** Activity and surface evolution of comets, a global perspective **Jean-Baptiste Vincent**

**10:30-11:00 Coffee break**

- 11:00-11:30** Outbursts on 67P - a multi-instrument perspective **Jessica Agarwal**  
**11:30-12:00** Dust activity of comet 67P/Churyumov-Gerasimenko: New Light on an old riddle **Yuri Skorov**

**12:00-13:30 Lunch**

- 13:30-14:00** Activity distribution constraints from spin rate change **Stefano Mottola**  
**14:00-14:30** Non-gravitational forces **Laurent Jorda**

***IV: Dust to gas ratio, dust size distribution, and risk***  
***Chair: Rafael Rodrigo***

---

- 14:30-15:00** The dust to gas ratio of comets **Marco Fulle**  
**15:00-15:30** Dust outflow behavior in the inner coma of comet 67P **Selina-Barbara Gerig**

**15:30-16:00 Coffee break**

- 16:00-16:30** Observed cometary dust size distributions **Simon Green**  
**16:30-17:00** Physical Properties of Cometary (Analogue) Materials **Bastian Gundlach**

**17:00-18:00 General Discussion**

**Wednesday, 17 January 2018**

***IV: Dust to gas ratio, dust size distribution, and risk***  
***Chair: Rafael Rodrigo***

---

**09:30-10:00** The total gas production rate of 67P  
**10:00-10:30** Risks to spacecraft from cometary material

**Ladislav Rezac**  
**Ralf Srama**

**10:30-11:00 Coffee break**

***V: The 1st Meter (porosity, fracturing, thermal constraints, gas flow through subsurface)***  
***Chair: Laurent Jorda***

---

**11:00-11:30** Thermal and mechanical properties of the surface and subsurface of comets  
**11:30-12:00** Gas flow through porous media: Applications to comets  
**12:00-12:30** The Surface Layers of 67P/Churyumov-Gerasimenko

**Olivier Groussin**  
**Kokou Dadzie**  
**Martin Knapmeyer**

**12:30-14:00 Lunch**

**14:00-15:00 Young scientist' presentations**

**14:00-14:20** Observational evidence for a large volatile reservoir in Imhotep region  
**14:20-14:40** Jupiter-family comet evolution from photometric time-series

**Nilda Oklay**  
**Rosita Kokotanekova**

**15:00** Free time for networking at ISSI (all ISSI facilities are available for small group discussions)  
Also: Time to visit the attractions of Bern

**19:30** Workshop dinner: Restaurant Kornhauskeller, Bern

**Thursday, 18 January 2018**

***V: The 1st Meter (porosity, fracturing, thermal constraints, gas flow through subsurface)***  
***Chair: Laurent Jorda***

---

**09:00-09:30** The porosity of the upper layers of cometary nuclei **Valerie Ciarletti**  
**09:30-10:00** Laboratory reflectance measurements of ice and dust mixtures.  
Masking of surface ice. **Zurine Yoldi**

***VI: Origins***  
***Chair: Björn Davidsson***

---

**10:00-10:30** Hints to the origin and formation of comet 67P/C-G from ROSINA **Kathrin Altwegg**

**10:30-11:00 Coffee break**

**11:00-11:30** The primordial nucleus of Comet 67P/Churyumov-Gerasimenko **Björn Davidsson**

**11:30-12:00** Dynamical and collisional evolution of comets, from the primordial disk to their current reservoirs **Alessandro Morbidelli**

**12:00-12:30** Comets formed from pebble-sized dust aggregates and are (very likely) primordial **Jürgen Blum**

**12:30-13:30 Lunch**

**13:30-14:30** General outline of ISSI book, organization, followed by splinter groups for book chapters  
ISSI facilities, rooms available **Rafael Rodrigo**  
**Nicolas Thomas**

**14:30-15:30** **Splinter groups, authors** **Led by Convenors**  
**Book plans, actions, schedule**

**15:30-16:00 Coffee break**

**16:00-17:00 General Discussion**

Friday, 19 January 2018

*VII: Implications for a sample return mission*  
*Chair: Rafael Rodrigo*

---

**09:00-09:30** Rosetta: bringing a laboratory to the comet instead of bringing (a piece of) the comet to our laboratory.  
What did we possibly miss?

**Gerhard Schwehm**  
**Stephan Ulamec**  
**Nicolas Thomas**

**09:30-10:00** History of RoLand & Philae

**10:00-10:30** Towards an update “Rosetta”

**10:30-11:00 Coffee break**

**11:00-11:30** JAXA’s HAYABUSA Mission

**Henner Busemann**  
**Caroline Smith**  
**Michael Mumma**

**11:30-12:00** Curating samples: Planning for Mars sample return

**12:00-12:30** Comet Astrobiology Exploration Sample Return

**12:30-12:45 Reports from splinter groups, authors**

**Led by Convenors**

**Book plans, actions, schedule**

**12:45-13:15 Final Discussion. Book leaders and schedule**

**13:15** Close of Workshop