

**ISSI-Europlanet forum**  
**Outstanding questions for solar system planetary science  
and associated key representative space missions**

**13-15 September 2016**

**TUESDAY 13 September, 2016**

**Main conference Room, 1<sup>st</sup> floor**

|                  |  |  |
|------------------|--|--|
| 08:15-08:45      | Registration   | ISSI, Hallerstrasse 6, 1 <sup>st</sup> floor |
| 08:45-09:10      | Welcome, Introduction to ISSI and to Europlanet, forum origin and objectives   | Rafael Rodrigo, Ari-Matti Hari, Michel Blanc |
| <b>Session 1</b> | <b>Setting the stage</b>   | <b>Chairperson: Michel Blanc</b>             |
| 09:10-09:30      | I -1. Formation of planetary systems   | Willy Benz                                   |
| 09:30-09:50      | I – 2. Living with one’s star: from solar-terrestrial science to star-planets relationships                            | Helmut Lammer                                |
| 09:50-10:10      | I – 3. A multi-decadal view of upcoming progress in the detection and characterization of exoplanets and their systems | Heike Rauer                                  |
| 10:10-10:30      | I- 4. Habitability and habitable worlds, in the Solar System and beyond  | Athena Coustenis                             |

*10:30-11:00 Coffee break*

|                          |  |                                   |
|--------------------------|--|-----------------------------------|
| 11:00-11:30              | Discussion on Session I  |                                   |
| <b>Session 2</b>         | <b>Solar System: formation and early evolution</b>                         | <b>Chairperson: John Zarnecki</b> |
| 11:30-11h50              | II – 1. Tracing the messages of the Solar Nebula                           | Bernard Marty                     |
| 11:50-12:10              | II – 2. Formation and early evolution of the solar system: the big picture | Seth Jacobson                     |
| <i>12:10-14:00 Lunch</i> |  |                                   |
| 14:00-14:20              | II – 3. Formation and early evolution: the outer solar system              | Michiel Lambrechts                |
| 14:20-14:40              | II – 3. Formation and early evolution: the inner solar system              | Mahesh Anand                      |
| 14:40-15:10              | Discussion on Session II   |                                   |

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| Session 3   | Solar System: how does it work?   | Chairperson: Karoly Szego    |
|-------------|---|------------------------------|
| 15:10-15:30 | Keynote contribution: III – 1. Structure and dynamics of solid bodies and implications for habitability and life: where to look for to make progress? | Nicola Tosi and Tilman Spohn |
| 15:30-16:00 | <i>Coffee break</i><br><i>Small bodies</i>  |                              |
| 16:00-16:20 | III – 2. Asteroids and Martian satellites: where do they come from, how do they work?   | Maria Teresa Capria          |
| 16:20-16:40 | III – 3. Comets, Trojans and KBOs: where do they come from, how do they work?   | Michael F. A'Hearn           |
|             | <i>Giant planets and their systems</i>  |                              |
| 16:40-17:00 | III – 4. Exploring the diversity of giant planets systems   | Jean-Pierre Lebreton         |
| 17:00-17:20 | III – 5. Structure and dynamics of ice and gas giants: how to make progress after Juno?   | Scott Bolton                 |
| 17:20-17:40 | III – 6. Icy satellites   | David Senske                 |
| 17:40-18:10 | Discussion on Session III (1)   |                              |
| 18:10       | Adjourn   |                              |
| 20:00       | <i>Forum dinner at the Altes Tramdepot</i>  |                              |

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| <b>WEDNESDAY 14 September, 2016</b> |   | <b>Main conference Room, 1<sup>st</sup> floor</b> |
|-------------------------------------|---|---|
|                                     | <i>Terrestrial planets</i>  | <b>Chairperson: Rafael Rodrigo</b>                |
| 08:30-08:50                         | III – 7. Terrestrial planets: internal structure and geodynamics                | Véronique Dehant                                  |
| 08:50-09:10                         | III – 8. Terrestrial planets: surface morphology, geology and formation history | Nicolas Mangold                                   |
| 09:10-09:30                         | III – 9. Terrestrial planets atmospheres and their evolution                    | Oleg Korablev                                     |
| 09:30-09:50                         | III – 10. Sources and losses of water on early terrestrial planets              | Feng Tian   |
| 09:50-10:10                         | Discussion on Session III (2)   |   |
| 10:10-10:40                         | <i>Coffee break</i>   |   |
|                                     | <i>Heliosphere, Solar System Magnetospheres and plasma physics</i>              | <b>Chairperson: Norbert Krupp</b>                 |
| 10:40-11:00                         | III – 11. The Heliosphere and its interaction with the LIC                      | Veerle Sterken                                    |
| 11:00-11:50                         | III – 12. Exploring the diversity of planetary magnetospheres                   | Emma Bunce  |
| 11:50-12:10                         | III – 13. The solar system as a plasma physics laboratory                       | Adam Masters                                      |
| 12:10-12:30                         | Discussion on Session III (3)   |   |
| 12:30-14:00                         | <i>Lunch</i>  |   |
| <b>Session IV</b>                   | <b>From Habitable worlds to the search for life.</b>                            | <b>Chairperson: Ari-Matti Harri</b>               |
| 14:00-14:20                         | IV – 1. Exploring Mars as a potential habitat                                   | Sylvestre Maurice                                 |
| 14:20-14:40                         | IV – 3. Ocean Worlds Exploration  | Christophe Sotin                                  |
| 14:40-15:00                         | IV – 4. Searching for life, in the solar system and beyond                      | Frances Westall                                   |
| 15:00-15:30                         | Discussion on Session IV  |   |

4

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15:30-16:00 *Coffee break*

**Wrap-up:**

16:00-18:30     - Science and key representative space missions:  
                  preliminary summary  
                  - Suggestions for ISSI-Europlanet workshops

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18:30           Adjourn

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**Thursday 15 September, 2016, morning**

**Main conference Room, 1<sup>st</sup> floor**

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09:00-12:00     **Splinter meeting of the Technology Experts**  
                  (All forum participants welcome)  
                  Technologies and infrastructures needed to  
                  implement our set of representative missions:  
                  preliminary forum outcome, discussion of next  
                  steps and of a work plan

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12:00           End of the forum

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