

“Understanding the Diversity of Planetary Atmospheres”

Workshop Program, November 12-16, 2018

Monday, November 12th

Seminar room, 1st floor

08:30-08:55 Registration at ISSI, Hallerstrasse 6, 1st floor

Session 1 Introduction **Chair: Oleg Korablev**

08:55-09:15 **Welcome** and Introduction to ISSI ISSI Director: Rudolf von Steiger

09:15-09:35 **Workshop objectives**, structure, and expected outputs Michel Blanc

09:35-10:00 **Setting the stage:** Can we anticipate the diversity of planetary atmospheres Francois Forget

10:00-10:30 Exoplanet statistics and atmospheres Jeremy Leconte

10:30-11:00 *Coffee Break*

Session 2 Observation of Exoplanetary Atmospheres **Chair: Kevin Heng**

11:00-11:30 Transit spectroscopy Joanna Barstow

11:30-12:00 Exospheres and escaping atmospheres David Ehrenreich

12:00-12:30 Observations of hot super-Earths Brice-Olivier Demory

12:30-14:00 *Lunch*

14:00-14:30 The challenge of atmospheric retrieval on exoplanets Kevin Heng

14:30-15:00 Future observations of exoplanets atmospheres with ground-based telescopes David Ehrenreich

15:00-15:30 TESS, CHEOPS, PLATO Heike Rauer

15:30-16:00 *Coffee Break*

16:00-16:30 Future observations of exoplanets atmospheres from space Giovanna Tinetti

Session 3 Volatile Delivery and Formation of Atmospheres **Chair: Francois Forget**

16:30-17:00 Planet formation and the origin of water Julia Venturini

17:00-17:30 Early Emergence of atmospheres from magma oceans Emmanuel Marcq

17:30 Welcome Reception at ISSI, Hallerstrasse 6, 1st floor

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Tuesday, November 13 th		Seminar room, 1 st floor
09:00-09:30	Atmospheric Outgassing	Fabrice Gaillard
09:30-10:00	Atmosphere, Mantle convection & Plate tectonics on terrestrial planets	Lena Noack
Session 4	Evolution of terrestrial worlds in the solar system	Chair:
10:00-10:30	Constraining early evolution of Venus, Mars and the Earth by elemental ratios	Manuel Scherf
10:30-11:00	<i>Coffee Break</i>	
11:00-11:30	What happened to Venus?	Colin Wilson
11:30-12:00	What happened to Mars?	Francois Forget
12:00-12:30	Lessons from Titan	Jonathan Mitchell
12:30-14:00	<i>Lunch</i>	
14:00-14:30	Evolution of early Earth atmosphere	Bernard Marty
14:30-15:00	Early Earth Climate	Benjamin Charnay
Session 5	Solar System Giant Planets Atmospheres	Chair: Michel Blanc
15:00-15:30	Jupiter and Saturn	Tristan Guillot
15:30-16:00	<i>Coffee Break</i>	
16:00-16:30	Uranus and Neptune	Mark Hofstadter
16:30-17:30	First Discussion about the ISSI book “Understanding the diversity of Planetary atmosphere”	Conveners & All participants

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Wednesday, November 14th

Seminar room, 1st floor

Session 6 Atmospheric Circulation Regimes

Chair:

09:00-09:30 Diversity of Atmospheric circulation

Yohai Kaspi

09:30-10:00 Super-rotation from Venus observations

Takeshi Imamura

10:00-10:30 The case of Hot and Warm Jupiters

Adam Showman

10:30-11:00 *Coffee Break*

Session 7 Atmospheric Escape Regimes

Chair: Julia Venturini

11:00-11:30 Comparative Escape from Venus, Earth, and Mars

Robin Ramstad

11:30-12:00 Early atmospheric escape

Feng Tian

12:00-12:30 Atmospheric escape from super Earth and mini-Neptune

James Owen

12:30-13:00 Modelling of Hot Jupiter escaping atmospheres

Ildar Shaiislamov

13:00-19:00 *Free time to visit the attractions of Bern
Also: All ISSI facilities are available for group discussions*

19:00 *Workshop Dinner at the Altes Tramdepot (organized by ISSI)*

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Thursday, November 15th

Seminar room, 1st floor

Session 8	Chemistry of Planetary Atmospheres	Chair: Helmut Lammer
09:00-09:30	Lessons from atmospheres on icy bodies	Peter Gao (remotely)
09:30-10:00	Lessons from Solar system planetary atmospheres	Franck Mills
10:00-10:30	Lessons from Solar system Giant planets	Julie Moses
10:30-11:00	<i>Coffee Break</i>	
11:00-11:30	Photochemistry on exoplanets	Shan-Min Tsai
Session 9	Terrestrial exoplanets around red/small stars	Chair:
11:30-12:00	Atmospheres on planets around small stars	Emeline Bolmont
12:00-12:30	Climate, runaway greenhouse and cold trapping on tidally locked planets	Eric Wolf
12:30-14:00	<i>Lunch</i>	
Session 10	Upcoming knowledge from future Solar System missions	Chair:
14:00-14:30	Future investigations on Venus and Mars atmospheres	Oleg Korablev
14:30-15:00	Juice and Jupiter	Leigh Fletcher
15:00-15:30	Missions to Uranus and Neptune	Mark Hofstadter
15:30-16:00	<i>Coffee Break</i>	
16:00-16:30	Report from the 2018 ISSI Workshop “Reading Terrestrial Planet Evolution in Isotopes and Element Measurements”	Helmut Lammer
16:30-18:00	Final discussion of the ISSI book (Authors, Book Plans, Actions, Schedule)	Conveners & All participants



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Friday, November 16th

Seminar room, 1st floor

09:00-12:00 Work session on Book chapters for present co-authors
