



ASTROBIOLOGY
COYHAIQUE - CHILE 2017



Official Program

Last update: September 27, 2017*

*Please note that this program is still subject to changes

Registration Desk Hours

Sunday : 15:00 - 20:00
Monday : 8:00 - 13:00 , 14:00 - 18:00
Tuesday: 8:00 - 13:00 , 14:00 - 18:00
Wednesday 8:00 - 12:30
Thursday: 8:00 - 13:00 , 14:00 - 18:00
Friday: 8:00 - 13:00

For more information, contact us at registration@astrobiology2017.org or find us in the web.

 ASTROBIO2017  ASTROBIO2017

WWW.ASTROBIOLOGY2017.ORG

We would like to thank our generous Life and Oxygen Sponsors:



ARAUCO.
Sembremos Futuro



Sunday, November 26

- 15:00 **Registration desk opens**
- 19:00 - 20:30 Welcome Reception (Cocktail)
- 20:30 **Registration desk closes**

Monday, November 27

8:45 - 9:15 Opening remarks

9:15 - 10:15 **Keynote talk: Nader Haghighipour**
"The unifying power of Astrobiology"

10:15 - 10:45 Coffee Break

10:45 - 11:10 **Pierre Cox**
"The role of ALMA in Astrobiology"

11:10 - 11:30 Lucas Cieza
"Imaging the water-snow line during a protostellar outburst"

11:30 - 11:50 Rhana Bethany Nicholson
"Supernova Enrichment of Protoplanetary Discs in Low Mass Star Clusters"

11:50 - 12:10 Daniela Iglesias
"Searching for exocometary activity in debris disks"

Star and
Planet
Formation

12:10 - 14:00 Lunch

14:00 - 14:25 **André Izidoro Ferreira da Costa**
"Watering, shielding and building the inner Solar System"

14:25 - 14:50 **Jeong-Eun Lee**
"Evolution in Star Formation"

14:50 - 15:10 Othon Winter
"On the formation of Earth-like planets in the habitable zone of circumbinary star systems"

15:10 - 15:30 Jeff Jennings
"The difficulty of forming Earth analogs"

Star and
Planet
Formation

15:30 - 16:00 Coffee Break

16:00 - 16:25 **Lena Noack**
"Mantle convection and atmosphere evolution on rocky exoplanets"

16:25 - 16:45 Yasunori Hori
"Atmospheric Growth of a (Non-)Migrating Planet: Application to the TRAPPIST-1 System"

16:45 - 17:05 Claudio Melo
"Atmospheric characterization of exoplanets through their reflected light"

17:05 - 17:25 Ricardo Ramírez Reyes
"Transmission Spectroscopy in LHS1140b"

17:25 - 17:45 Andreas Quirrenbach
"CARMENES: Blue Planets Orbiting Red Stars"

17:45 - 18:05 Christopher C.E. Tylor
"Exomoons as future targets for Astrobiology"

Extrasolar
Planets /
Habitable
zones and
habitable
planets

18:20 - 20:00 Poster session

19:00 **Public talk by Antonio Lazcano**
"El origen de la vida"
Location: TBD

Tuesday, November 28

- 8:45 - 9:10 **Stephen Kane**
"Definitions and Caveats of the Habitable Zone"
- 9:10 - 9:35 **Gustavo Porto de Mello**
"Planetary Habitability: Limitations and Timescales Related to Stellar Magnetic Activity"
- 9:35 - 9:55 **Amri Wandel**
"The potential for liquid water and photosynthesis on planets of red dwarf stars"
- 9:55 - 10:15 **Luciano Darriba**
"Migrating Jupiter up to the habitable zone: Earth-like planet formation and water"

Extrasolar
Planets /
Habitable zones
and habitable
planets

10:15 - 10:45 Coffee Break

- 10:45 - 11:10 **Yoko Kebukawa**
"Formation of various organic matter driven by liquid water in the solar system bodies"
- 11:10 - 11:30 **Carle M. Pieters**
"Distinct Observations of Organic-rich Material on the Dwarf Planet Ceres"
- 11:30 - 11:50 **Conor Nixon**
"A Multi-Spectral Search for Cyclic Molecules in Titan's Atmosphere"
- 11:50 - 12:10 **María Eugenia Parra**
"First characterization of fluids-vitreous inclusions in ordinary chondrites from the Atacama Desert Meteorite Collection"

Planets in the
Solar System /
Habitable zones
and habitable
planets

12:10 - 14:00 Lunch

- 14:00 - 14:25 **Kathrin Altwegg**
"Organics in comet 67P/Churyumov-Gerasimenko and its relation with Earth"
- 14:25 - 14:50 **Herve Cottin**
"Comets organic content and astrobiology, (re)assessment for comet 67P after the Rosetta mission (I)"
- 14:50 - 15:10 **Rita Schulz**
"The composition of comets – overview of 30 years of investigations"
- 15:10 - 15:30 **Julio Ángel Fernández**
"The current and past impact rate on the Earth from an eroding asteroid belt"

Planets in the
Solar System /
Habitable zones
and habitable
planets

15:30 - 16:00 Coffee Break

- 16:00 - 16:25 **Lucy Ziurys**
"The Primordial Carbon Cycle: Carriers, Pathways and Assembly Leading to Prebiotic Molecules"
- 16:25 - 16:45 Maria Drozdovskaya
"Pre- and protostellar roots of complex organic molecules in comets"
- 16:45 - 17:10 **Arnaud Belloche**
"Exploring molecular complexity in the interstellar medium with ALMA"
- 17:10 - 17:30 Sergio Pilling
"Chemical changes in interstellar ices due to cosmic-rays and X-rays and its astrobiological implications"

Prebiotic
Molecules in the
ISM and
protoplanetary
disks

17:40 - 18:40 Science communication panel

19:00 - 20:00 Poster session

Wednesday, November 29

- 8:45 - 9:10 **David Catling**
"The evolution of early Earth's atmosphere, climate, and chemical disequilibrium"
- 9:10 - 9:30 Christian Koeberl
"The Impact Bombardment History of the Early Earth"
- 9:30 - 9:55 **Yuichiro Ueno**
"Late Archean Earth as a window to Astrobiology"
- 9:55 - 10:15 Alexander Slabunov
"Archean geodynamic settings and ecological niches of early life (examples from the Fennoscandian Shield)"

Early Earth
Environments
and the
emergence of
life

10:15 - 10:45 Coffee Break

- 10:45 - 11:10 **Antonio Lazcano**
"Prebiotic evolution and the emergence of life"
- 11:10 - 11:30 Daniel Glavin
"L-Amino Acid Excesses in Meteorites: Formation Mechanisms and Implications for the Origin of Homochirality"
- 11:30 - 11:50 Andrew Pohorille
"The nature of the earliest evolutionary processes: insight from recent in vitro experiments on RNA molecules"
- 11:50 - 12:10 Kathryn Lanier
"The Ribosome: A Window in Time"

Early Earth
Environments
and the
emergence of
life

12:10 - 12:20 Astrobiology 2017 Group photo

12:30 - 14:00 lunch

- 14:00 - 20:00 Excursion to Cerro Castillo and Conference Banquet
(Pre-registration required)

Thursday, November 30

- 8:45 - 9:10 **Beatriz Diez**
"Effect of temperature on the ecology and biogeochemistry of photoautotrophic microbial mat communities in thermal systems"
- 9:10 - 9:30 **Cristina Dorador**
"Halophiles beyond NaCl: limits of life under LiCl concentrated brines at Salar de Atacama, Chile"
- 9:30 - 9:50 **Carolina González Rosales**
"Extremely Acidic Environments (pH \leq 3) on Earth as Surrogates in the Search for Life on Exoplanets and Moons"
- 9:50 - 10:10 **María Angélica Leal Leal**
"Characterization of functional groups of psychrophilic and psychrotolerant microorganisms in the frozen sediments of the Antarctic Peninsula (Half Moon island)"

Life in extreme conditions and early life

10:10 - 10:40 Coffee Break

- 10:40 - 11:05 **Carlos Briones**
"The origins of life as a process of development of autonomous functional systems"
- 11:05 - 11:30 **Douglas Galante**
"Morphological and chemical biosignatures from the fossil record as tools to recognize extraterrestrial life"
- 11:30 - 11:50 **Chanenath Sriaporn**
"Molecular Characterization of Nodular Digtate Siliceous Hot Spring Microstromatolites as Analogues for Biosignature Candidates at Columbia Hills, Mars"
- 11:50 - 12:10 **Amy Williams**
"Fatty Acid Preservation in Active, Recent, and Relic Icelandic Hot Springs as Revealed by On-line TMAH Pyrolysis GCMS"

Life in extreme conditions and early life

12:10 - 14:00 Lunch

- 14:00 - 14:25 **Akihiko Yamagishi**
"Astrobiology Exposure and Micrometeoroid Capture Experiments at the Exposure Facility of International Space Station: Tanpopo"
- 14:25 - 14:45 **María Fernanda Cerini**
"Environment simulations and spectroscopic in situ characterization of potential molecular biosignatures for application in space missions"
- 14:45 - 15:05 **Michael Sterzik**
"IBiomarkers in Polarization Spectra of Planet Earth"
- 15:05 - 15:25 **Ruth-Sophie Taubner**
"Lipid Pattern of Methanothermococcus okinawensis under Varying Enceladus-like Conditions"

Search for life in the Universe

15:25 - 16:00 Coffee Break

- 16:00 - 16:25 **David Duner**
"The History and Philosophy of Biosignatures"
- 16:25 - 16:50 **Octavio Chon**
"Astroethics"
- 16:50 - 17:10 Alexei Dodsworth Magnavita de Carvalho
"On Ethics of Terraforming. Intrinsic values, space settlements, and their dilemmas: a philosophical approach"
- 17:10 - 17:30 Andreas Losch
"Ethics of a Planetary Sustainability"

Societal and ethical issues linked to Astrobiology

17:40 - 18:40 F3 Commission business meeting

19:00 - 20:00 Poster Session

Friday, December 1

- 9:00 - 9:25 **Wolf Geppert**
"The European Astrobiology Campus– Towards a Comprehensive Multidisciplinary Training of Astrobiology Students in Europe"
- 9:25 - 9:50 **Chris Impey**
"Teaching Astrobiology to Formal and Informal Learners"
- 9:50 - 10:10 Susan Leschine
"An Introductory Seminar on Astrobiology"
- 10:10 - 10:30 Fernando Selman
"Astrobiology as a unifying theme in education and outreach: our experience in small communities in rural Chile"

Education in Astrobiology

10:30 - 11:00 Coffee Break

- 11:00 - 11:20 Muriel Gargaud
"Last news from the Working Group on Education and Training in Astrobiology"
- 11:20 - 11:40 William Irvine
"The Encyclopedia of Astrobiology as a Teaching Tool"
- 11:40 - 12:20 All
Discussion

Education Panel

12:20 - 12:30 Closing remarks