

## Daily programme for room Albéniz+Machuca

## Room Albéniz+Machuca | Mon, 19 Sep 2022

### TP15 | Astrobiology

Convener: Felipe Gómez | Co-conveners: Nuria Rodríguez-González, Sohan Jheeta, Frank Trixler, Rosanna del Gaudio

Chairpersons: Felipe Gómez, Nuria Rodríguez-González, Sohan Jheeta

- 10:00–10:20 EPSC2022-254 | **MI**  
**From a Homogeneous Non-biochemical Soup to the Emergence of Fundamental Functions of Life, including Adaptation. Physics and Chemistry Working Together at micron scales**  
**Juan Perez-Mercader**
- 10:20–10:35 EPSC2022-141  
**Mineral-catalyzed sugar synthesis under hydrothermal conditions**  
**Vassilissa Vinogradoff**, Raphael Pepino, Vanessa Leyva, Lauriane Cazals, Coline Serra, Gregoire Danger, and Cornelia Meinert
- 10:35–10:50 EPSC2022-86  
**Anaerobic Microbial Interactions with Fullerenes: Implications for the Use of Extra-terrestrial Organics by Life on Early Earth**  
**Elle Bethune**, Charles S Cockell, Eleanor E.B Campbell, and Andrey Gromov
- 10:50–11:05 EPSC2022-72  
**Earth's varying paleoenvironment and experimental tests provide insights into superhabitable conditions on exoplanets**  
**Iva Vilovic**, Dirk Schulze-Makuch, and René Heller
- 11:05–11:20 EPSC2022-495  
**Responses of eukaryotic photosynthetic organisms to simulated M-dwarf star light.**  
**Nicoletta La Rocca**, Mariano Battistuzzi, Riccardo Claudi, Lorenzo Cocola, and Luca Poletto
- 11:20–11:30 EPSC2022-70  
**Metabolites and metals as phosphate transfer catalysts**  
**Silvana Pinna**, Emilie Werner, and Joseph Moran
- Coffee break
- Chairpersons: Felipe Gómez, Nuria Rodríguez-González, Rosanna del Gaudio
- 15:30–15:45 EPSC2022-140  
**Thermal Condensation of Glycine and Alanine on Metal Ferrite Surface: Primitive Peptide Bond Formation Scenario**  
**Sohan Jheeta**
- 15:45–16:00 EPSC2022-352  
**Resurrecting ancestral chaperonins as proxies for biomarker discovery in astrobiology**  
**Rita Severino**, Moisés Maestro-López, Jorge Cuéllar, José María Valpuesta, and Victor Parro
- 16:00–16:15 EPSC2022-100  
**The role of minerals surfaces in prebiotic chemistry and planetary exploration**  
**Eva Mateo-Marti**, Santos Galvez-Martinez, Eduardo Cueto-Diaz, and Maria Paz Zorzano
- 16:15–16:30 EPSC2022-437  
**Atmospheric evolution and the search for species of astrobiological interest in the Solar System – Case Studies using the Planetary Spectrum Generator**  
**João Dias**, Pedro Machado, José Ribeiro, and Constança Freire
- 16:30–16:45 EPSC2022-1108  
**Different forms of kerogenous carbon shape the growth and composition of anaerobic microbial communities**  
**Annemiek C. Waajen**, Wessel de Wit, John O. Edgar, Jon Telling, and Charles S. Cockell
- 16:45–17:00 **Questions and discussions**

Coffee break

Chairpersons: Rosanna del Gaudio, Frank Trixler, Felipe Gómez

17:30–17:45 EPSC2022-1019

**Astrochemistry Experimental Setup at Atomki-ECRIS: A Europlanet Facility**

**Rahul K Kushwaha**, Richárd Rácz, Sándor T S Kovács, Péter Herczku, Béla Sulik, Zoltán Juhász, Sándor Biri, Duncan V Mifsud, Sergio Ioppolo, Zuzana Kanuchová, Thomas A Field, Perry Hailey, Robert McCullough, and Nigel J Mason

17:45–18:00 EPSC2022-1188

**Salt constructs in paleo-lake basins as high-priority astrobiology targets.**

**Michael Phillips**, Kimberley Warren-Rhodes, Nancy Hinman, Jeffrey Moersch, Michael Hofmann, Michael McInenly, Alfonso Davila, and Nathalie Cabrol

18:00–18:15 EPSC2022-1267

**Is ozone a reliable proxy for molecular oxygen?**

**Thea Kozakis**, João M. Mendonça, and Lars A. Buchhave

18:15–18:30 EPSC2022-794

**Future in-situ chemical analysis on Europa and Enceladus: impact of salts on the detection of organic compounds in samples from hypersaline Tirez lake (La Mancha, Spain) with GC-MS.**

**Valentin Moulay**, Caroline Freissinet, Arnaud Buch, Felipe Gomez Gomez, and Cyril Szopa

## Room Albéniz+Machuca | Tue, 20 Sep 2022

### TP2 | Paving the way to the decade of Venus

Convener: Anne Grete Straume-Lindner | Co-conveners: Gabriella Gilli, Moa Persson

Chairpersons: Anne Grete Straume-Lindner, Thomas Widemann

#### Welcome

#### Understanding Venus' evolution: Past and future missions

- 10:00–10:15 EPSC2022-62  
**The Consequences of Late Accretion Volatile Delivery and Loss Mechanisms on Venus' Evolution**  
**Cédric Gillmann**, Gregor Golabek, Sean Raymond, Paul Tackley, Maria Schoenbaechler, Veronique Dehant, and Vinciane Debaille
- 10:15–10:30 EPSC2022-1120  
**Venus Express as precursor of the Venus Decade**  
**Dmitrij Titov**, Anne Grete Straume-Lindner, and Colin Wilson
- 10:30–10:40 EPSC2022-751  
**VERITAS Radar Observations at Venus**  
**Scott Hensley**, Suzanne Smrekar, Bruce Campbell, Marco Mastrogiuseppe, Dragana Perkovic-Martin, Marwan Younis, and Howard Zebker
- 10:40–10:50 EPSC2022-1097  
**EnVision: understanding why our closest neighbour is so different**  
**Thomas Widemann**, Anne Grete Straume-Lindner, Adriana C. Ocampo, Thomas Voirin, Ann Carine Vandaele, Alberto Moreira, Bruce Campbell, Caroline Dumoulin, Emmanuel Marcq, Gabriella Gilli, Jörn Helbert, Walter Kiefer, Lynn Carter, Lorenzo Bruzzone, Philippa Mason, Scott Hensley, and Tatiana Bocanegra-Bahamon
- 10:50–11:00 EPSC2022-196  
**EnVision: An ESA Medium-class mission to Venus in collaboration with NASA**  
**Ann-Grete Straume-Lindner**, Robert Buchwald, Pierre-Elie Crouzet, Dmitri Titov, Thomas Voirin, and Arno Wielders
- 11:00–11:10 EPSC2022-374  
**The VenSpec suite on the ESA Envision mission – a holistic investigation of the coupled surface atmosphere system of Venus**  
**Jörn Helbert**, Ann-Carine Vandaele, Emmanuel Marcq, Severine Roberts, Eddy Neefs, Justin Erwin, Gabriel Guignan, Benjamin Lustrement, Gisbert Peter, Steve Rockstein, Friederike Wolff, Giulia Alemanno, Luisa Lara, Jose Castro, Jeremie Lasue, and Sandrine Vinatier and the The VenSpec team
- 11:10–11:20 EPSC2022-860  
**Radio Sounding of the Venusian Atmosphere and Ionosphere with EnVision**  
**Silvia Tellmann**, Janusz Oschlisniok, Martin Pätzold, Caroline Dumoulin, and Pascal Rosenblatt
- 11:20–11:30 EPSC2022-588  
**Venus Dynamics Tracer - exploring Venus with balloons**  
**Gabriella Stenberg Wieser** and Moa Persson

Coffee break

Chairpersons: Gabriella Gilli, Moa Persson

- 12:00–12:10 EPSC2022-77  
**The Case for a Mission to Return Cloud Particles from the Lower Atmosphere of Venus**  
**Dirk Schulze-Makuch**, Louis Irwin, and Troy Irwin
- Surface and lower atmosphere observations and modelling**
- 12:10–12:20 EPSC2022-407  
**Towards new insights of Venus mantle viscosity structure**  
**Julia Maia** and Mark Wieczorek

- 12:20–12:30 EPSC2022-371  
**The geologic evolution of Imdr Regio: a possible active hot spot on Venus.**  
 Iván López, Lucía Martín, Alberto Jiménez-Díaz, **Piero D'Incecco**, Justin Filiberto, and Gaetano Di Achille
- 12:30–12:40 EPSC2022-1121  
**Investigating the properties of a near-surface cloud layer from Venera 13 and 14 descent probe data**  
**Shubham Kulkarni**, Colin Wilson, and Patrick Irwin
- Middle and upper atmosphere observations and modelling**
- 12:40–12:50 EPSC2022-1054  
**A photometric study of the Enormous Cloud Cover seen in the Venus' night-side disk**  
**Takehiko Satoh**, Takao Sato, Takeshi Horinouchi, Takeshi Imamura, and George Hashimoto
- 12:50–13:00 EPSC2022-921  
**Minor species in the Venus mesosphere from SOIR on board Venus Express: detection and upper limit profiles of H<sub>2</sub>CO, O<sub>3</sub>, NH<sub>3</sub>, HCN, N<sub>2</sub>O, NO<sub>2</sub>, and HO<sub>2</sub>**  
**Arnaud Mahieux**, Séverine Robert, Frank Mills, Loïc Trompet, Shohei Aoki, Arianna Piccialli, Kandis Lea Jessup, and Ann Carine Vandaele
- 13:00–13:10 EPSC2022-309  
**Thermal tides reproduced in the assimilation results of horizontal winds obtained from Akatsuki UVI observations**  
 Yukiko Fujisawa, Shin-ya Murakami, **Norihiko Sugimoto**, Masahiro Takagi, Takeshi Imamura, Takeshi Horinouchi, George L. Hashimoto, Masaki Ishiwatari, Takeshi Enomoto, Takemasa Miyoshi, Hiroki Kashimura, and Yoshi-Yuki Hayashi
- 13:10–13:20 EPSC2022-1141  
**Reprocessing Pioneer Venus Orbiter radio occultation data**  
**Martin Pätzold**, Matthias Hahn, Janusz Oschlisniok, Kerstin Peter, and Silvia Tellmann
- 13:20–13:30 EPSC2022-19 | **MI**  
**Evidence of planetary carbon and oxygen ions in the outer flank of Venus magnetosheath**  
**Lina Hadid** and the MSA, MIA, MEA and MAG teams

**Session wrap-up**

Lunch break

**TP6 | Martian dust and clouds: from lab to space**

Convener: Olga Muñoz | Co-conveners: Jonathan Merrison, Gerhard Wurm, Ann Carine Vandaele, Hannakaisa Lindqvist, Michael Wolff  
 Chairperson: Michael Wolff

- 15:30–15:45 EPSC2022-75  
**Retrieving scattering properties of Martian dust analogues by modelling light scattering**  
**Julia Martikainen**, Olga Muñoz, Teresa Jardiel, Marco Peiteado, Juan Carlos Gómez Martín, and the RoadMap Team
- 15:45–16:05 EPSC2022-675  
**Spectropolarimetry of Mars: Why and how?**  
**Daphne Stam**
- 16:05–16:15 EPSC2022-922  
**Composition and size of Martian aerosols as seen in the IR from solar occultation measurements by NOMAD onboard TGO**  
**aurélien stollenbach**, Miguel-Angel López Valverde, Adrian Brines, Ashimananda Modak, Bernd Funke, Francisco González-Galindo, Ian Thomas, Giuliano Liuzzi, Geronimo Villanueva, Mikhail Luginin, and Shohei Aoki
- 16:15–16:25 EPSC2022-1145  
**Atmospheric Dust monitoring derived from Orbital Near-Infrared Imaging Spectroscopy and Implications for RSL Formation**  
**Yann Leseigneur**

16:25–16:35 EPSC2022-679

**Underlining the Image Processing Techniques Used to Analyze Martian Water Ice Clouds Observed at Jezero Crater by the NavCam Instrument on board the Mars2020 Rover, Perseverance.**

**Priya Patel**, Andrew Coates, Leslie Tamppari, Manuel de la Torre Juárez, Mark Lemmon, Daniel Toledo, Michael Wolff, John Moores, Charissa Campbell, and Adrian Brown

16:35–16:55 EPSC2022-599

**The diurnal and seasonal variation of dust observed by the Perseverance rover and Emirates Mars Mission**

**Michael Smith**, Khalid Badri, Samuel Atwood, Germán Martínez, Eduardo Sebastián, Victor Apéstigue, Ignacio Arruego, Daniel Toledo, Daniel Viúdez, Jose Antonio Manfredi, Christopher Edwards, Nathan Smith, Christopher Wolfe, Michael Wolff, Philip Christensen, Saadat Anwar, Mark Lemmon, Eman AlTunaiji, and Manuel de la Torre

## Room Albéniz+Machuca | Wed, 21 Sep 2022

### SB1 | Asteroid observations and modelling: properties and evolution of individual objects, families, and populations

Conveners: Irina Belskaya, Bojan Novakovic, Csaba Kiss | Co-conveners: Dagmara Oszkiewicz, Oleksiy Golubov, Agnieszka Kryszczyńska, Valerio Carruba, David Vokrouhlicky, András Pál, Rene Duffard, Alvaro Alvarez-Candal, Grigori Fedorets  
Chairpersons: Dagmara Oszkiewicz, Agnieszka Kryszczyńska

#### Physical characterisation of asteroids

10:00–10:10 EPSC2022-524 | **MI**

##### **No one gets closer to the Sun: Thermophysical properties of Atira object 2021 PH27**

**Thomas Müller**, Toni Santana-Ros, Marco Micheli, and Eric Pantin

10:10–10:20 EPSC2022-1150

##### **Physical characterization of the potentially hazardous contact-binary asteroid (153201) 2000 WO107**

**Yurij Krugly**, Sofiiia Mykhailova, Oleksiy Golubov, Veronika Lipatova, Raguli Inasaridze, Vova Ayvazian, Givi Kapanadze, Data Datashvili, Shuhrat Ehgamberdiev, Oleksandra Ivanova, Marek Husárik, Sergei Karpov, Ivan Slyusarev, and Irina Belskaya

10:20–10:30 EPSC2022-734

##### **A new component of the tangential YORP caused by the roughness of the asteroid surface**

**Oleksiy Golubov** and Veronika Lipatova

10:30–10:40 EPSC2022-1179

##### **Numerical simulations of imbricated boulders resulting from the impact-induced seismic pulse**

**Bin Cheng**, Yang Yu, and Hexi Baoyin

10:40–10:50 EPSC2022-395

##### **Constraining the shape and density of binary asteroid (121) Hermione**

**Marin Ferrais**, Pierre Vernazza, Michaël Marsset, Laurent Jorda, Benoit Carry, Josef Hanus, Miroslav Brož, Bin Yang, Romain Fétick, Franck Marchis, Frederic Vachier, Mirel Birlan, Emmanuël Jehin, Edyta Podlowska-Gaca, Przemyslaw Bartzczak, Thierry Fusco, and Grzegorz Dudziński

#### Phase curve and shape studies

10:50–11:00 EPSC2022-396

##### **Shape models and spin states of Jupiter Trojans: Testing the streaming instability formation**

**Josef Hanus**, David Vokrouhlicky, David Nesvorny, Josef Durech, Robert Stephens, Ondrej Pejcha, Vladimir Benishek, and Julian Oey

11:00–11:10 EPSC2022-1022

##### **Resolving between asteroid binaries and elongated objects in the wobble of Gaia astrometry**

**Grigori Fedorets** and the Gaia SSO team

11:10–11:20 EPSC2022-128

##### **Phase curves at small phase angles of bodies from the SLOAN Moving Objects Catalog**

**Alvaro Alvarez-Candal**, Santiago Jiménez Corral, and Milagros Colazo

11:20–11:30 EPSC2022-660

##### **Zero-phase angle asteroid taxonomy classification using unsupervised machine learning algorithms**

**Milagros Colazo**, Alvaro Alvarez-Candal, and Rene Duffard

Coffee break

Chairpersons: Bojan Novakovic, Valerio Carruba

12:00–12:10 EPSC2022-1144

##### **Investigation of Asteroid Phase Curves Extracted from the ATLAS Survey**

**James Robinson**, Alan Fitzsimmons, David Young, Larry Denneau, Ken Smith, Michele Bannister, Aren Heinze, and John Tonry

**Asteroid dynamics**

- 12:10–12:20 EPSC2022-986  
**Operating manual on how to find an Earth Trojan asteroid**  
**Toni Santana-Ros**, Marco Micheli, Laura Faggioli, Ramona Cennamo, Maxime Devogèle, Alvaro Alvarez-Candal, Po-Yen Liu, Paula G. Benavidez, and Adriano Campo Bagatin
- 12:20–12:30 EPSC2022-238  
**Identifying the population of stable v6 resonant asteroids using large databases**  
**Valerio Carruba**, Safwan Aljbaae, Rita C. Domingos, Mariela Huaman, and Bruno Martins
- 12:30–12:40 EPSC2022-119  
**Averaged theory applied to the co-orbital motion of real asteroids in the solar system in the medium-term timescale**  
**Elisa Maria Alessi**, Alexandre Pousse, and Sara Di Ruzza
- 12:40–12:50 EPSC2022-1014  
**The recent dynamical past of the low perihelion NEO population**  
**Athanasia Toliou** and Mikael Granvik
- 12:50–13:00 EPSC2022-1213  
**Dynamical Investigation of Trans-Neptunian Objects in particular the Mean-Motion Resonances with Neptune**  
**Emese Forgács-Dajka**, Emese Kóvári, Tamás Kovács, Csaba Kiss, and Zsolt Sándor
- 13:00–13:10 EPSC2022-1216  
**Chaotic behaviours of different time-scales in the trans-Neptunian space**  
**Emese Kóvári**, Emese Forgács-Dajka, Tamás Kovács, Csaba Kiss, and Zsolt Sándor

**Spectroscopy and mineralogy**

- 13:10–13:20 EPSC2022-698  
**Statistical clustering analysis of NEOs to find correlations with spectral classes**  
**J. D. Prasanna Deshapriya**, Davide Perna, Nicolas Bott, Pedro Henrique Hasselmann, Mikael Granvik, Elisabetta Dotto, Marcello Fulchignoni, Alessio Giunta, Ettore Perozzi, Simone Ieva, Vasiliki Petropoulou, and Elena Mazzotta-Epifani
- 13:20–13:30 EPSC2022-351  
**Searching for parent bodies of differentiated meteorites in the main-belt using visible and near-infrared spectroscopy**  
**Marjorie Galinier**, Marco Delbo, Laurent Galluccio, and Yves Marrocchi

Lunch break

Chairpersons: Irina Belskaya, Rene Duffard

- 15:30–15:40 EPSC2022-440  
**Composition of Inner Main Belt Planetesimals**  
**Jules Bourdelle de Micas**, Sonia Fornasier, Marco Delbo, Chrysa Avdellidou, Gerard Van Belle, and Paolo Ochner
- 15:40–15:50 EPSC2022-270  
**Are there significant differences among the mineralogy of V-type asteroids family?**  
**Marianna Angrisani**, Ernesto Palomba, Andrea Longobardo, Andrea Raponi, Chiara Gisellu, and Fabrizio Dirri
- 15:50–16:00 EPSC2022-554  
**Vesta surface composition as derived from newly calibrated Dawn data.**  
**Giuseppe Massa**, Andrea Longobardo, Ernesto Palomba, Marianna Angrisani, Chiara Gisellu, Fabrizio Dirri, Maria Cristina De Sanctis, Andrea Raponi, Giacomo Carrozzo, and Mauro Ciarniello
- 16:00–16:15 EPSC2022-385  
**A New Iteration of the Asteroid Taxonomy**  
**Max Mahlke**, Benoit Carry, and Pierre-Alexandre Mattei



- 16:15–16:30 EPSC2022-357 | **MI**  
**Survey of Solar system small bodies reflectance spectra in Gaia Data Release 3**  
**Laurent Galluccio**, Marco Delbo, Francesca De Angeli, Thierry Pauwells, Paolo Tanga, François Mignard, Alberto Cellino, Anthony G.A. Brown, Karri Muinonen, and Antti Penttilä
- 16:30–16:40 EPSC2022-237  
**Gaia spectroscopic view of asteroid collisional families: preliminary results**  
**Marco Delbo**, Laurent Galluccio, Francesca De Angeli, Thierry Pauwells, Paolo Tanga, Francois Miagnard, Alberto Cellino, Anthony Brown, Karri Muinonen, and Antti Penttilä
- 16:40–16:50 EPSC2022-649  
**Computing the Yarkovsky effect for asteroids in Gaia DR3**  
**Karolina Dziadura**, Federica Spoto, Dagmara Oszkiewicz, Benoit Carry, Przemysław Bartczak, and Paolo Tanga
- 16:50–17:00 **Discussion**

Coffee break

## SB6 | Cosmic Dust in our Solar System

Conveners: Ralf Srama, Harald Krüger, Mario Trieloff

Chairpersons: Ralf Srama, Harald Krüger

- 17:30–17:40 EPSC2022-1002  
**Interstellar dust as a unique and interdisciplinary science case for the Interstellar Probe**  
 Silvan Hunziker and **Veerle Sterken** and the Interstellar Probe ISD Team
- 17:40–17:50 EPSC2022-785  
**Investigating the outer regions of the heliosphere with measurements and simulations of interstellar dust**  
**Lennart Robin Baalman**, Silvan Hunziker, Peter Strub, David Malaspina, Urs Schroffenegger, Harald Krüger, Mark Hervig, Allison N. Jaynes, William Kurth, Lynn B. Wilson III, and Veerle J. Sterken
- 17:50–18:00 EPSC2022-82  
**Search for rings around the large Trans-Neptunian Object (50000) Quaoar**  
**Bruno Sicardy**, Bruno Morgado, Felipe Braga-Ribas, Jose Luis Ortiz, Josselin Desmars, Chrystian Pereira, Roberto Viera-Martins, Heikki Salo, Thamiris de Santana, Rafael Sfair, Marcelo Assafin, Gustavo Benedetti-Rossi, Julio Camargo, Estela Fernandez-Valenzuela, Altair Gomes-Júnior, Mike Kretlow, Flavia Rommel, Pablo Santos-Sanz, Damya Souami, and Frédéric Vachier and the Quaoar team
- 18:00–18:10 EPSC2022-961  
**Comparing meteoritic stardust with contemporary interstellar dust measured by Cassini and DESTINY+ - constraining models of dust processing in the interstellar medium**  
**Mario Trieloff**, Hiroshi Kimura, Frank Postberg, Harald Krüger, Peter Strub, Jan Leitner, Veerle Sterken, Silvan Hunziker, Jon Hillier, Takayuki Hirai, Hikaru Yabuta, Motoo Ito, Nozair Khawaja, Winfried H. Schwarz, Thomas Ludwig, Jan Schmitt, Sho Sasaki, Tomoko Arai, Masanori Kobayashi, and Ralf Srama
- 18:10–18:20 EPSC2022-563  
**Micrometeoroid Impacts on to the SRG/eROSITA X-Ray Telescope**  
**Peter Strub**, Thomas Müller, Georg Moragas-Klostermeyer, Michael J. Freyberg, and Harald Krüger
- 18:20–18:30 EPSC2022-490  
**What does really happen in a dust impact?**  
**sascha Kempf**, Bill Goode, and Ralf Srama

## Room Albéniz+Machuca | Thu, 22 Sep 2022

### SB4 | Computational astrophysics and numerical models of small bodies and planets

Conveners: Vladimir Zakharov, Stavro Lambrov Ivanovski, Raphael Marschall | Co-conveners: Luis Diego Pinto, Michelangelo Formisano, Diego Turrini

Chairpersons: Stavro Lambrov Ivanovski, Raphael Marschall

- 10:00–10:10 EPSC2022-148  
**Thermophysical modelling of comets: one dimensional microphysical modelling of cometary activity**  
**Christian Schuckart**, Dorothea Bischoff, Bastian Gundlach, Johanna Bürger, Nicholas Attree, and Jürgen Blum
- 10:10–10:20 EPSC2022-528  
**Thermophysical Modelling of the CoPhyLab Experiments**  
**Sunny Laddha**, Wolfgang Macher, Günter Kargl, Stephan Zivithal, Antoine Pommerol, Jürgen Blum, and Bastian Gundlach and the CoPhyLab Team
- 10:20–10:30 EPSC2022-826  
**Determination of the ice composition near the surface of comet 67P/Churyumov-Gerasimenko**  
**Matthias Läter**, Tobias Kramer, Martin Rubin, and Kathrin Altwegg
- 10:30–10:40 EPSC2022-1138  
**Investigations on the formation of organic species in the gas phase cometary coma**  
**Sana Ahmed** and Kinsuk Acharyya
- 10:40–10:50 EPSC2022-462  
**New approach to planetesimal formation: clusters of heavy particles in two-dimensional Keplerian turbulence**  
**Fabiola Antonietta Gerosa**, Héloïse Méheut, and Jérémie Bec
- 10:50–11:00 EPSC2022-582  
**Prograde spin-up during gravitational collapse**  
**Marc Brouwers** and Rico Visser
- 11:00–11:10 EPSC2022-162  
**Dynamical transitions in the N-body granular problem to identify breakup limits of rubble-pile asteroids**  
**Fabio Ferrari** and Elisa Maria Alessi
- 11:10–11:20 EPSC2022-560  
**Modeling High-Porosity Regolith on Low-Gravity Planetary Surfaces**  
**Joseph DeMartini** and Derek Richardson
- 11:20–11:30 EPSC2022-707  
**Resurfacing of Dimorphos in the Antipodal Hemisphere of the DART impact.**  
**Po-Yen Liu**, Adriano Campo Bagatin, Paula Gabriela Benavidez, and Derek Charles Richardson

Coffee break

### EXO6 | Exoplanet observations, modelling and experiments: Characterization of their atmospheres

Convener: Olivia Venot | Co-conveners: Monika Lendl, Ingo Waldmann, Martin Turbet, Giuseppe Morello

Chairperson: Giuseppe Morello

- 12:00–12:10 EPSC2022-781  
**Simultaneous Phase Curve Retrieval of WASP-43b Self-consistent 3D Temperature Structure using JWST/MIRI Synthetic Observations**  
**Jasmina Blečić** and Ian Dobbs-Dixon
- 12:10–12:20 EPSC2022-787  
**GCM-Motivated Multidimensional Atmospheric Temperature Parameterization**  
**Ian Dobbs-Dixon**

- 12:20–12:30 EPSC2022-405  
**Probing Atmospheric Chemical Processes with Warm Jupiter Observations**  
**Patricio E. Cubillos**
- 12:30–12:40 EPSC2022-1063  
**Clearing the Gridlock: Exploring Trends in Hot Jupiter Atmospheres with a Grid of 149 Parameterised Non-Grey GCM Simulations.**  
**Alexander Roth** and Vivien Parmentier
- Ultra-hot Jupiters**
- 12:40–12:50 EPSC2022-331 | **MI**  
**Exoplanet atmospheres in a new light: Paschen- $\beta$  detection in the atmosphere of KELT-9b.**  
**Alejandro Sánchez López**, Liurong Lin, Ignas Snellen, Manuel López Puertas, Antonio García Muñoz, and Núria Casasayas Barris
- 12:50–13:00 EPSC2022-1134 | **MI**  
**Titanium chemistry in WASP-121 b revealed by high-resolution day-side spectroscopy**  
**Jens Hoeijmakers**, Daniel Kitzmann, Bibiana Prinoth, Elspeth Lee, Nicholas Borsato, and Brian Thorsbro
- 13:00–13:10 EPSC2022-513  
**The atmosphere and architecture of WASP-189 b probed by its CHEOPS phase curve**  
**Adrien Deline** and the CHEOPS consortium
- Improving techniques & Data**
- 13:10–13:20 EPSC2022-1009  
**Entering the realm of transiting exoplanets with JWST/MIRI observations**  
**Achrène Dyrek**, Elsa Ducrot, and Pierre-Olivier Lagage
- 13:20–13:30 EPSC2022-248  
**Non-local thermal equilibrium spectra of atmospheric molecules for exoplanets**  
**Sam Wright**, Ingo Waldmann, and Sergey Yurchenko
- Lunch break
- Chairperson: Benjamin Fleury
- 15:30–15:40 EPSC2022-34  
**Coupling 3D Simulations to Study Stellar and Planetary Atmospheres**  
**Maria Chiara Maimone**, Andrea Chiavassa, Jeremy Leconte, and Matteo Brogi
- 15:40–15:50 EPSC2022-1157  
**High temperature VUV cross-section measurements for the study of hot exoplanets' atmospheres: new line list and temperature dependance of A1 $\Pi$ -X1 $\Sigma^+$  CO transition,  $3 \leq v' \leq 10$  and  $v'' = 0, 1$**   
**Mathilde Poveda**, Yves Bénilan, Benjamin Fleury, Antoine Jolly, Pascal Tremblin, and Olivia Venot
- 15:50–16:00 EPSC2022-1171  
**Provision of high-definition pressure-broadening data for spectroscopic studies of exoplanetary atmospheres: ExoMol Diet 1.2**  
**Jeanna Buldyreva**, Sergey Yurchenko, Elizabeth Guest, Andrei Sokolov, and Jonathan Tennyson
- 16:00–16:10 EPSC2022-619  
**Combining spectral databases to simulate molecular absorption in diverse exoplanetary atmospheres**  
**vincent kofman**, Geronimo Villanueva, Thomas Fauchez, Giuliano Liuzzi, Sara Faggi, and Shane Stone
- 16:10–16:20 EPSC2022-979  
**From HST to JWST - New tools to analyse exoplanet spectroscopic observations from space**  
**Angelos Tsiaras**
- 16:20–16:30 EPSC2022-31  
**An Alternative Approach to Sampling: Retrieving Exoplanetary Spectra with Variational Inference and Normalising Flow**  
**Kai Hou Yip**, Quentin Changeat, Ahmed Al-Refaie, and Ingo Waldmann

**Towards the future telescopes**

- 16:30–16:40 EPSC2022-484  
**ELT-METIS: estimating the constraining power of high-resolution exoplanet spectra with Bayesian inference**  
**Doriann Blain**, Alejandro Sánchez López, Roy van Boekel, and Paul Mollière
- 16:40–16:50 EPSC2022-446  
**Characterizing exoplanetary atmospheres with SPIRou**  
**Adrien Masson**, Sandrine Vinatier, Bruno Bezard, and Atmospherix Team
- 16:50–17:00 EPSC2022-613 | **MI**  
**The Pursuit of A Meticulous Chemical Survey of Exoplanets**  
**Billy Edwards**, Quentin Changeat, Angelos Tsiaras, Giovanna Tinetti, and Pierre-Olivier Lagage

Coffee break

**EXO7 | Future instruments to detect and characterise extrasolar planets and their environment**

Convener: Camilla Danielski | Co-conveners: Elodie Choquet, Lorenzo V. Mugnai, Enzo Pascale

Chairpersons: Camilla Danielski, Lorenzo V. Mugnai

**Space-based**

- 17:30–17:45 EPSC2022-124  
**PLATOSpec a new spectrograph for the PLATO targets follow-up**  
**Petr Kabath**, Leonardo Vanzi, Artie Hatzes, Eike Guenther, Rafael Brahm, Jan Janik, Takeo Minezaki, Marek Skarka, and Raine Karjalainen
- 17:45–18:00 EPSC2022-1114  
**Ariel: Enabling planetary science across light-years**  
**Giovanna Tinetti**, Paul Eccleston, Theresa Lueftinger, Jean-Christophe Salvignol, Salma Fahmy, and Caterina Alves de Oliveira and the Ariel team
- 18:00–18:15 EPSC2022-597  
**The Twinkle Space Mission's Extrasolar Survey**  
**Billy Edwards**, Ben Wilcock, Max Joshua, Marcell Tessenyi, Ian Stotesbury, Richard Archer, and Yoga Barrathwaj Raman Mohan
- 18:15–18:30 EPSC2022-1148 | **MI**  
**Status and progress of the Large Interferometer For Exoplanets (LIFE) mission**  
Daniel Angerhausen, **Eleonora Alei**, Sascha Quanz, and The LIFE Initiative

## Room Albéniz+Machuca | Fri, 23 Sep 2022

### EXO A7 | Future instruments to detect and characterise extrasolar planets and their environment

Convener: Camilla Danielski | Co-conveners: Elodie Choquet, Lorenzo V. Mugnai, Enzo Pascale

Chairpersons: Elodie Choquet, Enzo Pascale

#### Ground-based

- 10:00–10:15 EPSC2022-937  
**The new Near-Infrared Adaptive-Optics assisted high-resolution NIRPS spectrograph on the ESO 3.6m**  
 Francois Bouchy, Francois Wildi, and **Jonay I. González Hernández**
- 10:15–10:30 EPSC2022-312 | **MI**  
**MARCOT: A new approach to a large aperture telescope with a novel multimode photonic lantern**  
 Pedro Amado, **Jesus Aceituno**, Francisco Pozuelos, and Jose Luis Ortíz
- 10:30–10:45 EPSC2022-90  
**An update on MAROON-X**  
**Rafael Luque** and the MAROON-X instrument team
- 10:45–11:00 EPSC2022-510  
**Small-ELF: a prototype for the future ExoLife Finder hybrid optical telescope**  
**Nicolas Lodieu**, Jeff Kuhn, Gil Moretto, Rafael Rebolo, Ye Zhou, Maud Langlois, and Kevin Lewis
- 11:00–11:15 EPSC2022-1149  
**Observational Facilities and Stellar Characterization Capabilities at Tartu Observatory**  
**Heleri Ramler**, Mihkel Kama, Colin Folsom, Anna Aret, and Tõnis Eenmäe
- 11:15–11:30 EPSC2022-370  
**ExoSim 2. The new time-domain simulator applied to the Ariel space mission**  
**Lorenzo V. Mugnai**, Enzo Pascale, Ahmed F. Al-Refaie, Andrea Bocchieri, Andreas Papageorgiou, and Subhajit Sarkar

Coffee break

### EXO A9 | Towards better understanding planets and planetary systems diversity

Conveners: Giuseppe Morello, Francisco J. Pozuelos Romero | Co-conveners: Camilla Danielski, Achrène Dyrek, Enric Pallé, Pierre-Olivier Lagage, Laetitia Delrez, Elsa Ducrot, Rafael Luque, Miguel Perez Torres, Cristina Rodriguez Lopez, Denis Shulyak

#### Particular systems

- 12:00–12:10 EPSC2022-1214  
**The planetary system of Proxima Centauri seen with ESPRESSO**  
**Jonay I. González Hernández** and the ESPRESSO consortium
- 12:10–12:20 EPSC2022-14  
**Not alone in solitude: a look into the surprising world of TOI-1130**  
**Judith Korth** and the KESPRINT team, TESS, and TFOP
- 12:20–12:30 EPSC2022-709 | **MI**  
**WASP-193b: An extremely low-density super-Neptune**  
**Khalid Barkaoui**, Francisco J. Pozuelos, Michaël Gillon, Hellier Coel, and WASP, TRAPPIST, SPECULOOS, HARPS, and CORALIE teams
- 12:30–12:40 EPSC2022-529 | **MI**  
**An update on the SPECULOOS project and new results**  
**Laetitia Delrez** and the SPECULOOS team
- 12:40–12:50 EPSC2022-1233  
**Synergies between low- and high-resolution spectroscopy of exoplanet atmospheres**  
**Giuseppe Morello**, Enric Pallé, Jaime Orell-Miquel, Thomas Masseron, and Emma Esparza-Borges

**General picture of exoplanets**

- 12:50–13:00 EPSC2022-74 | **MI**  
**Diversity of terrestrial planets: a link to the chemical makeup of their host stars**  
**Vardan Adibekyan**, Caroline Dorn, Sérgio Sousa, Nuno Santos, Bertram Bitsch, Garik Israelian, Christoph Mordasini, Susana Barros, Elisa Delgado Mena, Olivier Demangeon, João Faria, Pedro Figueira, Artur Hakobyan, Mahmoudreza Osagh, Bárbara Soares, Masanobu Kunitomo, Yoichi Takeda, Emiliano Jofré, Romina Petrucci, and Eder Martioli
- 13:00–13:10 EPSC2022-89 | **MI**  
**On the nature of small planets orbiting low-mass stars**  
**Rafael Luque** and Enric Pallé
- 13:10–13:20 EPSC2022-643  
**Exploring the densities of planets and brown dwarfs transiting hot stars above the Kraft break**  
**Angelica Psaridi**, Francois Bouchy, Monika Lendl, and Nolan Grieves
- 13:20–13:30 EPSC2022-894  
**How does the origin of stars in the Milky Way affects the composition of planet building blocks?**  
**Nahuel Cabral**, Aurélie Guilbert-Lepoutre, Bertram Bitsch, and Nadège Lagarde

Lunch break

**MITM9 | Advances in Mass Spectrometry for Spaceflight Applications**

Conveners: Laura Selliez, Arnaud Sanderink | Co-conveners: J. Hunter Waite, Ricardo Arevalo, Frank Postberg, Morgan L. Cable, Jean-Pierre Lebreton

- 15:30–15:45 EPSC2022-1075  
**Orbitrap and GC-Orbitrap for in situ analyses: clues from laboratory experiments**  
**Adeline Garcia**, Cornélia Meinert, Pauline Poinot, and Gregoire Danger
- 15:45–16:00 EPSC2022-705  
**Onwards to Europa: Results from the final ground calibration of the MASPEX-Europa flight instrument**  
**Kelly Miller**, Greg Miller, Hunter Waite, Tim Brockwell, Kurt Franke, Paul Hoyer, Rebecca Perryman, Christopher Glein, and Jim Burch and the MASPEX science and engineering teams
- 16:00–16:15 EPSC2022-1254  
**Laser Desorption Mass Spectrometry (LDMS) with an Orbitrap mass analyzer: a historical perspective and future projection**  
**Ricardo Arevalo**, Ashley Hanna, Ziqin Ni, Soumya Ray, Adrian Southard, Ryan Danell, Andrej Grubisic, Jacob Graham, Anthony Yu, Molly Fahey, Cynthia Gundersen, Niko Minasola, Julie Llano, Christelle Briois, Laurent Thirkell, Fabrice Colin, and Alexander Makarov
- 16:15–16:30 EPSC2022-1194  
**Capillary Electrophoresis Coupled to Mass Spectrometry for the Detection of Organics in High Salinity Samples Relevant to Ocean Worlds**  
**Maria Mora**, Miranda Kok, Aaron Noell, and Peter Willis
- 16:30–16:45 EPSC2022-1257  
**A space instrument combining NIR hyperspectral microscopy and Laser-CosmOrbitrap mass spectrometry for the in situ analysis of extraterrestrial dust**  
**Christelle Briois**, Donia Baklouti, Noémie Comtesse, Cécile Engrand, Jean-Pierre Lebreton, Ricardo Arevalo, Cédric Pilorget, Laurent Thirkell, Fabrice Colin, Oliver Stenzel, and Martin Hilchenbach
- 16:45–17:00 EPSC2022-322  
**Advances in Hypervelocity Sampling with Mass Spectrometers: From Earth to Deep Space**  
**Rico Fausch** and Peter Wurz
- 17:00–17:15 EPSC2022-875  
**HANKA - cubesat space high resolution mass analyser**  
**Jan Zabka**, Miroslav Polášek, Ylja Zymak, Michal Lacko, Nikola Sixtová, Jean-Pierre Lebreton, Arnaud Sanderink, and Marwa Kashkoul

Coffee break

## SB10 | Observing and modelling meteors in planetary atmospheres

Conveners: Eleanor Sansom, Maria Gritsevich

Chairpersons: John Plane, Joe Zender

- 17:30–17:40 EPSC2022-1107  
**Machine learning methods applied to meteor detection filtering**  
**Simon Anghel**, Dan-Alin Nedelcu, Mirel Birlan, and Ioana Boaca
- 17:40–17:50 EPSC2022-229  
**Ablation Rates of Organic Compounds in Cosmic Dust: Implications for Fragmentation during Atmospheric Entry**  
**John Plane**, Sandy James, Benjamin Murray, Graham Mann, and Margaret Campbell-Brown
- 17:50–18:00 EPSC2022-99  
**Spectral Observations at the CILBO Observatory: Calibration and Data Sets**  
**Joe Zender**, Detlef Koschny, Regina Rudawska, Salvatore Vicinanza, Stefan Loehle, Martin Eberhardt, Arne Meindl, Hans Smit, Lionel Marraffa, Rico Landman, and Daphne Stams
- 18:00–18:10 EPSC2022-227  
**Reconstructing meteoroid trajectories using forward scatter radio observations and the interferometer from the BRAMS network**  
**Joachim Balis**, Hervé Lamy, Michel Anciaux, and Emmanuel Jehin
- 18:10–18:20 EPSC2022-708  
**High-inclination NEAs as meteor stream parent bodies**  
**Apostolos Christou** and Nikolaos Georgakarakos
- 18:20–18:30 EPSC2022-21  
**A modelling study of the seasonal, latitudinal, and temporal distribution of the meteoroid mass input at Mars: Constraining the deposition of meteoric ablated metals in the upper atmosphere**  
**Juan Diego Carrillo Sanchez**, Diego Janches, John M. C. Plane, Petr Pokorny, Menelaos Sarantos, Matteo M. J. Crismani, Wuhu Feng, and Dan R. Marsh