

## Daily programme for room Andalucia 1

## Room Andalusia 1 | Mon, 19 Sep 2022

### TP13 | Planetary Dynamics: Shape, Gravity, Orbit, Tides, and Rotation from Observations and Models

Convener: Alexander Stark | Co-conveners: Agnes Fienga, Hauke Hussmann

Chairperson: Hauke Hussmann

- 10:00–10:10 EPSC2022-24  
**A General Formulation of Thin-Shell Tidal Dynamics**  
**Marc Rovira-Navarro**, Isamu Matsuyama, and Hamish C.F.C Hay
- 10:10–10:20 EPSC2022-978  
**Introduction of tidal models in lunar ephemerides**  
**Daniel Baguet**, Nicolas Rambaux, Agnès Fienga, Anthony Mémin, Arthur Briaud, Hauke Hussmann, Alexander Stark, Xuanyu Hu, Vishnu Viswanathan, and Mickaël Gastineau
- 10:20–10:30 EPSC2022-522  
**Detection and Handling of Noise in Laser Altimetry Data: a Prerequisite for Tides Derivation**  
**Oliver Stenzel** and Martin Hilchenbach
- 10:30–10:40 EPSC2022-1081 | **MI**  
**Asteroid Mass Estimation with the Third Gaia Data Release**  
**Lauri Siltala** and Mikael Granvik
- 10:40–10:50 EPSC2022-562  
**Comparing Methods for Gravitational Computation: Studying the Effect of Inhomogeneities**  
**Matthias Noeker**, Hermann Meißenhelter, Tom Andert, René Weller, Özgür Karatekin, and Benjamin Haser
- 10:50–11:00 EPSC2022-511  
**Asteroid Gravity-Field Estimation**  
Erwin Mooij, **Bart Root**, and Aurelia Bourgeois
- 11:00–11:10 EPSC2022-1162  
**Sensitivity of Triton gravity field of different radio science experiment configurations**  
**Valerio Filice**, Sébastien Le Maistre, and Hugues Goosse
- 11:10–11:20 EPSC2022-361  
**Gravity Traverse Simulations for Small Bodies and Moons of the Solar System using the Wedge-Pentahedra Method**  
**Matthias Noeker** and Özgür Karatekin
- 11:20–11:30 EPSC2022-1029  
**Ejection of solid bodies from comets and its dynamical significance for velocity and rotation of comet**  
**Leszek Czechowski**

Coffee break

### ODAA1 | Europlanet for Emerging Space Countries

Convener: Barbara Cavalazzi | Co-conveners: Anita Heward, Valentina Marcheselli, Nigel Mason, Susmita Datta, Gareth Davies, Nicolas Walter, Jonas L'Haridon, Fulvio Franchi, Miruts Hagos, Fernando Gomez, K. Yi, Hye Jung Chang, Kyeong Kim, Yang Liu

Chairpersons: Barbara Cavalazzi, Fulvio Franchi, Anita Heward

- 15:30–15:40 EPSC2022-1207  
**EPN24, Global Collaboration and Integration Development: Strategic Plan 2020–2024**  
**Barbara Cavalazzi**, Anita Heward, Nigel Mason, Susmita Datta, Gareth R. Davis, Nicholas Walter, Jonas L'Haridon, Fulvio Franchi, Miruts Hagos, Fernando Gomez, Keewook Yi, Hyejung Chang, Kyeong Ja Kim, and Yang Liu
- 15:40–15:50 EPSC2022-157  
**NoRCEL and its Outreach in Sub Saharan Africa**  
**Sohan Jheeta**

- 15:50–16:00 EPSC2022-177 | **MI**  
**A Centre of Excellence in Planetary Space Science and Technology in Africa**  
**Fulvio Franchi** and the PanAfrican Planetary and Space Science Network - PAPSSN Team
- 16:00–16:10 EPSC2022-1174  
**ATTARIK Foundation an NGO dedicated to Meteoritics and Planetary Science promotion in Morocco, Africa and Arab countries**  
**Hasnaa Chennaoui**, Soukaina Arif, Fatima Ezzahra Jadid, El Mehdi El Hachemi, Larbi Zennouri, Ely Cheikh Ould Mohamed Navie, Samira Makhoukhi, Omar Berrada, Mohamed Aoudjehane, and Nawal Bouya
- 16:10–16:20 EPSC2022-1177 | **MI**  
**Togo under the stars: a science outreach tour for the Togolese**  
**Raphael de Assis Peralta** and Diane Berard
- 16:20–16:30 EPSC2022-1185 | **MI**  
**Venturing into Space Science, a case of Zambia**  
Prosperity C. Simpemba, Alvert Ng'andu, Patrick Sibanda, **Faustin Banda**, and Fred Joe Nambala
- 16:30–16:40 EPSC2022-1246 | **MI**  
**Planetary Geology and Astrobiology research in South America**  
**Fernando Gomez**, Giovanni Leone, Juan Manuel Losarcos, and Florencia Anahi Santillan
- 16:40–16:50 EPSC2022-289  
**Climate Change and Education on the Africa Continent**  
**Sohan Jheeta**
- 16:50–17:00 EPSC2022-1243  
**Fundraising for HEIs and scholars in Africa. The case of the Erasmus+ programme and other examples of funding opportunities**  
**Livia Mercatelli**

Coffee break

## ODAA2 | Diversity and Inclusiveness in Planetary Sciences

Convener: Arianna Piccialli | Co-conveners: Victoria K Pearson, Andrea Opitz

Chairpersons: Arianna Piccialli, Andrea Opitz

- 17:30–17:40 EPSC2022-1238  
**The effectiveness of Gender Equality Plans in public research centers: the example of the Instituto de Astrofísica de Andalucía**  
**María Passas-Varo**
- 17:40–17:50 EPSC2022-1086  
**A Touch of Space Weather - Outreach project for visually impaired students**  
Lenka Zychova, Karolien Lefever, Norma Crosby, Mark Dierckxsens, **Stijn Calders**, Pieter Bogaert, and Kris Passchyn
- 17:50–18:00 EPSC2022-536  
**Diversity and Inclusion from Ground Up**  
**Rosa Doran**
- 18:00–18:10 EPSC2022-1168  
**Participation Trends and Geographical Diversity in Earth and Space Science**  
**Andrés Illyés**, Andrea Opitz, and Anita Heward
- 18:10–18:20 EPSC2022-780  
**Mentorship opportunities**  
**Edita Stonkute**
- 18:20–18:30 EPSC2022-1175  
**IAU Women in Astronomy Working Group activities and survey results**  
Mamta Pandey-Pommier and **Arianna Piccialli** and the IAU WiA WG members

## Room Andalusia 1 | Tue, 20 Sep 2022

### SB9 | Latest Science Results in Planetary Defence

Conveners: Doris Daou, Romana Kofler | Co-conveners: lindley Johnson, Patrick Michel

- 10:00–10:10 EPSC2022-1084  
**Recent observational highlights from ESA's Planetary Defence Office**  
**Juan L. Cano**, Marco Micheli, Luca Conversi, Dora Fohring, Richard Moissl, Detlef Koschny, Laura Faggioli, Francesco Gianotto, Rainer Kresken, Pablo Ramirez Moreta, Dario Oliviero, Elisabeta Petrescu, Regina Rudawska, and Michael Frühauf
- 10:10–10:20 EPSC2022-192 | **MI**  
**The ESA Hera Mission: Investigating binary asteroid (65803) Didymos and the DART crater**  
**Michael Küppers**, Patrick Michel, Alan Fitzsimmons, Simon Green, Monica Lazzarin, Seiji Sugita, Stephan Ulamec, Ian Carnelli, and Paolo Martino and the The Hera Investigation Team
- 10:20–10:30 EPSC2022-1202 | **MI**  
**Before the DART impact: LICIAcube - The Light Italian Cubesat for Imaging of Asteroids**  
**Stavro Lambrov Ivanovski**, Elisabetta Dotto, Vincenzo Della Corte, Simone Ieva, Marilena Amoroso, Ivano Bertini, John Brucato, Andrea Capannolo, Biaggio Cotugno, Gabriele Cremonese, Massimo Dall Ora, Prasanna Deshapriya, Jasinghege Don, Valerio Di Tana, Igor Gai, Pedro Henrique Hasselmann, Gabriele Impresario, Michèle Lavagna, Alice Lucchetti, Elena Mazzotta Epifani, and Andrea Meneghin and the LICIAcube and DART team members
- 10:30–10:40 EPSC2022-887  
**Expected investigation of the (65803) Didymos-Dimorphos system using the RGB spectrophotometry dataset from LICIAcube Unit Key Explorer (LUKE) wide-angle camera**  
**Giovanni Poggiali**, John Robert Brucato, Pedro H. Hasselmann, Simone Ieva, Davide Perna, Maurizio Pajola, Alice Lucchetti, Jasinghege Don Prasanna Deshapriya, Vincenzo Della Corte, Elena Mazzotta Epifani, Alessandro Rossi, Stavro L. Ivanovski, Angelo Zinzi, Andrea Meneghin, Marilena Amoroso, Simone Pirrotta, Gabriele Impresario, and Elisabetta Dotto and the LICIAcube Team
- 10:40–10:50 EPSC2022-897  
**DIDYMOS AT DIFFERENT ROTATIONAL PHASES: a subtle but persistent spectral variability**  
**Simone Ieva**, Elena Mazzotta Epifani, Davide Perna, Massimo Dall'Ora, Vasiliki Petropoulou, Jasinghege Don Prasanna Deshapriya, Pedro Hasselmann, Alessandro Rossi, Giovanni Poggiali, John Robert Brucato, Maurizio Pajola, Alice Lucchetti, Stavro Lambro Ivanovski, Pasquale Palumbo, Vincenzo Della Corte, Angelo Zinzi, Elisabetta Dotto, Andrew Rivkin, Cristina Thomas, and Julia DeLeon and the LICIAcube team
- 10:50–11:00 EPSC2022-487  
**JuRa: the Juventas Radar on Hera to fathom Didymoon**  
**Alain Herique**, Dirk Plettemeier, and Wlodek Kofman and the JuRa Team
- 11:00–11:10 EPSC2022-1269  
**Methods for Simulating Comet Populations in Preparation for the Near-Earth Object Surveyor Mission**  
**Charles Schambeau**, Amy Mainzer, Emily Kramer, Yanga Fernandez, James Bauer, Eva Lilly (Schunova), Tommy Grav, Paul Abell, Bonnie Buratti, Jason Surace, and Joe Masiero
- 11:10–11:20 EPSC2022-1056  
**The Physical Properties of the Near Earth Asteroids 2005 UD and 2001 SG286**  
**Radu Gherase**, Ovidiu Vaduvescu, Thomas Wilson, Marcel Popescu, Julia de León, Vania Lorenzi, Javier Licandro, David Morate, Amadeo Aznar, and Gabriel Simion
- 11:20–11:30 EPSC2022-722  
**Mineralogical analysis of 14 PHAs from ViNOS data**  
**David Morate**, Marcel Popescu, Julia De León, and Javier Licandro
- Coffee break
- 12:00–12:10 EPSC2022-91  
**The International Year of Planetary Defence, 2029.**  
**Doris Daou** and Romana Koffler

- 12:10–12:20 EPSC2022-36  
**Shape and spin-state model of asteroid (99942) Apophis reconstructed from photometric observations in 2020/21**  
**Josef Durech**, David Vokrouhlicky, Petr Pravec, Kamil Hornoch, Peter Kusnirak, Petr Fatka, and Hana Kucakova
- 12:20–12:30 EPSC2022-1159  
**Changes in Apophis rotation and surface gravity during its 2029 Earth flyby**  
**Guillaume Noiset**, Elisa Tasev, and Özgür Karatekin
- 12:30–12:40 EPSC2022-474  
**DROID: Bistatic low-frequency radar sounding of 99942 Apophis in 2029**  
**Alain Herique**, Philippe Adell, Rashied Amini, Bjorn Davidsson, Mark Haynes, Lorraine Fesq, Laurence Lorda, Patrick Michel, Carol Raymond, and Nicolas Verdier
- 12:40–12:50 EPSC2022-770  
**DROID: A mission concept to accompany and characterize Apophis through its 2029 Earth closest approach**  
  
**Carol A. Raymond**, Rashied B. Amini, Philippe C. Adell, Rodney Anderson, Saptarshi Bandyopadhyay, Shyam Bhaskaran, Bjorn J. R. Davidsson, Frederic Esteve, Lorraine Fesq, Mark Haynes, Alain Herique, Reza Karimi, James T. Keane, Laurence Lorda, Patrick Michel, Robert Miller, and Cedric Virmontois
- 12:50–13:00 EPSC2022-335  
**Optimal Kinetic-Impact Geometry for Asteroid Deflection**  
**Yifei Jiao**, Bin Cheng, and Hexi Baoyin
- 13:00–13:10 EPSC2022-634  
**ATLAS-Teide: the next generation of ATLAS units for the Teide Observatory**  
**Javier Licandro**, John Tonry, Miquel Serra-Ricart, Miguel R. Alarcon, and Larry Denneau
- 13:10–13:20 EPSC2022-1201  
**Linking a large oblique-impact crater on Mars to the Southern Mt Lofty Ranges multiple impact event in South Australia – inference for latter event size and scope**  
**Robert Moore**
- 13:20–13:30 EPSC2022-1271  
**Latest Update on NASA's Planetary Defense Program**  
**Doris Daou**, Lindley Johnson, and Kelly Fast

Lunch break

## ODAA6 | Open planetary science for effective knowledge co-creation and dissemination

Convener: Anastasia Kokori | Co-conveners: Angelos Tsiaras, Caterina Boccato  
 Chairpersons: Anastasia Kokori, Angelos Tsiaras, Caterina Boccato

### Open science to widen participation

- 15:30–15:40 EPSC2022-214  
**Observing exoplanets without equipment, experiences from university students**  
**Georgia Pantelidou**, Gregory Grivas, Georgios Lekkas, and Anastasia Kokori
- 15:40–15:50 EPSC2022-579 | **MI**  
**Sorvegliati Spaziali: an innovative outreach project on Planetary Defense**  
 Daria Guidetti, **Caterina Boccato**, Davide Coero Borga, Marco Galliani, Daniele Gardiol, and Paolo Soletta
- 15:50–16:00 EPSC2022-656  
**Celebrate Lunar Science and Exploration with NASA's International #ObserveTheMoon Night**  
**Staci Tiedecken**, Andrea Jones, Molly Wasser, Caela Barry, Vi Nguyen, Sanlyn Buxner, Maya Bakerman, Grace Beaudoin, Julie Fooshee, Brian Day, Pamela Gay, Vivian White, Theresa Summer, Emily Joseph, and Christopher Cokinos

### Open science platforms, projects and data

- 16:00–16:10 EPSC2022-1116  
**Open Science policy and Solar System data: contribution from Europlanet/VESPA**  
**Stéphane Erard** and the VESPA team
- 16:10–16:20 EPSC2022-507  
**EXPLORE - Innovative Scientific Data Exploration and Exploitation Applications for (Planetary) Space Sciences**  
**Nick Cox**, Angelo Pio Rossi, Giacomo Nodjoumi, Dovi Poznanski, Yarden Eilat-Bloch, Alejandra Recio-Blanco, Albert Zijlstra, Iain McDonald, Manuela Rauch, Vedran Sabol, Anita Heward, Giovanni Corrato, Andree Genot, Jeronimo Bernard-Salas, and Antoine Mangin
- 16:20–16:30 EPSC2022-424 | **MI**  
**The ExoClock Project: an open integrated platform for maintaining the Ariel target ephemerides with contributions from the public**  
**Anastasia Kokori**
- 16:30–16:40 EPSC2022-919  
**Enabling participation in exoplanet research with open source tools**  
**Angelos Tsiaras**
- General open science aspects**
- 16:40–16:50 EPSC2022-48  
**OpenPlanetary, an “umbrella” non-profit organisation for open planetary science communities**  
**Nicolas Manaud**, Chase Million, Angelo Pio Rossi, Jérôme Gasperi, Michael Aye, Matt Brealey, Mario D'Amore, Alessandro Frigeri, Trent Hare, Emily Lakdawalla, Emily Law, Andrea Nass, and Mark Wieczorek
- 16:50–17:00 EPSC2022-614  
**Supporting Open Science with the Europlanet Research Infrastructure**  
Anita Heward and **Jen DeWitt**

## Room Andalucia 1 | Wed, 21 Sep 2022

### ODAA3 | Professional-Amateur collaborations in small bodies, terrestrial and giant planets, exoplanets, and ground-based support of space missions

Convener: Marc Delcroix | Co-conveners: Ricardo Hueso, Anastasia Kokori, Maciej Libert

Chairpersons: Marc Delcroix, Anastasia Kokori

#### Terrestrial and Giant Planets, Small Bodies

##### Venus, Mars

10:00–10:15 EPSC2022-208 | **MI**  
**Results from the professional-amateur collaboration to investigate the Cloud Discontinuity phenomenon in Venus' atmosphere**  
**Emmanouil Kardasis**, Javier Peralta, Grigoris Maravelias, Masataka Imai, Anthony Wesley, Tiziano Olivetti, Yaroslav Naryzhniy, Luigi Morrone, Antonio Gallardo, Giovanni Calapai, Joaquin Camarena, Paulo Casquinha, Dzmitry Kananovich, Niall MacNeill, Christian Viladrich, and Alexia Takoudi

10:15–10:25 EPSC2022-1268  
**Amateur observations of the surface of Venus in 2020-22**  
**David Arditti**, Martin Lewis, Phil Miles, and Anthony Wesley

10:25–10:35 EPSC2022-43 | **MI**  
**Amateur observation of an atypical martian atmospheric feature: when serendipity leads to identify an atypical cloud system**  
**Marc Delcroix**, Jean Liliensten, Jean-Luc Dauvergne, Christophe Pellier, Emmanuel Beaudouin, and Mathieu Vincendon

##### Jupiter

10:35–10:45 EPSC2022-17  
**The transformation of Jupiter's North Equatorial Belt in 2021-22**  
**John Rogers**, Shinji Mizumoto, Candice Hansen, Gerald Eichstädt, Glenn Orton, Thomas Momary, Gianluigi Adamoli, Robert Bullen, Michel Jacquesson, and Hans-Jörg Mettig

10:45–11:00 EPSC2022-769  
**The Juno Extended Mission: A Call for Continued Support from Amateur Observers**  
**Glenn Orton**, Thomas Momary, Shawn Brueshaber, Candice Hansen, Scott Bolton, and John Rogers

11:00–11:10 EPSC2022-20  
**Galilean Moons-based photometry for Jupiter**  
**Christophe Pellier**

##### Asteroids

11:10–11:20 EPSC2022-433  
**Lightcurve and stellar occultation observations of asteroids with the Unistellar's network of citizen astronomers**  
**Josef Hanus**, Franck Marchis, Ryan Lambert, Paul Dalba, Joe Asencio, and Josef Durech

11:20–11:30 **Questions and discussions**

Coffee break

Chairpersons: Anastasia Kokori, Marc Delcroix

##### Exoplanets

12:00–12:15 EPSC2022-315 | **MI**  
**1000 planetary transits measurements published in ExoClock by an amateur astronomer**  
**Yves Jongen**

- 12:15–12:25 EPSC2022-483  
**ExoClock project: a pro-am collaboration to monitor the exoplanet ephemerides for the Ariel space mission**  
**Anastasia Kokori**
- 12:25–12:35 EPSC2022-945  
**Exoplanet observations: amateur experience from the Europlanet Telescope network**  
**Florence Libotte** and Mercè Correa
- 12:35–12:45 EPSC2022-1176  
**The PLATO-TESSt - preparing planet candidate validation for PLATO**  
**Günther Wuchterl**
- General pro-am collaborations**
- 12:45–13:00 EPSC2022-1135  
**Strengthening Pro-Am Comet Community Cooperation: Report on Europlanet Pro-Am Workshop (10-12 June 2022)**  
**Helen Usher**, Colin Snodgrass, Nicolas Biver, Günther Kargl, Gražina Tautvaišienė, Nick James, Filip Walter, and Jakub Černý
- 13:00–13:10 EPSC2022-1222  
**The T025 – BD4SB a pro-am collaboration for planetary sciences**  
**Daniel Nicolae Berteşteanu**, Marcel Popescu, Radu Mihai Gherase, Jad Alexandru Mansour, Bogdan Alexandru Dumitru, Bogdan Stanciu, Anastasia Perrotta, Marian H. Naiman, Octavian Blagoi, Tudor Dumitru, and Ana Lupoea
- 13:10–13:20 EPSC2022-940  
**ProAm Commission of the Spanish Astronomical Society: assessment of ProAm collaboration in Spain and how to improve it**  
**Iñaki Ordoñez Etxeberria**, Ana Guijarro Román, Ángel Rafael López Sánchez, Enrique Diez Alonso, Itziar Garate Lopez, Joaquín Álvaro Contreras, Miriam Cortés Contreras, and Salvador Ribas
- 13:20–13:30 EPSC2022-651  
**Europlanet 2024 RI: Fostering the collaboration between professional and amateur astronomers**  
**Grazina Tautvaisiene**, Ricardo Hueso, Edyta Podlowska-Gaca, Guenter Kargl, Sarunas Mikolaitis, and Itziar Garate-Lopez

Lunch break

## ODAA5 | Tools, resources and opportunities for education initiatives in planetary science and astronomy

Convener: Alessandra Zanazzi | Co-conveners: Federica Duras, Ulysse Pedreira Segade, Livia Giacomini  
Chairpersons: Alessandra Zanazzi, Federica Duras

- 15:30–15:34 **Introduction**
- 15:34–15:44 EPSC2022-1154  
**Astronomy: a way to interdisciplinarity in Science Teaching**  
**Alvaro Folhas**
- 15:44–15:46 **Questions**
- 15:46–15:56 EPSC2022-179  
**Expanding the horizons of education and public engagement with NASA's Solar System Treks**  
**Brian Day** and Emily Law
- 15:56–15:58 **Questions**
- 15:58–16:08 EPSC2022-443  
**MOMSTER, a Europlanet-funded STEAM education project**  
**Stijn Calders**, Hervé Lamy, Mieke Sterken, Karolien Lefever, Katrien Kolenberg, Michel Ancaiaux, and Hans Coeckelberghs
- 16:08–16:10 **Questions**



- 16:10–16:20 EPSC2022-982  
**Inspiring the Next Generation of Space and Planetary Scientists: The 2022 EXPLORE Junior Lunar Data Challenge.**  
**Daniel Le Corre**, Anita Heward, Ulysse Pedreira-Segade, Giacomo Nodjoumi, Angelo Rossi, and Javier Valencia
- 16:20–16:22 **Questions**
- 16:22–16:32 EPSC2022-589  
**The science of Mars today for the scientists of Mars tomorrow**  
**Olga Muñoz**, Karolien Lefever, Emilio García, Daniel Guirado, Lucie Lamort, Stephanie Fratta, Arianna Picialli, Teresa Jardiel, Nathalie Kalb, and Ann C Vandaele
- 16:32–16:34 **Questions**
- 16:34–16:44 EPSC2022-69  
**The CESAR project during the COVID pandemic**  
**Sandra Benitez Herrera**, Juan Angel Vaquerizo, Miguel Perez Ayucar, Beatriz Gonzalez, and David Gonzalez Lopez-Tercero
- 16:44–16:46 **Questions**
- 16:46–16:56 **Flash talk - Posters**
- 16:56–17:00 **Conclusion**

Coffee break

## MITM12 | Planetary Missions, Instrumentations, and mission concepts: new opportunities for planetary exploration

Conveners: Claire Vallat, Davide Perna, Sebastien Besse

Chairpersons: Claire Vallat, Davide Perna

- 17:30–17:40 EPSC2022-94  
**From InSight to Perseverance, infrasound and sound recordings : investigating atmospheric science and surface-atmosphere interactions.**  
**David Mimoun** and the SuperCam, MEDA and InSight Teams
- 17:40–17:50 EPSC2022-1127  
**Origo - an ESA M-class mission proposal to challenge planetesimal formation theories.**  
**Raphael Marschall**, Nicolas Thomas, Stephan Ulamec, Stubbe Hviid, Stefano Mottola, Jean-Baptiste Vincent, Francesca Ferri, Alain Herique, Dirk Plettemeier, Ákos Kereszturi, Michèle Lavagna, Jacopo Prinetto, Alice Dottori, Albert Falke, and Francisco da Silva Pais Cabral
- 17:50–18:00 EPSC2022-605  
**SmallSat exploration of Near-Earth and co-orbital asteroids**  
**Davide Perna**, Lorenzo Casalino, Gabriele Cremonese, Elisabetta Dotto, Daniele Fulvio, Simone Ieva, Stavro Ivanovski, Michèle Lavagna, Alice Lucchetti, Elena Mazzotta Epifani, Anna Milillo, Pasquale Palumbo, Maurizio Pajola, Alessandro Rossi, Paolo Tortora, and Marco Zannoni
- 18:00–18:10 EPSC2022-668  
**Heavy Metal, and ESA M7 mission proposal**  
**Jan-Erik Wahlund** and the Heavy Metal consortium
- 18:10–18:20 EPSC2022-721  
**CUBE (CME Catcher Carousel) - creating groundwork for future ESA space weather activities**  
**Stavro Lambrov Ivanovski**, Fabrizio Fiore, Michèle Lavagna, Mirko Piersanti, Monica Laurenza, Roberto Iuppa, Roberto Battiston, Salvatore Danzeca, Piero Diego, Dejan Gacnik, Iztok Kramberger, Alessandra Menicucci, and Veronica Vilona
- 18:20–18:30 EPSC2022-896  
**Cubesat experiments for Coulomb drag propulsion for interplanetary missions and space debris mitigation**  
**Petri Toivanen**, Pekka Janhunen, Jarmo Kivekäs, Sean Haslam, Jouni Polkko, and Iaroslav Iakubivskiy

## Room Andalucia 1 | Thu, 22 Sep 2022

### MITM5 | Machine Learning in Planetary Sciences

Convener: Ute Amerstorfer | Co-conveners: Sahib Julka, Hannah Ruedisser, Mario D'Amore, Angelo Pio Rossi

Chairpersons: Ute Amerstorfer, Hannah Ruedisser

10:00–10:05 **Introduction**

10:05–10:20 EPSC2022-480

**The Ariel Machine Learning Data Challenge**  
**Ingo Waldmann**

10:20–10:30 EPSC2022-810

**Deep Neural Networks for Surface Composition Reconstruction from In Situ Exospheric Measurements at Mercury**

**Adrian Kazakov**, Anna Milillo, Francesco Lazzarotto, Stavro Ivanovski, Valeria Mangano, Miguel Escalona-Morán, Alessandro Mura, Stefano Massetti, Martina Moroni, Stefano Orsini, Roberto Sordini, Elisabetta De Angelis, Rosanna Rispoli, Alessandro Aronica, Nello Vertolli, Tommaso Alberti, Christina Plainaki, Fabrizio Nuccilli, and Raffaella Noschese

10:30–10:40 EPSC2022-625

**One metre 3D mapping of the Moon using the automated MADNet 2.0 single image height estimation**  
**Jan-Peter Muller**, Yu Tao, and Susan Conway

10:40–10:50 EPSC2022-473

**Super-3D: Subpixel-Scale Topography Retrieval of Mars Using Deep Learning**  
**Yu Tao**, Jan-Peter Muller, and Susan Conway

10:50–11:00 EPSC2022-842

**Mars events detection with hybrid recurrent scattering neural network using InSight mission data**

**Grégory Sainton**, Salma Barkaoui, Angel Bueno Rodriguez, Maartin de Hoop, Philippe Lognonné, Matthieu Plasman, Antoine Lucas, Taichi Kawamura, Keisuke Onodera, Aymeric Spiga, Alexander Stott, and Naomi Murdoch

11:00–11:10 EPSC2022-997

**Planetary Surface Feature Detection Using Machine Learning**

**Daniel Le Corre**, Nigel Mason, Jeronimo Bernard-Salas, David Mary, and Nick Cox

11:10–11:20 EPSC2022-882

**Small object detection network for monitoring mass wasting activity in the Martian North polar region**

**Oleksii Martynchuk**, Lida Fanara, and Juergen Oberst

11:20–11:30 **Discussion**

Coffee break

### MITM7 | Small sensors, instruments and payloads for planetary exploration

Conveners: Andrea Longobardo, Fabrizio Dirri, Maria Genzer

Chairpersons: Luca Bucciattini, Chiara Gisellu

12:00–12:15 EPSC2022-1115

**Measuring gravity with the GRASS instrument on the Hera mission**

**Birgit Ritter**, Özgür Karatekin, José A Carrasco, Elisa Tasev, Higinio Alavés Mañogil, Matthias Noeker, Emiel Van Ransbeek, Guillaume Noiset, and Cem Berk Senel

12:15–12:30 EPSC2022-927

**Volatile in-Situ Thermogravimeter Analyser (VISTA) payload developed for MILANI cubesat for HERA Space Mission**

**Ernesto Palomba**, Fabrizio Dirri, Andrea Longobardo, Chiara Gisellu, David Biondi, Marianna Angrisani, Emiliano Zampetti, Diego Scaccabarozzi, and Bortolino Saggin

- 12:30–12:40 EPSC2022-790  
**Calibration and performance tests of VISTA, a microbalance for asteroid dust characterization and contamination for space mission applications**  
**Chiara Gisellu**, Fabrizio Dirri, Ernesto Palomba, Andrea Longobardo, David Biondi, Marianna Angrisani, Emiliano Zampetti, Diego Scaccabarozzi, and Bortolino Saggin
- 12:40–12:50 EPSC2022-1191  
**Calibration of the Thermal Infrared Imager TIRI onboard Hera**  
**Tatsuaki Okada**, Satoshi Tanaka, Naoya Sakatani, Yuri Shimaki, Takehiko Arai, Hiroki Senshu, Hirohide Demura, Tomohiko Sekiguchi, Toru Kouyama, Masanori Kanamaru, and Takuya Ishizaki
- 12:50–13:00 EPSC2022-1163  
**Analysis of dust shield and detection system response to hypervelocity impacts for Comet Interceptor Dust Impact Sensor and Counter**  
**Stefano Ferretti**, Vincenzo Della Corte, Alice Maria Piccirillo, Hanna Rothkaehl, Matthew Sylvest, Manish Patel, Hanno Ertel, Mark Millinger, Ivano Bertini, Stefano Fiscale, Andrea Longobardo, Laura Inno, Alessandra Rotundi, Eleonora Ammannito, and Giuseppe Sindoni
- 13:00–13:10 EPSC2022-820  
**State-of-the-art miniaturised science instruments of the MiniPINS landers**  
**Maria Hieta**, Maria Genzer, Harri Haukka, Antti Kestilä, Ignacio Arruego Rodríguez, Victor Apéstigue Palacio, Manuel Reina Aranda, Alejandro Gonzalo Melchor, Javier Martínez Oter, Miguel González-Guerrero Bartolomé, Cristina Ortega, Carmen Camañes, Manuel Dominguez-Pumar, Servando Espejo Meana, Hector Guerrero, and José Antonio Rodríguez-Manfredi
- 13:10–13:20 EPSC2022-684  
**The Visual Monitoring Camera on Mars Express: calibrating a new science instrument made from an old webcam orbiting Mars**  
**Jorge Hernández Bernal**, Alejandro Cardesín Moinelo, Ricardo Hueso Alonso, Eleni Ravanis, Abel Burgos Sierra, Simon Wood, Julia Marín Yaseli de la Parra, Donald Merrit, Marc costa Sitja, Alfredo Escalante, Emmanuel Grotheer, Pilar Esquej, Miguel Dias Almeida, Patrick Martin, Dima Titov, Colin Wilson, Teresa del Río Gaztelurrutia, Agustín Sánchez Lavega, and Mar Sierra
- 13:20–13:30 EPSC2022-835  
**Miniature LIDAR for Mars Exploration**  
**Ignacio Arruego**, Juan J. Jiménez, Alberto Martín-Ortega, Elisa García, Joaquín Rivas, Isaías Carrasco, Gustavo Vázquez, Carmen Córdoba-Jabonero, Laura Gómez, Daniel Toledo, Tomás Belenguer, Luis M. González, Alberto Moya, James A. Whiteway, Michael G. Daly, Diego Scaccabarozzi, Bortolino Saggin, Adolfo Fernández-Valdés, Angela Heckl, and Ulrike Fuchs

Lunch break

## MITM6 | Planetary space weather

Convener: Nicolas André | Co-conveners: Andrea Opitz, Sae Aizawa

Chairpersons: Nicolas André, Andrea Opitz

- 15:30–15:45 EPSC2022-493  
**Identical Interplanetary Coronal Mass Ejection Signatures with Wide Angular Separation**  
**Fernando Carcaboso**, Mateja Dumbović, Manuela Temmer, Raúl Gómez-Herrero, Stephan Heinemann, Teresa Nieves-Chinchilla, Astrid Veronig, Veronika Jercic, Javier Rodríguez-Pacheco, Karin Dissauer, and Tatiana Podladchikova
- 15:45–16:00 EPSC2022-993  
**Temporal evolution and spatial variation of the solar wind structures throughout the heliosphere**  
**Aniko Timar**, Andrea Opitz, Nikolett Biro, Zsuzsanna Dalya, Gergely Koban, Zoltan Nemeth, and Akos Madar
- 16:00–16:15 EPSC2022-902  
**Escape and precipitation of planetary ions at Mercury under different solar wind conditions**  
**Sae Aizawa**, Nicolas Andre, Moa Persson, Ronan Modolo, Jim Raines, Francois Leblanc, Jean-Yves Chaufray, and Quentin Nenon
- 16:15–16:30 EPSC2022-603  
**Surface charging of JUICE in the solar wind**  
**Mika K.G. Holmberg**, Caitriona Jackman, Matthew G.G.T. Taylor, Olivier Witasse, Jan-Erik Wahlund, Stas Barabash, Nicolas Altobelli, Fabrice Cipriani, Grégoire Déprez, and Hans L.F. Huybrighs

16:30–16:45 EPSC2022-633  
**Galactic Cosmic Rays at Mars and Venus: Temporal Variations from Hours to Decades Measured as the Background Signal of Onboard Micro-Channel Plates**  
**Yoshifumi Futaana**, Manabu Shimoyama, Martin Wieser, Stefan Karlsson, Herman Andersson, Hans Nilsson, Xiao-Dong Wang, Andrey Fedorov, Nicolas Andre, Mats Holmstrom, and Stas Barabash

16:45–17:00 EPSC2022-723  
**Establishing a Best-Practice for SDTrimSP Simulations of Solar Wind Ion Induced Sputtering**  
**Liam Morrissey**, Micah Schaible, Orenthal Tucker, Paul Szabo, Giovanni Bacon, Rosemary Killen, and Daniel Savin

Coffee break

## MITM11 | Tools and Data Analytics for Solar and Planetary Sciences

Conveners: Baptiste Cecconi, Colin Wilson

Chairperson: Baptiste Cecconi

17:30–17:45 EPSC2022-80  
**A Brief Overview of NASA's Newly-Instituted Planetary Data Ecosystem.**  
**Moses Milazzo**

17:45–17:55 EPSC2022-40  
**Flyover videos from annotated 3D Martian environments within minutes: The PRo3D Sequence Bookmark Facility**  
**Gerhard Paar**, Christoph Traxler, Andreas Bechtold, Robert Barnes, Elisabeth Hausrath, Sanjeev Gupta, and Fred Calef

17:55–18:05 EPSC2022-101  
**Utilization of the Japanese meteorological satellite Himawari-8 as an infrared space telescope for lunar and planetary science**  
**Gaku Nishiyama**, Noriyuki Namiki, Seiji Sugita, and Shinsuke Uno

18:05–18:15 EPSC2022-928  
**DOPE: A science planning tool for the Destiny+ Dust Analyzer**  
**Maximilian Sommer**, Harald Krüger, Ralf Srama, Takayuki Hirai, Tomoko Arai, Masanori Kobayashi, Sho Sasaki, Georg Moragas-Klostermeyer, Peter Strub, and Jonas Simolka

18:15–18:25 EPSC2022-347  
**Coupling the Spacecraft-Plasma Interaction Software to the Space Environment Databases**  
**Sebastien Hess** and Ludivine Leclercq

## Room Andalucia 1 | Fri, 23 Sep 2022

### MITM11 | Tools and Data Analytics for Solar and Planetary Sciences

Conveners: Baptiste Cecconi, Colin Wilson

Chairperson: Colin Wilson

- 10:00–10:15 EPSC2022-676  
**Virtual European Solar & Planetary Access (VESPA) 2022: Sustainability**  
**Stéphane Erard** and the VESPA team
- 10:15–10:25 EPSC2022-184  
**SsODNet: The Solar system Open Database Network**  
**Benoit Carry**, Jerome Berthier, Max Mahlke, and Jonathan Normand
- 10:25–10:35 EPSC2022-323  
**The Minor Planet Physical Properties Catalogue: Connection with the Virtual European Solar and Planetary Access of EUROPLANET and the big data challenge for planetary science**  
**Marco Delbo**, Chrysa Avdellidou, Nicolas Bruot, and Stephane Erard
- 10:35–10:45 EPSC2022-778  
**SSHADE-BandList, the new database of spectroscopy band lists of solids**  
**bernard Schmitt**, Damien Albert, Manon Furrer, Philippe Bollard, Lucia Mandon, Maria Gorbacheva, Lydie Bonal, and Olivier Poch
- 10:45–11:00 EPSC2022-111  
**ESA's Planetary Science Archive: current status and future plans**  
**Mark Bentley**, Michael Breittellner, Daniela Coia, Ruben Docasal, David Heather, Emmanuel Grotheer, Tanya Lim, Bruno Merín, Joaquim Oliveira, Jose Osinde, Fran Raga, Jaime Saiz, and Ricardo Valles
- 11:00–11:10 EPSC2022-8  
**Updates on SPICE for ESA Missions**  
**Alfredo Escalante**, Ricardo Valles, and Christophe Arviset
- 11:10–11:20 EPSC2022-1155  
**The Science Application Store of the ESA Datalabs**  
**Jeronimo Bernard-Salas**, Nick Cox, Vicente Navarro, Filip Marinic, and Olivier Daumas
- 11:20–11:30 EPSC2022-341  
**The moon-coverage: a Python tool for mission and instrument planning**  
**Benoit Seignover**, Gabriel Tobie, Claire Vallat, Nicolas Altobelli, and Inès Belgacem

Coffee break

### SB7 | Laboratory measurements of returned Hayabusa2 samples, meteorites and planetary analogues

Conveners: Enrica Bonato, Lydie Bonal | Co-conveners: Gabriele Arnold, Eric Quirico, Jörn Helbert, Shogo Tachibana, Tomohiro Usui, T Nakamura

Chairpersons: Enrica Bonato, Lydie Bonal

- 12:00–12:20 EPSC2022-1264 | **MI**  
**The modal mineralogy of asteroid 162173 Ryugu and its relationship to carbonaceous chondrite meteorites**  
**Ashley King**, Sara Russell, Tomoki Nakamura, Hisayoshi Yurimoto, Takaaki Noguchi, Ryuji Okazaki, Hikaru Yabuta, Hiroshi Naraoka, Kanako Sakamoto, Shogo Tachibana, Shin Watanabe, and Yuichi Tsuda
- Meteorites**
- 12:20–12:30 EPSC2022-154  
**VIS-NIR reflectance analysis of (162173) Ryugu analogues mixtures and CC meteorites in the framework of Hayabusa2 mission**  
**Fabrizio Dirri**, Ernesto Palomba, Anna Galiano, Andrea Longobardo, Chiara Gisellu, and Marianna Angrisani

- 12:30–12:40 EPSC2022-489  
**Spectroscopic measurements on a Mukundpura meteorite grain as training for the analysis of Hayabusa2 returned samples**  
**Alessandro Maturilli**, Sabrina Schwinger, Enrica Bonato, Maximilian Hamm, Jörn Helbert, Mickael Baque, Giulia Alemanno, and Mario D'Amore
- 12:40–12:50 EPSC2022-546  
**Overview of the organic matter present in Asuka 12236: a primitive meteorite?**  
**Coline Serra**, Vassilissa Vinogradoff, Pauline Poinot, Fabrice Duvernay, Louis Le Sergeant d'Hendecourt, and Philippe Schmitt-Kopplin
- 12:50–13:00 EPSC2022-837  
**Ammonium is a significant reservoir of nitrogen in the Orgueil meteorite**  
**Lucie Laize-Général**, Lison Soussaintjean, Olivier Poch, Lydie Bonal, Joël Savarino, Nicolas Caillon, Patrick Ginot, Anthony Vella, Laurène Flandinet, Matthieu Gounelle, and Martin Bizzaro

Lunch break

Chairpersons: Lydie Bonal, Enrica Bonato

**Experiments**

- 15:30–15:40 EPSC2022-1018  
**Correlations between cometary ice composition and their refractory and gas organic diversity: clues from laboratory experiments**  
**Thomas Javelle**, Philippe Schmitt-Kopplin, and Grégoire Danger
- 15:40–15:50 EPSC2022-526  
**The Production of Dust-Ice-Pebbles**  
**Noria Brecher**, Christopher Kreuzig, Bastian Gundlach, and Jürgen Blum
- 15:50–16:00 EPSC2022-383  
**Particle tracking analysis of ejected water-ice grains from pure ice cometary analogue samples**  
**Noah Molinski**, Christopher Kreuzig, Jürgen Blum, Holly Capelo, Antoine Pommerol, and Bastian Gundlach
- 16:00–16:10 EPSC2022-930  
**Experimental Characterization of Gas Flow Properties of Dry Refractory Materials**  
**Stephan Zivithal**, Günter Kargl, Wolfgang Macher, Sunny Laddha, Carsten Güttler, Holger Sierks, Jürgen Blum, and Bastian Gundlach and the CoPhyLab-Team

Coffee break

**MITM8 | Synergistic exploitation of small body missions in the 2020s**

Conveners: Apostolos Christou, Jamie Gilmour | Co-conveners: Josep Maria Trigo-Rodríguez, Paolo Tanga

Chairpersons: Apostolos Christou, Jamie Gilmour, Paolo Tanga

- 17:30–17:45 EPSC2022-630  
**Satellite Search in Gaia DR3 astrometry**  
**Luana Liberato**, Paolo Tanga, David Mary, and Federica Spoto
- 17:45–18:00 EPSC2022-1085 | **MI**  
**The Comet Interceptor Mission**  
**Geraint Jones**, Colin Snodgrass, and Cecilia Tubiana and the The Comet Interceptor Consortium
- 18:00–18:15 EPSC2022-606  
**The Twinkle Space Mission's Solar System Survey**  
**Billy Edwards**, Ben Wilcock, Max Joshua, Ian Stotesbury, Marcell Tessenyi, Richard Archer, and Yoga Barrathwaj Raman Mohan
- 18:15–18:30 EPSC2022-35  
**gendared: the Generic Data Reduction Framework for Space Surveillance**  
**Ana-Maria Piso-Grigore**, Angelo Voicu, Pierre Sprimont, Bogdan Bija, Oscar Alonso-Lasheras, and Vlad Olteanu