

The 14th SCI Science Workshop

10-12 Nov 2021, Aranjuez, Spain

Please note that the order of all talks within a given block will be randomised at the time.

Webex link for virtual participants:

<https://esait.webex.com/esait/j.php?MTID=mee701d85bd87055c5af5d6de13334568>

Wednesday 10th November

15:00-15:15: Welcome and Opening Remarks / Introduction of Newcomers

15:15-15:45: **Iris Nijman** (ESTEC) – *Storytelling for Scientists* (Webex)

15:45-16:45: Science Talks (Webex) (Chair: Andrew Lobban; Co-chair: SOC member)

Nimisha Kumari
(STScI)

*Using MaNGA to Probe
Hardness of Ionizing
Radiation Fields in Nearby
Star-Forming Galaxies and
Beyond*

Andrew Fox
(STScI)

*New Insights On the
Magellanic Stream*

Elena Manjavacas
(STScI)

*Revealing the Vertical Cloud
Structure of a Young Low-
Mass Brown Dwarf Analog
to the Beta-Pictoris b
Directly-Imaged Exoplanet*

Rickbir Bahia
(ESTEC)

*Understanding the
Evolution of Martian
Topography Through Valley
Networks*

16:45-17:15: Coffee break

17:15-18:00: Science Talks (Webex) (Chair: Oliver Hall; Co-chair: Ines Belgacem)

Jack Wright
(ESAC)

*NOAH-H: Deep Learning
Terrain Classification of
Jezero Crater, Mars*

Sophie Musset
(ESTEC)

*Multi-Spacecraft
Observations of Solar Radio
Emissions in the Solar
Orbiter Era*

Peter Kretschmar
(ESAC)

*Surprises From a Well-
Known Favourite – Insights
From Writing a Review on
Vela X-1*

18:00-19:00: Poster Session (Webex + Teams) (Chair: Tereza Jerabkova; Co-chair: Ines Belgacem)

- **Belén López Martí** (ESAC) – *Building the Gaia Catalogue of Galactic AGB Stars*
- **Patricia Cruz** (ESAC) – *Identifying M Dwarfs in VVV Tile b294 Using Gaia*
- **Björn Grieger** (ESAC) – *A New Take on the CBL Test of the Copernican Principle and Implications for the Hubble Tension*
- **Simone Migliari** (ESAC) – *3D RMHD Simulations of Jet-Wind Interactions in High-Mass X-ray Binaries*
- **Peter Zeidler** (STScI) – *The Fate of Westerlund 2 – The Complex Dynamical State of a Young Massive Milky Way Star Cluster*
- **Ana M. Heras** (ESTEC) – *Identifying Transit Shape Anomalies in TESS Data with Deep Learning*
- **Daniel Mueller** (ESTEC) – *JHelioviewer: 3D Visualisation of Solar Data & Solar Orbiter Science Planning*
- **Sarah Boazman** (ESTEC) – *Landing Site Characterization and Hazard Mitigation for Luna 27*
- **Oliver Jennrich** (ESTEC) – *Will the Solar Wind Disturb LISA's Measurements?*
- **Alejandro Cardesin Moineiro** (ESAC) – *Mars Wind Maps and Gravity Wave Characterisation Using Ground Telescopes and Mars Express and Trace Gas Orbiter Observations*
- **Nils Janitzek** (ESAC) – *The First Year of Energetic Particle Measurements with Solar Orbiter's Energetic Particle Detector*
- **Bernhard Geiger** (ESAC) – *Radiometric Calibration of the Rosetta Navigation Camera*
- **Arnaud Masson** (ESAC) – *Improving the Indexing of ESA Science Datasets' DOIs*
- **Beatriz M. González Garcia** (ESAC) – *Conducting Scientific Research in Class with the CESAR TEAM: In Search of Our Origins*
- **Beatriz M. González Garcia** (ESAC) – *Conducting Scientific Research in Class with the CESAR TEAM: The Hidden Universe*

19:00-20:00: Cocktail and Social Time

20:00: Dinner

Thursday 11th November

09:30-10:30: Science Talks (Webex) (Chair: Nils Janitzek; Co-chair: SOC member)

Sebastian Besse
(ESAC)

*Mapping a Duck:
Geological Features and
Region Definitions on
Comet 67P/Churyumov-
Gerasimenko*

Jan-Uwe Ness
(ESAC)

*Déjà vu? The 7th Outburst
of a Famous Recurrent
Nova in X-rays*

Håkan Svedhem
(ESTEC)

*The ExoMars Trace Gas
Orbiter's Nearly Two
Martian Years of Science
Results*

Alexander James
(ESAC)

*Evolution of the Critical
Torus Instability Height and
CME Likelihood in Solar
Active Regions*

10:30-11:00: Coffee break

11:00-12:15: Science Talks (Webex) (Chair: Emilia Järvelä; Co-chair: SOC member)

Maximilian Günther
(ESTEC)

*Stellar Flares and
Habitable(?) Worlds*

Luciu Riu
(ESAC)

*Global Abundance
Distribution of
Phyllosilicates at Mars*

François Mernier
(ESTEC)

*The Cycle of Metals in the
Elliptical Galaxy NGC 1404*

Detlef Koschny
(ESTEC)

*Lunar Impact Flashes – a
Faculty-Funded Project*

Felix Fürst
(ESAC)

*How to Break the
Eddington Limit with
Magnetic Fields*

12:15-14:00: Lunch

14:00-15:00: Science Talks (Webex) (Chair: François Mernier; Co-chair: SOC member)

Ines Belgacem
(ESAC)

*Uncovering the Icy Moons'
Surfaces with Photometry*

William Alston
(ESAC)

*A Compact Object Detected
in the Aftermath of a Fast
Blue Optical Transient*

Oliver Hall
(ESTEC)

*TESS-Gaia Synergy:
Automating Rotation
Measurements for New
Hyades Stellar Stream*

Enrica Bellocchi
(ESAC)

*Local Luminous InfraRed
Galaxies as the Most
Compact Galaxies Among
Low- and High-z Systems
Observed at Sub-kpc Scale
with ALMA*

15:00-15:30: Coffee break

15:30-16:00: Science Talks (Webex) (Chair: Sarah Boazman; Co-chair: SOC member)

Anna Francesca Pala
(ESAC)

*A Multiwavelength
Perspective on Accreting
White Dwarfs*

Andrew Lobban
(ESAC)

*Exploring the Accretion
Process Near to a
Supermassive Black Hole in
Mrk 110 with XMM-
Newton, NuSTAR, and Swift*

16:00-17:00: Poster Session (Webex + Teams) (Chair: Ines Belgacem; co-chair: Tereza Jerabkova)

- **Nimisha Kumari** (STScI) – *Evidence for Both Gas Infall and Starvation by Extending the Fundamental Metallicity Relation Beyond the BPT STAR-Forming Sequence*
- **Marcos López-Caniego** (ESAC) – *Detection of Compact Sources in Maps of the Microwave and Sub-Millimeter Sky with Convolutional Neural Networks*
- **Tereza Jerabkova** (ESTEC) – *Tidal Tails of Open Star Clusters with Gaia*
- **Richard Saxton** (ESAC) – *Is a Diet of Black Holes Bad for Stellar Digestion?*
- **Johannes Sahlmann** (ESAC) – *Astrometric Orbits of Stars with Exoplanets*
- **Claire Vallat** (ESAC) – *Icy Moons' Surface Weathering Characterization in Preparation for the JUICE Mission: Simulations and Laboratory Experiments Results*
- **Hans Huybrighs** (ESTEC) – *JUICE Can Detect Europa's Water Plumes with its Particle Detector Instruments*
- **Lisanne Braat** (ESTEC) – *Comparing Sediment Transport Fluxes on Earth and Mars*
- **Dmitri Titov** (ESTEC) – *Mars Ionospheric Composition From ASPERA-MARSIS / Mars Express Sounding*
- **Alejandro Cardesin Moineiro** (ESAC) – *Maps of Venus Cloud Opacity, Particle Size and Cloud Top Temperature Seen by Venus Express/VIRTIS*
- **Sebastien Besse** (ESAC) – *Revealing Mercury's Surface Properties Through Data Mining of the MESSENGER Datasets with MeSS*
- **Saida Ramdani** (ESAC) – *First Measurements of Solar Wind Heavy Ions with Solar Orbiter*
- **Antonia Vojtekova** (ESAC) – *Where in the Sky Are the ESASky Users Looking?*
- **Kate Isaak** (ESTEC) – *Demonstrating the Feasibility of an ArtScience Programme in the Science Directorate*
- **Kate Isaak** (ESTEC) – *Exoplanets in the Classroom: a CHEOPS Case Study*

17:00-17:30: Coffee break

17:30-18:30: Equity, Diversity and Inclusion Session (Webex)

- **Jarita Holbrook** – *It Can't Be Transformed Without Examining Astrophysicists' Limiting Beliefs and Discriminatory Actions*

20:00: Dinner

Friday 12th November

Important: All participants need to check out of their hotel rooms before the start of the programme.

09:30-10:30: Science Talks (Webex) (Chair: Laura Hayes; Co-chair: Ryan Cooper)

Xavier Dupac
(ESAC)
CUBIQU: a CubeSat for Calibration of Cosmic Microwave Background Polarization Ground-Based Telescopes

Bruno Merín Martín
(ESAC)
Discovering New Asteroids in the ESA HST Archive with Citizen Science and Deep Learning

Michela Muñoz Fernández
(ESAC)
Mapping of the CO₂ Deposits on the Martian Polar Caps Derived from Neutron Flux Variations

Matteo Guainazzi
(ESTEC)
Dirty Dancing: Piercing the Dusty Environment of Merging Supermassive Black Holes

10:30-11:00: Coffee break

11:00-12:15: Science Talks (Webex) (Chair: Lucie Riu; Co-chair: SOC member)

Victoria Grinberg
(ESTEC)
Understanding Winds of Massive Stars Using Variability of High Mass X-ray Binaries

Nils Janitzek
(ESAC)
From the Solar Wind to Suprathermal and Energetic Particles: Utilizing Ion Composition Measurements to Understand Particle Acceleration at the Sun and in the Heliosphere

Héctor Cánovas
(ESAC)
Pushing the Gaia Brightest End to the Limit

Eleni Bohacek
(ESTEC)
Aeolian Bedform Hunting on Mars Using Edge Detection

Quentin Nenon
(ESTEC)
Anisotropy of Energetic Electron Fluxes in the Magnetosphere of Jupiter: From Galileo to JUICE

12:15: Memorabilia from the SSW#14 (Matteo Guainazzi) + Lunch

14:30: Departure of the ESTEC Bus

14:45: Departure of the ESAC Bus