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## SCI SCIENCE WORKSHOP 12

Hotel Occidental Barcelo Aranjuez

**12-14 NOV 2019**



### OVERVIEW

The main purpose of this workshop is to present and discuss the science research that scientists in SCI-S and SCI-O are doing. It is an opportunity to "stretch" our abilities by trying to understand topics which we do not normally follow. It allows us to broaden our skill set and foster inter site as well as inter project cooperation in research activities.

The 12th SCI Science Workshop will take place from the afternoon of Nov 12 until the afternoon of Nov 14 2019 at the Hotel Occidental Aranjuez in the historic town of Aranjuez, which lies only 48 km from Madrid, Spain.

### ORGANISING COMMITTEE

Michael Küppers, Alba Alcol, Rune Floberghagen, Erik Kuulkers, Gabriele Matzeu, Tanya Lim, Jan Tauber, Mylene Riemens, Joe Zender

This event is co-organised by SCI-O, ESAC and ESTEC Science Faculty.

### PROGRAMME

**Started Monday 12 November at 15:00, Ended Wednesday 14 November at 13:00**

(Only accessible to Faculty Members)

Abstract booklet PDF (<https://dms.cosmos.esa.int/cs/cs/Open/1439713>)

All presentations can be found on Cosmos DMS: Science Faculty > SSW > 2019-SSW12-Aranjuez (<https://dms.cosmos.esa.int/cs/cs/Open/1441812>)

Tuesday 12 November		
13:00 – 15:00	Lunch	Poster Setup
Session 1	Chair: Nuria Álvarez	
15:00	Welcome	Arvind Parmar
15:10	Black holes: No hairs, no mercy (Invited)	Richard Saxton

15:40	Modelling black hole variability with XMM	Michael Parker
16:00	Solving the X-ray Broadband emission in the NLS1 TON S180	Gabriele Matzeu
16:20	An upper limit on the mass of a central black hole in the large magellanic cloud	Nora Luetzgendorf
16:40	<b>Coffee Break</b>	<b>Poster Setup for stragglers</b>
<b>Session 2</b>	Chair: Héctor Canovas	
17:00	Further Investigations of Massive Stars Found Outside Prominent Star Clusters	Tony Marston
17:20	Polluting in time and space	Guido de Marchi
17:40	Dynamical histories of nearby star-forming regions	Catarina Alves de Oliveira
18:00	New RFs and YGTs introduction	Jan-Uwe Ness/Ana Heras
18:30	<b>End of Oral Session</b>	
18:45	<b>Poster Session + Icebreaker</b>	<b>All Poster first authors – Poster room</b>
20:00	<b>End of Sessions</b>	
20:15	<b>Buffet Dinner</b>	

<b>Wednesday 13 November</b>		
<b>Session 3</b>	Chair: Georgina Graham	
09:00	<b>Radar Interferometry of Volcanoes (Invited)</b>	Julia Kubanek
09:30	Unbuckling the Van Allen Belts: History and Physics	Lionel Métrailler
09:50	Radiation health risk assessment and mitigation beyond Low Earth Orbit.	Anna Fogtman
10:10	Discovering their Universe - consulting the public on Voyage 2050	Karen O’Flaherty
10:30	<b>Coffee Break / Posters</b>	<b>Poster room</b>
<b>Session 4</b>	Chair: Anezina Solomonidou	
10:50	Unlocking the Secrets of a Previously Unopened Apollo 17 Core Sample	Francesca McDonald

11:10	Constraints on the origin of the sources of lunar magnetic anomalies from orbital magnetic field data	Joana S. Oliveira
11:30	Investigations of Mercury's surface phenomena – It's a MeSSS	Sebastien Besse
11:50	Quantifying the Latitudinal Distribution of Climate-Related Landforms on Mars' Southern Hemisphere	Martin Völker
12:10	New insights into the geology and topography of Oxia Planum	Ottaviano Ruesch
12:30	<b>Lunch</b>	<b>Lunch room</b>
<b>Session 5</b>	Chair:Sandor Kruk	
14:00	Astrometric detection of gravitational waves	Uwe Lammers
14:20	Gaia and Carte du Ciel	Timo Prusti
14:40	Fitting exoplanet orbits to the Gaia scanning law	Daniel Michalik
15:00	Gaia DR2 observations of Evolved Stars	Pedro Garcia-Lario
15:20	PanGaia: A Python toolkit to study Star Forming Regions using Gaia astrometry	Hector Canovas
15:40	<b>Coffee Break / Posters</b>	<b>Poster room</b>
<b>Session 6</b>	Chair:Ciro Pinto	
16:10	Peanuts in the sky: classifying galaxy structure in large surveys	Sandor Kruk
16:30	Dusty star forming galaxies over cosmic time: what triggers their high star formation?	Laia Barrufet
16:50	Star formation properties of galaxies in extreme environments > 8 billion years ago	Lyndsay Old
17:10	Resolving high redshift star forming regions with gravitational lensing	Tim Rawle
17:30	Slow quenching of the star formation in the cores of galaxy clusters	Ivan Valtchanov
17:50	A catalogue of XMM Newton BL Lacs	Nuria Álvarez
18:10	GREEN ESA: A brain-storming discussion	Introduction: Felix Fürst (GREEN ESAC) and TBD (ESTEC)
18:40	<b>End of Sessions</b>	<b>Free time until SSW12 Dinner</b>
20:30	<b>Dinner</b>	

Thursday 14 November		
<b>Session</b> 7	Chair: Ottaviano Ruesch	
09:00	The young nuclear star clusters in NGC 5253	Linda Smith
09:20	<b>Cold lunar volatiles: So hot right now (Invited)</b>	Elliot Sefton-Nash
09:50	Space weathering of the surfaces of atmosphere-less icy bodies: overview of ESAC driven activities	Nicolas Altobelli
10:10	Energetic ion depletions near the Galilean moons: interaction with plumes and atmosphere	Hans Huybrighs
10:30	Titan's surface chemical composition constraints	Anezina Solomonidou
10:50	<b>Coffee Break / Posters</b>	<b>Poster room</b>
<b>Session</b> 8	<i>Chair: Michael Parker</i>	
11:20	Investigating flux tubes within the solar wind	Georgina Graham
11:40	Analytic form of electrostatic potential for solar wind acceleration	Pedro Osuna
12:00	How can a magnet hide its signature line? The case of 4U 1901+03 and 2S 1417-624	Felix Fürst
12:20	Fast & Furious: powerful winds unveil super-Eddington accreting compact objects	Ciro Pinto
12:40	<b>Wrap-up</b>	Markus Kissler-Patig
13:00	<b>Lunch</b>	<b>Lunch room</b>
14:00	<b>Bus to Barajas (ESTEC personnel)</b>	
14:30	<b>Bus to ESAC (ESAC personnel)</b>	

**List of posters:**

Deborah	Baines	pyESASky: An ESASky widget for Jupyter
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