

PROGRAM

MONDAY 3

8h00–9h20 **Registration**

9h20–9h40 **Welcome & Opening remarks** Anne-Sophie Libert (chair of the SOC)

9h40–10h20 A. Morbidelli, *Interdisciplinarity: an effective approach to comprehending the formation of planetary systems*

10h20–11h00 **Coffee break**

11h00–11h40 D. Scheeres, *Binary Asteroids: A Pathway to Understanding the Morphological Evolution of Rubble Pile Asteroids*

11h40–12h20 D. Fabrycky, *Resonant Chain Dynamics: Interpretation of Observations*

12h20–12h25 A. Füzfa, *The UNamur observatory*

12h25–14h00 **Lunch**

14h00–15h40 **Parallel session - S01**

- D. Vavilov, *Partial Banana Mapping: search for close encounters and impact probability*
- L. Benet, *Transversal Yarkovsky acceleration for Apophis exploiting automatic differentiation tools*
- Ch. Lhotka, *On the Celestial Dynamics of Charged Dust in the Solar System*
- D. Ragozzine, *Non-Keplerian Motion of Trans-Neptunian Binaries: Shapes, Spins, and Formation*
- E. Pilat-Lohinger, *Inward and outward scattering of Oort cloud comets due to Gliese 710*

14h00–15h40 **Parallel session - PA02**

- B. Kumar, *Europa-Induced Overlapping of Secondary Resonances in the 4:3 Jupiter-Ganymede Unstable Resonant Orbit Family*
- A. Rodriguez, *Mapping the structure of the planetary 2:1 mean motion resonance: the TOI-216, K2-24, and HD27894 systems*
- G. Pucacco, *Normal forms for Laplace-like resonances*
- S. Gomes, *The passage through the 5:3 resonance between Ariel and Umbriel with inclination*
- Z. Knežević, *Secular resonance maps*

15h40–16h20 **Coffee Break**

16h20–17h00 **Parallel session - S01**

- S. Dermott, *Asteroid family membership in the inner belt*

- B. Sicardy, *Resonances around small bodies of the solar system: where should be the rings?*

16h20–17h00 **Parallel session - PA02**

- E. Kokubo, *Orbital Architecture of Planetary Systems Formed by Gravitational Scattering and Collisions*
- J. Mah, *Forming Super-Mercuries: Role of stellar abundances*

18h00–20h00 **Welcome Reception** - Boat tour

TUESDAY 4

9h00–9h40 M. Granvik, *Destruction mechanisms for near-Earth objects*

9h40–10h20 A. J. Rosengren, *On the Multiscale Astrodynamics of Cislunar xGEO Space*

10h20–11h00 **Coffee break**

11h00–12h20 **Parallel session - S01**

- S. Di Ruzza, *Analysis of co-orbital motion of real asteroid in a medium-term timescale*
- E. Legnaro, *MEO Secular Resonances: Phase Space, Eccentricity Growth and Diffusion of Navigation Satellites*
- G. Lari, *Orbital evolution of the Galilean moons driven by a fast orbital expansion of Callisto*
- C. Grassi, *Revisiting the computation of the critical points of the squared distance between two ellipses with a common focus*

11h00–12h20 **Parallel session - PA02**

- S. Crespi, *Terrestrial Planet formation Simulations: Homogeneous Comparison between Methods*
- Ph. Griveaud, *Migration of giant planets in low viscosity discs and consequences on the Nice model*
- N. Haghighipour, *Secular Resonances and Terrestrial Planet Formation in Planetary Systems with Multiple Stars: Theory and Application*
- G. Pichierri, *Forming the Trappist-1 system in two steps during the recession of the disc inner edge*

12h20–14h00 **Lunch**

14h00–14h40 A. Johansen *Forming planetary systems via pebble accretion*

14h40–15h40 **Round table “Space awareness”**

- A. Rosengren, *Space debris dynamics*
- J.-M. Van Nypelseer, *An initiative in space debris removal*
- D. Hestroffer, *Hazardous asteroids and the Hera mission*

C. Linard, *Mapping population from space*
Y. Nazé, *Food for thought*

15h40–16h20 **Coffee Break**

16h20–17h00 **Parallel session - S01**

- M. Rossi, *Dynamical asymmetries for L_4/L_5 captures*
- G. Tommei, *On the predictability horizon in Impact Monitoring of NEOs*
- N. Torii, *Gap Structure Created by Satellite Embedded in Saturn's Ring*
- J. Li, *An overview of the high-inclination resonant population in the Kuiper belt*

16h20–17h00 **Parallel session - PA02**

- A. Courtot, *Chaos in meteor showers: the example of Draconids, Leonids and Taurids*
- Al. Petit, *Challenges of the catalogue building and maintenance based on optical survey of the LEO region*
- M. Romano, *Network perspective to study the state of Earth's orbital traffic*
- M. Farhat, *The Impact of Laplace Surface Dynamics on Debris Disc Architecture*
- A. Dgokas, *Secular evolution of debris in highly eccentric and inclined orbits*
- A. Celletti, *SIMPRO: a simulator of breakup events and propagation of orbits of space debris*

WEDNESDAY 5

9h00–9h40 C. Gales, *Dynamics modelling and stability analysis of satellites orbiting oblate bodies*

9h40–10h00 **Poster flash talks 1-20**

10h00–11h00 **Poster session & coffee break**

11h00–11h40 K. Batygin, *Towards a Unified Model of Planet Formation*

11h40–12h20 D. Lay, *Hot Jupiters and Super-Earths: Spin-Orbit Puzzles in Exoplanetary Systems*

12h25–14h00 **Lunch**

14h00–14h40 E. Bolmont, *A journey from planets to stars: improving tidal models in orbital evolution codes*

14h40–14h50 A few words by Anne

14h50–15h50 **Parallel session - S01**

- C. Charalambous, *Tidal effects in resonant chains of close-in planets*
- A. Revol, *Dynamical evolution and heat dissipation in the Trappist-1 system*

- T. Ghosh, *Dynamical Instabilities and the Orbits of Kepler's Multis*

14h50–15h50 **Parallel session - PA02**

- M. Yseboodt, *Mars rotational elements and their quadratic behavior*
- M. Saillenfest, *Oblique rings as a natural end state of migrating exomoons*
- X. J. Xi, *Analytical representation for the numerical ephemeris of Titan within short time spans*

15h50–16h30 **Coffee Break**

16h30–17h30 **Parallel session - S01**

- A. Leleu, *Recovery and characterisation of resonant terrestrial planets hidden in transit surveys*
- J. Korth, *Hot Jupiters and their nearby surroundings*
- Th. Baycroft, *The BEBOP search for circumbinary planets in radial velocity*

20h00–22h00 **Vera Rubin show - Le Delta**

THURSDAY 6

9h00–9h40 G. Baù, *Alternative state representations for orbit prediction*

9h40–10h00 **Poster flash talks 21-36**

10h00–11h00 **Poster session & coffee break**

11h00–12h20 **Parallel session - S01**

- M. Efroimsky, *Pathways of Survival of Exomoons and Inner Exoplanets*
- N. Georgakarakos, *Dynamical habitable zones for circumbinary planets.*
- V. Christiaens, *A new directly imaged giant planet*
- Y. Suto, *Dynamics of a triple system comprising an inner binary black hole in a mutually inclined orbit.*

11h00–12h20 **Parallel session - PA02**

- S. Hadden, *Celestial Mechanics with the celmech code*
- J. Daquin, *Quantifying chaos with geometrical indicators*
- F. Gronchi, *Initial orbit determination from one position vector and a very short arc of optical observations*
- D. Hernandez, *Switching integrators reversibly in the astrophysical N-body problem*

12h20–14h00 **Lunch**

14h00–14h40 C. Dorn *Planet cores store majority of planetary water budgets*

14h40–15h40 **Round table “Habitability”**

- E. Bolmont, *Habitable worlds and climate*
- M. Gillon, *Future detections of habitable worlds*
- E. Javaux, *From early Life to Habitability*
- V. Debaille, *Life and meteorites*
- B. Hespels, *Rotifers in space*

15h40–16h20 **Coffee Break**

16h20–17h00 A. Correia, *New methods to study the tidal evolution of planetary systems*

17h00–17h40 R.-M. Baland, *The obliquity of Mercury: Models and interpretation*

19h00–22h00 **Gala dinner** - Brasserie François

FRIDAY 7

9h00–9h40 J.-B. Delisle, *Planetary systems in resonant chains*

9h40–10h20 C. Petrovich, *Long-term evolution of exoplanet systems*

10h20–11h00 **Coffee break**

11h00–12h20 **Parallel session - S01**

- F. Mogavero, *Timescales of chaos in the inner Solar System: Lyapunov spectrum and quasi-integrals of motion*
- R. Mastroianni, *The phase-space architecture in the secular 3D planetary three-body problem*
- N. Todorović, *Encounter manifolds in the Solar System. Preliminary results*
- T. Hayashi, *Lagrange stability of triple systems: disruption timescale distribution and its dependence on the orbital parameters*

11h00–12h20 **Parallel session - PA02**

- J. Requier, *Resonantly amplified tidal dissipation in the fluid layers of planets and moons*
- F. Zoppetti, *Tidal orbital evolution of circumbinary planets*
- E. Valente, *Excitation of the obliquity of Earth-like planets via tidal forcing*
- A. Coyette, *Cassini States of Ganymede and Callisto*

12h20–14h00 **Lunch**

14h00–14h40 A. Petit, *Long-term stability of compact planetary systems*

14h40–15h20 N. Rambaux, *Lunar reference system from science to MoonLight and LunaNet*

15h20–16h00 **Coffee Break**

16h00–16h40 M. H. Lee, *Dynamics of Circumstellar Planets in Binary Star Systems*

16h40–17h20 J. Laskar, *The AstroGeo project*

17h20-17h30 **Closing Remarks**

	Monday	Tuesday	Wednesday	Thursday	Friday				
8h	REGISTRATION	REGISTRATION	REGISTRATION	REGISTRATION	REGISTRATION				
9h	OPENING SESSION	GRANVIK	GALES	BAU	DELISLE				
9h20		ROSENGREN	Poster flash talks	Poster flash talks	PETROVICH				
9h40	MORBIDELLI								
10h00									
	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK + POSTERS	COFFEE BREAK + POSTERS	COFFEE BREAK				
11h00	SCHERES	Di Ruzza	Crespi	BATYGIN	Efroimsky	Hadden	Mogavero	Rekier	
11h20	FABRYCKY	Legnaro	Griveaud	LAI	Georgakarakos	Daquin	Mastroianni	Zoppetti	
11h40		Lari	Haghighipour		Christiaens	Gronchi	Todorović	Valente	
12h00		Grassi	Pichierri		Suto	Hernandez	Hayashi	Coyette	
	Observatory (5 min)								
	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH				
14h00	Vavilov	Kumar	JOHANSEN	BOLMONT	DORN	PETIT			
14h20	Benet	Rodriguez	Round-table Space Awareness	A few words by Anne	Round-table Habitability	RAMBAUX			
14h40	Lhotka	Pucacco		Charalambous			Yseboodt		
15h00	Ragozzine	Gomes		Revol			Saillenfest		
15h20	Pilat	Knežević	Ghosh	Xi					
	COFFEE BREAK	COFFEE BREAK		COFFEE BREAK	COFFEE BREAK	COFFEE BREAK			
16h20	Dermott	Kokubo	Rossi	Courtot	CORREIA	LEE			
16h40	Sicardy	Mah	Tommei	Petit (AI)	BALAND	LASKAR			
17h00			Torii	Romano					
17h20			Li	Farhat					
17h40				Dogkas					
18h				Celletti					
	WELCOME RECEPTION 18h-20h BOAT TOUR			VERA RUBIN SHOW 20h	GALA DINNER 19h				
	OBSERVATORY			OBSERVATORY					

SMALL BODIES DYNAMICS	RESONANCES
SPACE DEBRIS	EXOPLANETS
ROTATION	LONG-TERM EVOLUTION & STABILITY
FORMATION	NUMERICAL METHODS