LCPM 13 provisional program – as of May 10th

All presentation will last 20 mns (including questions) except specified otherwise.

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June 3

8:30 to 9:15 - Coffee and welcome

9:15 to 9:30 - Conference opening

9:30 to 10:45 - Session 1 - Agency Programs and Plans for Future Low-Cost Planetary Missions
Chair-persons: Linli Guo & Ian Carnelli

- Carolyn Mercer - NASA Glenn Research Center – PLANNING FOR FUTURE PLANETARY SCIENCE MISSIONS USING SMALL SPACECRAFT
- Silvia Bayón - ESA - INTRODUCTION OF THE F-MISSION IN THE ESA SCIENCE PROGRAMME
- Jocteur-Monrozier - CNES – Overview of the CNES strategy on Solar System exploration and associated operations
- Gregory Pradels – Aerospace Valley - Newspace Factory, an experienced network for low-cost space missions (15 mn talk)

10:45 to 11:00 – Coffee break

11:00 to 12:00 - Session 1 follow-on - Agency Programs and Plans for Future Low-Cost Planetary Missions

- Ryu Funase – JAXA/ISAS – Overview of JAXA's achievements and future plan of CubeSats and Micro-sats for deep space exploration
- Igor Barmin - Tsiolkovsky Russian Academy of Cosmonautics - Cooperation of the Space Agencies as Basis to Find Ways to Reduce Cost of Planetary Missions
- Jie Dong - Beijing Institute of Spacecraft System Engineering - RESARCH ON NEW CONCEPT ARCHITECTURES OF MARS EXPLORATION

12:00 – 12:55 – Session 2 - Latest Results from Ongoing Missions
Chair-persons: Stephan Ulamec & Keyur Patel

- Tom Hoffman – JPL – InSight Mission to Mars: Early Operational Results
- David Sternberg– JPL - MarCO: The First Interplanetary CubeSats
- Sarah Holmes – JPL - IRIS DEEP SPACE TRANSPONDER: MARCO'S TELECOM SYSTEM (15 mn talk)

12:55 – 14:00 - lunch

14:00 – 15:05 – Session 2 follow on - Latest Results from Ongoing Missions
Chair-persons: Stephan Ulamec & Keyur Patel

- Laurence Lorda – CNES – AN OVERVIEW OF THE CNES EXPERTISE IN FLIGHT DYNAMICS ANALYSES FOR LANDING ON SMALL BODIES
- Fan WU - Harbin Institute of Technology – AOCS design for the Longjiang-2 microsatellite (15 mn talk)
- Wei Mingchuan - Harbin Institute of Technology – VHF/UHF Radio for Longjiang-2 Lunar Microsatellite (15 mn talk)
- Hu Chaoroan - Harbin Institute of Technology – Lessons Learnt from the VHF/UHF Ground System of Longjiang-2 Lunar Microsatellite (15 mn talk)

15:05 – 15:45 – Session 3 - Missions Currently Under Development for Launch in the Near Future
Chair-persons: Cheryl Reed & David Mimoun

- Calina Seybold - JPL – LUNAR FLASHLIGHT CUBESAT MISSION OVERVIEW
- Cheryl Reed - APL - DART: DOUBLE ASTEROID REDIRECTION TEST

15:45 – 16:00 – coffee break

16:00 – 17:40 – Session 3 - Missions Currently Under Development for Launch in the Near Future
Chair-persons: Cheryl Reed & David Mimoun

- Ian Carnelli - ESA – HERA: EUROPEAN COMPONENT OF THE ASTEROID IMPACT & DEFLECTION ASSESSMENT (AIDA) MISSION TO THE BINARY ASTEROID DIDYMOS
- Hannah Goldberg – GomSpace - Low-cost asteroid science with a CubeSat – an overview of the Juventas CubeSat for the HERA mission
- Simon Tardivel - CNES – The MMX rover: an innovative design enabling Phobos in-situ exploration
- Cédric Virmontois – CNES – A MICRO-CLASS LUNAR ROVER MISSION TO IMAGE IMBRIUM LAVA FLOWS
- Calzada Diaz - ispace Europe - ispace' s Polar Ice Explorer: a commercial SRU exploration mission to the South Pole of the Moon

17:40 – 19:30 – Poster Session & Icebreaker cocktail

- *Bucciantini - COMIX – CUBESAT ORIENTED MUTUAL IMPEDANCE EXPERIMENT*
- All oral presenters are requested to exhibit a poster.

19:30 – 21:00 – Concert by the "Orchestre du Lycée Pierre de Fermat", tribute to Apollo

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June 4

9:00 – 9:30 – "Hayabusa2 as a low cost planetary mission enhanced by micro-sat/rover contributions (Invited remote presentation by Hajime Yano – JAXA/ISAS)

9:30 – 10:50 – Session 4- Science Instruments Enabling the Next Generation of Low-Cost Planetary Exploration
Chair-persons: François Leblanc & Jérémie Lasue

- Nicolas Andre - IRAP – Miniaturized Charged Particle Detectors for Low-Cost Planetary Exploration
- Pierre Devoto - IRAP - A RECONFIGURABLE ENERGETIC PARTICLE DETECTOR FOR PLANETARY EXPLORATION
- Pierre Henri – LPC2E - MUTUAL IMPEDANCE EXPERIMENTS FOR LOW-COST EXPLORATION OF PLANETARY IONOSPHERES AND INDUCED MAGNETOSPHERES
- Ferrari - Hawai'i Institute of Geophysics and Planetology - A THERMAL HYPERSPECTRAL CUBESAT CONCEPT FOR LUNAR EXPLORATION

10:50 – 11:05 Coffee break

11:05 – 12:45 – Session 4 follow on - Science Instruments Enabling the Next Generation of Low-Cost Planetary Exploration
Chair-persons: François Leblanc & Jérémie Lasue

- Macey Sandford - Hawai'i Institute of Geophysics & Planetology – Raman long range laser Spectrometer
- Till Hagelschuer - DLR – RAX, a Raman Spectrometer for MMX onboard the rover for Phobos
- Raphaël Garcia – ISAE Supaéro – Innovative ground motion sensors for planets and asteroids: PIONEERS H2020-SPACE european project
- Naomi Murdoch – ISAE Supaéro - SEISCUBE: A GEOPHYSICAL CUBESAT FOR SMALL BODY EXPLORATION
- Alain Herique - IPAG - A LOW FREQUENCY RADAR TO FATHOM ASTEROIDS FROM CUBESAT

12:45 – 14:15 - Lunch break

14:15 – 14:45 – Invited paper – Oneweb spacecraft design & production approach, and potential re-use (TBC)

14:45 - 16:00 - Session 5.1 - Advanced Concepts for the Next Generation of Low-Cost Missions, Including CubeSats, NanoSats and others, technologies (all presentations 15 mn)

Chair-persons: John Baker & Craig Underwood

- Samuel Frampton - University of Leicester - Adapting Small Earth-Orbiting Spacecraft for Interplanetary Missions
- Philippe Adell - JPL - Emerging System Reliability Method for Systems Built with Advanced Commercial Electronics
- Hannah Goldberg - GomSpace - Utilization of CubeSat technologies to enable future ESA deep-space science missions
- Qiu Shi - Harbin Institute of Technology - A Low-cost Highly Integrated Composite Electronic System Design Method
- Linli Guo - DFH Satellite Co.Ltd , CAST - Conception of an affordable small platform in China's deep space exploration program

16:00 – 16:15 - Coffee break

16:15 – 18:15 - Session 5.1 follow-on - Advanced Concepts for the Next Generation of Low-Cost Missions, Including CubeSats, NanoSats and others, technologies (all presentations 15 mn)
Chair-persons: John Baker & Craig Underwood

- Yuki Kubo – University of Tokyo - TRANSFORMABLE SPACECRAFT: ADVANCED MISSION CONCEPTS AND A FUNDAMENTAL FEASIBILITY STUDY
- Shyam Mohan – TeamIndus - CRATER BASED ABSOLUTE NAVIGATION FOR PIN-POINT LANDING ON A PLANETARY BODY USING GEOMETRIC PATTERN MATCHING
- John Enright - Ryerson University - A Comparative Study on Filtering for Autonomous Optical Navigation using Nanosatellite-Class Instruments
- Boris Segret – LESIA/Paris Observatory - In-Flight Orbit Determination for a Deep Space CubeSat
- Andrey Baranov – Keldysh Institute of Applied Mathematics - Motion control of small spacecraft
- Andrea Cini - Argotec - Nanosatellite Attitude Control with Deep Neural Networks
- Irene Farquhar – IAA corresponding member - FDIR Prototyping: Mission Scenarios and Architectures in the Vicinities of the Sun-Earth-Planet Libration Points
- Lorraine Fesq – JPL - A NEW PARADIGM FOR AUTONOMOUS SPACECRAFT: FROM RESEARCH TO DEPLOYMENT

18:15 - Departure to Toulouse Natural Science Museum, Museum visit & Gala Dinner

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June 5

9:00 – 10:45 Session 5.2 - Advanced Concepts for the Next Generation of Low-Cost Missions, Including CubeSats, NanoSats and others, Mission concepts (all presentations 15 mn)
Chair-persons: Michèle Lavagna & Daniel Hestroffer

- John Baker – JPL – CUPIDS ARROW MISSION CONCEPT OVERVIEW
- Craig Underwood – University of Surrey– VMMO Lunar Volatile and Mineralogy Mapping Orbiter, A CubeSat Mission to Investigate the Lunar Surface and Radiation Environment
- Gustavo Medina-Tanco - Universidad Nacional Autónoma de México - SELF-ORGANIZATION ON THE MOON SURFACE
- Dhack Muthulingam (presented by Leon Alkalai) – JPL - A Low-cost Interplanetary Explorer for Solar System Scale Science
- Geraint Jones - UCL Mullard Space Science Laboratory - Comet Interceptor: A proposed ESA Mission to a Dynamically New Comet
- Davide Perna – INAF - NEST: THE “NEAR-EARTH SPACE TREKKER” MULTI-ASTEROID MISSION CONCEPT
- Jacopo Prinetto - Politecnico di Milano - Near Earth Space Trekker: the Fast-class science mission to characterize multiple size asteroids

10:45 – 11:00- Coffee break

11:00 – 12:45 Session 5.2 follow on - Advanced Concepts for the Next Generation of Low-Cost Missions, Including CubeSats, NanoSats and others, mission concepts (all presentations 15 mn)
Chair-persons: Michèle Lavagna & Daniel Hestroffer

- Cristian Greco - University of Strathclyde - MISSION ANALYSIS AND SYSTEM STUDY FOR A MULTI-FLYBY LOW-COST EXPLORATION MISSION OF NEAS WITH NANO-SPACECRAFT
- Daniel Hestroffer - IMCCE/ Paris Observatory - BIRDY an interplanetary CubeSat to visit Small Bodies,
- Sami Asmar – JPL - LOW COST RIDE-ALONG SMALL SPACECRAFT FOR ENHANCED SCIENCE WITH RADIO LINKS
- Hongru Chen – IMCCE/ Paris Observatory - CubeSat-Complemented Radio Science Surveying: Case Study of Phobos Mission
- François Leblanc – LATMOS - Network of small satellites for the exploration of planetary Magnetosphere (NETSSEM)
- Yulia Akisheva - ISAE Supaéro - A CUBESAT CONSTELLATION MISSION FOR MULTIPOINT MEASUREMENTS ON MARS
- Allessandro Retino - LPP - PROSPERO (PRObing the Structure of Plasma Energisation Regions): a Smallsat Concept to Study Plasma Energy Conversion and Particle Acceleration in Near-Earth Space

12:45 – 14:00 - Lunch break

14:00 – 17:00 – Session 6- Access to deep space, launch solutions, use of commercial services in support to planetary exploration such as transportation, navigation and communication
Chair-persons: Silvia Bayón & Pierre Bousquet

- LI Yi-de (presented by Linli Guo) - Aerospace System Engineering Shanghai - LONG MARCH-4B/4C: A LOW-COST MULTI-LAUNCH SOLUTION FOR MICRO LUNAR PROBE
- Richard Morisset - Arianespace – LOW-COST LAUNCH OPPORTUNITIES FOR LIGHT SATELLITES: ESA INITIATIVE STATUS AND ARIANE 6 MULTI-LAUNCH SERVICE
- Antoine Bocquier – ispace Europe - Commercial Services for Planetary Exploration: enabling a new generation of low-cost missions
- Nelly Offord-Harlé – Surrey Satellite Technology Ltd - COMMERCIAL LUNAR MISSIONS SUPPORT SERVICES PARTNERSHIP
- Joost Van-Tooren – ArianeGroup - Space Logistics and Lunar Missions
- Boqin Hu - MULTI-CUBESATS DEPLOYMENT FOR JOVIAN SYSTEM EXPLORATION USING V∞-LEVERAGING TECHNIQUE
- Yonghe Zang - Key Lab of Microsatellite, CAS - Asteroid flyby and Orbiting Exploration with Low-cost Micro-spacecraft
- Theodore Sweetser – JPL -TRAJECTORY DESIGN FOR SMALL-SATELLITE MISSIONS TO NEAR-EARTH OBJECTS
- Yirui Wang - Moon-aided Capture for Reducing Reentry Speed

17:00 Concluding remarks & Conference close-up

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