



## XII Congresso Nazionale di Scienze Planetarie

Bormio, 2 - 6 Febbraio 2015

Sala Congressi della Banca Popolare di Sondrio  
Via Roma, 131

### PROGRAMMA

#### DOMENICA - 1 Febbraio

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| 18:00 - 19:00 | <b>Registrazione</b><br>presso l'hotel Baita dei Pini in via Peccedi, 15 |
| 19.00 - 20.00 | <b>Aperitivo di benvenuto presso l'hotel Baita dei Pini</b>              |

#### LUNEDI' - 2 Febbraio

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| 8:30 - 09:30 | <b>Registrazione</b> |
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#### SESSIONE 1: RISULTATI DA ROSETTA

**CHAIRMAN: G. VALSECCHI**

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| 09:30 - 09:50 | Talk 1 Main results from VIRTIS<br>Capaccioni F.   |
| 09:50 - 10:10 | Talk 2 Main results from GIADA<br>Rotundi A.   |
| 10:10 - 10:30 | <b>Pausa caffè</b>   |
| 10:30 - 10:50 | Talk 3 Layering and internal structure of the comet<br>67P/Churyumov-Gerasimenko as observed by ROSETTA<br><u>Massironi M.</u> |
| 10:50 - 11:10 | Talk 4 The size-frequency boulders (> 7 m) distribution on<br>Comet 67P Churyumov-Gerasimenko<br><u>Pajola M.</u>              |

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| 11:10 - 11:30 | Talk 5 <i>Geomorphological mapping of the Comet 67P/Churyumov-Gerasimenko</i><br><u>Giacomini L.</u>   |
| 11:30 - 11:50 | Talk 6 <i>Cometa 67P/C-G: mappe di temperatura superficiale derivate da Rosetta/VIRTIS nella fase pre-landing</i><br><u>Tosi F.</u>  |
|               | <b>SESSIONE 1: RISULTATI DA ROSETTA (CONTINUA)</b><br><b>Chairman: A. Rotundi</b>  |
| 16:00 - 16:20 | Talk 7 <i>Comet 67P/CG compositional maps at regional scale in the VIS-IR from Rosetta/VIRTIS-M</i><br><u>G. Filacchione</u>   |
| 16:20 - 16:40 | Talk 8 <i>A comparative analysis of exposed water ice on the surface of comets Hartley 2 and Churyumov-Gerasimenko</i><br><u>Raponi A.</u> , Capaccioni F., Filacchione G., Ciarniello M.                  |
| 16:40 - 17:00 | <b>Pausa caffè</b>   |
| 17:00 - 17:20 | Talk 9 <i>Photometric Properties of Comet 67P/CG as Seen by VIRTIS-M Onboard Rosetta: Light Curves and Disk-integrated Phase Curves</i><br><u>Ciarniello M.</u> , Capaccioni F., Filacchione G., Raponi A. |
| 17:20 - 17:40 | Talk 10 <i>67P ground-based obs in support of Rosetta</i><br><u>Tozzi G.</u>   |
| 17:40 - 18:00 | Talk 11<br><i>Preliminary analysis of the 67P/CG inner coma with VIRTIS-M data</i><br><u>Rinaldi G.</u>  |
| 18:00 - 18:10 | <b>Sordini Roberto (INAF-IAPS) Improvements in the calibration of GIADA's measurement subsystems</b>   |
| 18:10 - 19:10 | <b>Presentazione Poster</b>  |
|               | <b>Fine Prima giornata</b>   |

## MARTEDI' - 3 Febbraio

### SESSIONE 2: SUPERFICI PLANETARIE

**Chairman: Capaccioni F. (pre-pausa caffè) & Massironi M. (post-pausa caffè)**

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| 08:30 - 08:50 | Talk 1 Flamini, E.: SIMBIO-SYS for BepiColombo: Status and Issues   |
| 08:50 - 09:10 | Talk 2 Galluzzi, V.: Geologic map and structural analysis of Victoria quadrangle (H2) of Mercury based on NASA MESSENGER images   |
| 09:10 - 09:30 | Talk 3 Smooth plains on Mercury. A comparison with Vesta<br>Zambon, F.  |
| 09:30 - 09:50 | Talk 4 THE PRESENCE OF CARBONATES ON MARS: ORIGIN, TERRESTRIAL ANALOGUES AND ANALITICAL TECHNIQUES AMBIGUITY.<br>Marinangeli, L.  |
| 09:50 - 10:10 | Talk 5 Possible detection of carbonates in Tikhonravov crater<br>Mancarella, F.   |
| 10:10 - 10:30 | <b>Pausa caffè</b>  |
| 10:30 - 10:50 | Talk 6 A Peculiar Spectral Unit in the Southern Amazonian Polar Layered Deposits<br>Carli, C.   |
| 10:50 - 11:10 | Talk 7 The puzzling origin of the Martian Northern Lowlands<br>Altieri, F.  |
| 11:10 - 11:30 | Talk 8 Removal of atmospheric features in near infrared spectra by means of principal component analysis and target transformation for the study of hydrated minerals on Mars<br>Geminale, A. |
| 11:30 - 11:50 | Talk 9 Formation timescales of Martian valleys networks<br>Alemanno, G.   |
| 11:50 - 12:10 | Talk 10 Studio complessivo dei materiali polverosi nelle zone sorgenti Nord Africane e le implicazioni per la missione ESA ExoMars 2016<br>Popa, C.   |
| 12:10 - 12:30 | Talk 11 Studio dei depositi eolici marziani: due esempi significativi in Meridiani Planum e Gale Crater<br>Silvestro, S.  |

### SESSIONE 3 : Materiali Analoghi e Laboratorio

Chairman: F. Mancarella

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| 14:00 - 14:20 | Talk 1 Pettinelli et al: Electromagnetic Characterization of Planetary Analogues: The Facility at Roma Tre                                |
| 14:20 - 14:40 | Talk 2 Carli et al.:VNIR spectroscopy of rock forming minerals mixtures: a tool to interpret planetary igneous compositions               |
| 14:40 - 15:00 | Talk 3 Mancarella et al:Spectral analysis of laboratory mixtures of carbonates and phyllosilicates.                                       |
| 15:00 - 15:20 | Talk 4 Popa et al: Studi di laboratorio per la caratterizzazione dei minerali di rame e le implicazioni sul clima primordiale di Marte    |
| 15:20 - 15:40 | Talk 5 D'Elia et al: A comparative SEM morphological study of biogenic and abiogenic carbonates for the search for biostructures on Mars. |
| 15:40 - 16:00 | <b>Pausa caffè</b>  |
| 16:00 - 16:20 | Talk 6 Erculiani M.S.<br>ATMOSPHERE IN A TEST TUBE: STATE OF ART AT THE ASTRONOMICAL OBSERVATORY of PADOVA                                |
| 16:20 - 16:40 | Talk 7 Claudi et al: ATMOSPHERE IN A TEST TUBE  |
| 16:40 - 17:00 | Talk 8 Schierano et al: UV-IR synchrotron radiation facility for the optical characterization.  |
| 17:00 - 17:20 | Talk 9 Stefani et al: Collisional Induced Absorption (CIA) bands measured in the IR spectral range.                                       |
| 17:20 - 17:40 | Talk 10 Snels et al: Investigations of the 1.18 micron transparency window of Venus' atmosphere by Cavity Ring Down technique.            |
| 17:40 - 18:40 | <b>DISCUSSIONE GENERALE:<br/>Quale futuro per la Planetologia italiana?</b>   |

**MERCOLEDI' - 4 Febbraio**

| <b>SESSIONE 4: CORPI MINORI E DINAMICA</b><br><b>Chairman: A. Milani</b> |   |
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| 08:30 - 08:50  | Talk 1 Turrini D. Vesta as a geophysical laboratory for studying impact contamination                                 |
| 08:50 - 09:10  | Talk 2 Perna D. Short-term variations on dwarf planet (1) Ceres   |
| 09:10 - 09:30  | Talk 3 Campo Bagatin A. Internal structure of small asteroids by N-body numerical simulations of non-spherical shapes |
| 09:30 - 09:50  | Talk 4 Dell'Oro A. Investigating the outcomes of SPH models of catastrophic destruction                               |
| 09:50 - 10:10  | Talk 5 Valsecchi G. B. An analytical solution for the swing-by problem  |
| 10:10 - 10:30  | <b>Pausa caffè</b>  |
| 10:30 - 10:50  | Talk 6 Cellino A. Polarimetry: a primary tool for the physical characterization of the asteroids                      |
| 10:50 - 11:10  | Talk 7 Faggi S. Sublimating grains models of cometary coma  |
| 11:10 - 11:30  | Talk 8 Migliorini A. Gas emission investigation in small bodies: case of P67/Churyumov-Gerasimenko and Ceres          |

**SESSIONE 4: CORPI MINORI E DINAMICA (CONTINUA)**

**Chairman: A. Campo Bagatin**

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| 15:40 - 16:00 | Talk 9 Paolicchi P. Famiglie di asteroidi: nuova classificazione con l'uso di cataloghi contenenti un grande numero di oggetti |
| 16:00 - 16:20 | Talk 10 Milani A. Cronologia delle famiglie di asteroidi   |

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| 16:20 - 16:40 | Talk 11 Ieva S. THE V-TYPE CONUNDRUM: ARE ALL THE BASALTIC OBJECTS COMING FROM VESTA?   |
| 16:40 - 17:00 | <b>Pausa caffè</b>  |
| 17:00 - 17:20 | Talk 12 Gronchi G. Metodi algebrici per il problema dell'identificazione di archi corti di osservazioni                                   |
| 17:20 - 17:40 | Talk 13 Rossi A.<br>YORP and collisional shaping of the sub-populations, rotation rate and size-frequency distributions in the main-belt  |
| 17:40 - 18:00 | Talk 14 Perozzi E. The first two years of operations of the ESA NEO Coordination Centre   |
| 18:00 - 18:20 | Talk 15 Micheli M.<br>The SSA NEO Segment contribution to NEO hazard monitoring and observational campaigns                               |
| 18:00 - 18:20 | Talk 16 Cibin L. NEOSTEL: The Telescope Detail Design Program for the ESA Optical Ground Network dedicated to NEO Discovery and Tracking. |
| 18:40 - 19:00 | Talk 17 Dotto E.<br>THE NEOShield-2 EU Project  |

### **GIOVEDI' - 5 Febbraio**

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| <b>SESSIONE 5 : FORMAZIONE, ATMOSFERE, ESOPIANETI</b><br><b>Chairman: A. Migliorini (pre-pausa caffè) &amp; D. Grassi (post-pausa caffè)</b> |   |
| 08:30 - 08:50  | Talk 1 Marzari F.<br>Decoupling of a giant planet from its disk in an inclined binary system  |
| 08:50 - 09:10  | Talk 2 Turrini D.<br>The formation of giant planets and its effects on protoplanetary disks: the case of Jupiter and the Jovian Early Bombardment |
| 09:10 - 09:30  | Talk 3 Grassi D.<br>Toward a coherent set of radiative transfer tools for the analysis of planetary atmospheres                                   |
| 09:30 - 09:50  | Talk 4 Piccioni G.<br>Results from VIRTIS on board Venus Express after the end of the mission operations  |

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| 09:50 - 10:10  | Talk 5 Fonti S.<br>Discussing the confidence in the identification of Martian CH <sub>4</sub> using TES data   |
| 10:10 - 10:30  | <b>Pausa caffè</b>   |
| 10:30 - 10:50  | Talk 6 Liuzzi G.<br>SIMULTANEOUS PHYSICAL RETRIEVAL OF ATMOSPHERIC AND SURFACE STATE FROM MARTIAN SPECTRA: THE $\varphi$ -MARS ALGORITHM: APPLICATION TO TES       |
| 10:50 - 11:10  | Talk 7 Moriconi M.<br>Unbiased estimations of atmosphere vortices: the Saturn's storm view by Cassini VIMS-V as a case study                                       |
| 11:10 - 11:30  | Talk 8 Oliva F.<br>CLOUDS AND HAZES VERTICAL STRUCTURE MAPPING OF SATURN'S 2011-2012 Giant vortex by Cassini VIMS  |
| 11:30 - 11:50  | Talk 9 Fabiano F.<br>CO concentration in the upper stratosphere and mesosphere of Titan: non-LTE analysis of VIMS dayside limb observations at 4.7 $\mu\text{m}$   |
| 11:50 - 12:10  | Talk 10 Moriconi M.<br>Climatological Study in the Titan Upper Atmosphere for HCN, C <sub>2</sub> H <sub>2</sub> , CH <sub>4</sub> and PAH Molecule Concentrations |
| <b>SESSIONE 5 : FORMAZIONE, ATMOSFERE, ESOPIANETI</b><br><b>Chairman: D. Turrini</b> |  |
| 15:10 - 15:30  | Talk 11 Simongini E.<br>Disequilibrium in planetary atmospheres and the search for habitability  |
| 15:30 - 15:50  | Talk 12 Pace E.<br>ARIEL: Atmospheric Remote-sensing Infrared Exoplanet Large-survey. A proposal for the ESA Cosmic Vision M4                                      |
| 15:50 - 16:10  | Talk 13 Claudi R.<br>FIRST SCIENCE WITH SPHERE   |

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| 16:10 - 16:30 | Talk 12 Poretti E.<br>LA RICERCA DI PIANETI EXTRASOLARI CON HARPS-N: il progetto GAPS  |
| 16:30 - 16:50 | <b>Pausa caffè</b>   |
|               | <b>SESSIONE 7: ESPLORAZIONE SISTEMA SOLARE ESTERNO</b><br><b>Chairman: F. Tosi</b>   |
| 16:50 - 17:10 | Talk 1 Christina Plainaki: "Bridging space weather to planetary environments"  |
| 17:10 - 17:30 | Talk 2 Gianrico Filacchione: "Temperature maps of Saturn's satellites"   |
| 17:30 - 18:10 | Talk 3 Federico Di Paolo: "Valutazione delle performance di RIME per la prospezione radar dei satelliti gioviani ghiacciati" |
| 18:10 - 18:30 | Talk 4 Pasquale Palumbo: "Science objectives and expected performances of the JANUS camera onboard JUICE"                    |
| 18:30 - 18:50 | Talk 5 Alice Lucchetti: "Simulation of Europa's water plume"   |
| 18:50 - 19:10 | Talk 6 Christina Plainaki: "The H <sub>2</sub> O and O <sub>2</sub> exospheres of Jupiter's moon Ganymede"                   |

**VENERDI' - 6 Febbraio**

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| <b>SESSIONE 7: IN-SITU EXPLORATION E ASTROBIOLOGIA</b><br><b>CHAIRMAN: E. FLAMINI</b> |   |
| 08:30 - 08:50   | Talk 1 Dotto E.<br>OSIRIS-REx: a NASA sample return mission to a Near Earth Asteroid  |
| 08:50 - 09:10   | Talk 2 Brucato J.<br>MarcoPolo-2D: Near Earth Asteroid Sample Return Mission in ESA   |
| 09:10 - 09:30   | Talk 3 Dirri F.<br>Micro-Thermogravimetry: a miniaturized technique for in-situ measurements of volatiles in planetary environments |
| 09:30 - 09:50   | Talk 5 Molinaro R.<br>Esperimento DREAMS: risultati preliminari dalle campagne di misure in Marocco.                                |



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| 09:50 - 10:10 | Talk 6 Preti G. Space exploration: the future as seen in 2015   |
| 10:10 - 10:30 | <b>Pausa caffè</b>  |
| 10:30 - 10:50 | Talk 7 Della Corte Vincenzo (INAF - IAPS) DUSTER: collection of meteoric CaO and carbon smoke particles in the upper stratosphere |
| 10:50 - 11:10 | Ferrari Marco (INAF-IAPS) Wild 2 grains characterized combining MIR/FIR/Raman micro-spectroscopy and FE-SEM/EDS analyses          |
| 11:10 - 11:30 | C. Guaita SHREIBERSITE AND THE ORIGIN OF LIFE   |
| 11:30 - 11:50 | V. Moggi Cecchi High pressure phases in a shock melted L6 chondrite from Northwest Africa: a combined Raman and EMPA study        |
| 11:50 - 12:30 | <b>DISCUSSIONE: FUTURI MEETINGS, ORGANIZZAZIONE</b>   |
| 12:30         | <b>ADJOURN</b>  |

**SESSIONE POSTER**

