



Il Colle di
Galileo

XV Congresso Nazionale di Scienze Planetarie

Florence, Polo delle Scienze Sociali, 4th-8th February
2019

Organizers:

Università degli Studi di Firenze

INAF – Istituto Nazionale di Astrofisica

IAPS – Istituto di Astrofisica e Planetologia Spaziali

Abstract. The 15th edition of the Italian National Congress of Planetary Science was held in Florence from the 4th to the 8th of February 2019. During the five-day meeting, the Italian science community of planetology discussed the major discoveries made over the last year and presented the latest results.

Keywords. Planetology, Solar System, Exoplanet, Astrobiology, Planets, Minor bodies, Comets.

(Text by John Brucato and Giovanni Poggiali)

This year, for the first time in its history, the 15th National Congress of Planetary Sciences was held in Florence, from the 4th to the 8th of February 2019 at the Polo delle Scienze Sociali. The congress is the annual meeting of the Italian planetology community to discuss the main topics of study involving national researchers. Planetology is an extensively multidisciplinary field of study that collects expertise from astrophysicists, geologists, biologists and many other specializations for the in-depth investigation of the processes of formation and evolution of the planets and other celestial bodies that form planetary systems.

Topics addressed during the five-day conference covered all the various aspects of planetology: the opening session was dedicated to exoplanet studies and extrasolar planetology, with the presentation of future missions and collaborations involving Italian scientists..

The second day's presentations concerned habitability and astrobiology, from the exoplanet atmospheres to the study of biomolecules and extremophilic bacteria.

The following days' researchers presented studies of the planets of our Solar System with the latest results on Jupiter's atmosphere from the JUNO mission and new studies on Mercury as part of the preparation for future exploration by the European probe BepiColombo.

The central moment was the presentation of new discoveries regarding the presence of liquid water under the surface of Mars by MARSIS, the Italian-guided radar instrument on board the European Mars Express spacecraft. The results were presented by Roberto Orosei, INAF-Bologna researcher and scientific co-coordinator of the instrument.

The final part of the congress was devoted to studies of asteroids and minor bodies of the Solar System both from a dynamic and explorative point of view. Presentations ranged from Near Earth Asteroids' ground observations to the continuous discoveries of the past missions Rosetta and Dawn, on comet 67P / Churyumov-Gerasimenko and asteroid Ceres respectively. The First results by the OSIRIS-REx mission on the primitive asteroid Bennu were also presented.

The congress ended with a session dedicated to the study of meteorites and laboratory techniques in support of the study and exploration of the Solar System. One of the many works in the programme was a laboratory study presented to investigate the spatial origins of natural quasicrystals, an important discovery by Luca Bindi, professor of the Department of Geology of the University of Florence.

With about 200 participants and over 500 scientists involved in the works presented, this edition of the Congress ranks first in terms of number of presences. The Congress has always been a unique opportunity to bring together the Italian scientific community specialised in planetology. One of its main purposes is to promote moments of debate and comparison in order to establish relationships and future collaborations.

Moreover, with extensive participation by young scientists, the congress remains one of the fundamental moments for new researchers to present their work to the community.



Figure 1. Conference opening ceremony. From left to right: Dr. Cinzia Zuffada, NASA-JPL; Prof. Piero Benvenuti, European Space Agency; Prof. Nicolò D'Amico, President of INAF - Istituto Nazionale di Astrofisica; Prof. Luigi Dei, Rettore dell'Università degli Studi di Firenze; Prof. Giovanni Pratesi, SOC President.