

Inter-Commission Committee on Planetary Geodesy (ICCPG)

President: **David Smith** (USA)
Vice-President: **Georges Balmino** (France)

Rationale

Geodesy of the planets of the solar system and their satellites is a domain of potential IAG expansion in view of the planetary missions, such as the present missions to Mars, the Moon and the giant planets, and the future missions to Mars, the Moon, Venus, Mercury, Titan, Saturn, the Galilean satellites, etc. A lot of data are already available, and provide the scientific community with a high potential for understanding these planets or satellites, and their evolutions. It is recognized in the scientific community that there is a need to understand the internal structure and crustal evolution of these planets and satellites, their rotation and variations (length-of-day, polar motion, precession-nutation or libration), their surface shape and gravity field, and to establish reference frames for them. The interpretation of the data in terms of their deep interior or shallow interior and their surface evolution has led to unprecedented results. For some of them, such as Mars or Europa, these are of great importance for studying the climate, the existence of water, and the possibility of life and its evolution. The comparison between the planets, including the Earth, has additionally brought considerable interesting and important information to the attention of the scientific community. In addition, the recent progress in analyzing and interpreting the data collected has made the role of planetary geodesy much more prominent in mission design and indicated the need for its continued involvement in planetary missions and operation.

These opportunities must be recognized by the IAG. This is particularly important because the planetary geodesy community has no home within the IUGG. Providing a home for this group within IAG will not only attract these scientists to IAG but it will also increase the visibility of, and respect for, our Association. Recognizing these potential benefits, it is proposed that the IAG EC approve the creation of an ICC on Planetary Geodesy within the IAG.

Terms of Reference

The ICC on Planetary Geodesy will:

1. Support the geodesy of the planets of the solar system and their satellites;
2. Encourage and coordinate research in that domain, in particular the establishment of reference frames to support mapping, navigation and scientific studies con-

cerned with the gravity field, the topography, interior structure, rotation and dynamics of these bodies;

3. Help the IAG in articulating the challenges in planetary geodesy in view of the missions prepared by the space agencies;
4. Guide the planetary geodesy community in the planning and realization of proposed planetary geodetic mission(s);
5. Provide planetary geodesy with a framework for standards, conventions, and where resolutions can be developed in the associated sciences;
6. Bring the attention of the planetary geodesy community within the IAG to the synergy between planetary geodesy and the other components of IAG;
7. Serve as an interface with scientists in other areas of planetary or Earth science, and provide a link to sister organizations such as the IAU, IAF (International Astronautical Federation), Space Agencies, and others.

Steering Committee

President: David Smith (USA)
Vice-President: Georges Balmino (France)
Commission 3 Rep.: Ozgur Karatekin (Turkey)

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