## ***Laudataury speech on Véronique Dehant***

by Nicole Capitaine, Observatoire de Paris

Your excellency the Ambassador of Germany to France, Mrs the Director of the Classe of science of the Royal Academy of Belgium, Mr the NASA attaché to the US embassy in Paris, M. le Président de l'Observatoire de Paris, ladies and gentlemen, dear Colleagues, dear friends,

It is a great pleasure and a great honor for me to give the laudatory speech for the award of the title of Dr Honoris Causa of Paris Observatory to Véronique Dehant, who is recognized as being at the highest international level in the field of Earth rotation and planetary geodesy and who is also a very good Colleague and friend.

Véronique Dehant was born in Brussels in 1959. She made her studies in mathematics and physics at the Catholic University of Louvain, she obtained her PhD and tenure in the same university and then she has worked as a researcher, being at the Royal Observatory of Belgium since 1993, where she became, one year later, the Head of the operational directorate "Reference Systems and Planetology". She is also Extraordinary Professor at the Catholic University of Louvain and Part-time Lecturer at other Universities. She is a member of the Royal Academy of Sciences of Belgium.

A part of Véronique's researches is related to the interior structure of the Earth, its free oscillations, the internal convection and the influence of geophysical fluids, mantle rheology and structure of the core on the rotation of the Earth, on its tides and deformations. It is also related to the realization of the terrestrial and celestial reference systems, which is essential to the best geophysical interpretation of the observations.

Véronique has achieved major and remarkable results in this field, which are basis references nowadays. Among her major contributions, her work on nutation in response to the Earth's internal structure should be especially mentioned. She has, in this field, chaired and conducted in an exceptional way, for eight years, an International Working Group on "Nutation for a non-rigid Earth", the results of which have been acknowledged by the prestigious Descartes Prize 2003 of the European Union.

While continuing her work related to the dynamic of the Earth, Véronique has broadened her research field to planetary science. She participates, in an extremely active way, with her team and in close collaboration with many institutions in the world, in the scientific preparation, as Principal Investigator or Co-Investigator, of several global programs of ESA, such as *BepiColombo* to Mercury, *Venus Express*, *Mars Radio Science Experiment*, etc. Véronique is making outstanding contributions to the development of highly innovative models of the internal structures of these planets and of coupling mechanisms between their various layers. In addition, she is also involved in the concept of habitability of planets.

Véronique is the author of more than 140 publications with collaborators from around the world in journals with peer review, of an equivalent number of publications in Proceedings of international symposia, and of an impressive list of invited presentations. She was also the principal editor of a Geophysical Monograph book, and is a co-author, with Prof. Mathews, of a book on nutation to be published at the beginning of 2015, which is expected to become the standard work on the subject for many years.

The exceptional scientific and personal qualities of Véronique Dehant led her to play a key role in organizing and coordinating the scientific area which lies on the border between astronomy, geodesy, geophysics, planetary and space sciences. Her scientific and educational qualifications, her enthusiasm for research, her dynamism and her great organizational skills led her also to motivate many young researchers to undertake new research. The post-doctoral stays made in her team by young researchers from all over the world and working in the discipline have represented for many of them an experience absolutely crucial for the continuation of their careers.

Véronique was awarded a wide range of prizes including the Descartes Prize already mentioned, reflecting the outstanding quality of her research and the diversity of her contributions. An asteroid has also been named Dehant in her honor.

She has been member of a large number of Belgian, European and international committees in geodesy, geophysics and space research, where she has taken several international responsibilities at President level. She was a member of the *Haut Comité scientifique* of Paris Observatory, Council of Scientific Programs of CNES and is currently a member of the Space Science Advisory Committee of ESA.

Véronique has close scientific collaborations with many French institutions, including the French Research Group in Space Geodesy and several teams from Observatoire de Paris, especially at SYRTE Department and the Institute IMCCE, from which she has supervised many post-doctoral researchers and has been member of many PhD or habilitation Committees. She is also a Corresponding member of the *Bureau des Longitudes* and a member of the Scientific Organizing Committee of the *Journées Systèmes de référence spatio-temporels*, regularly organized or co-organized at the international level by Paris Observatory.

Her link with Paris Observatory is especially strong. This has resulted in various collaborative scientific works and publications, as well as co-supervisions of PhD students and post-docs, some of whom are here today.

On behalf of all my colleagues, I would like to convey our congratulations to Véronique Dehant for her outstanding contributions to research in the field of Earth rotation, planetary geodesy and reference systems, which we had the opportunity to assess in several contexts, as well as for her deep involvement in the international scientific cooperation and especially her continuous scientific cooperation with Paris Observatory. I hope that this cooperation will continue through the younger generation who is already involved in many collaborative projects.

Véronique, I am very glad to warmly congratulate you for obtaining the title of Doctor *Honoris Causa* of Paris Observatory that you deserve so beautifully.