



COLLÈGE
DE FRANCE
1530

CHAIRE DE PHYSIQUE DE L'INTÉRIEUR DE LA TERRE

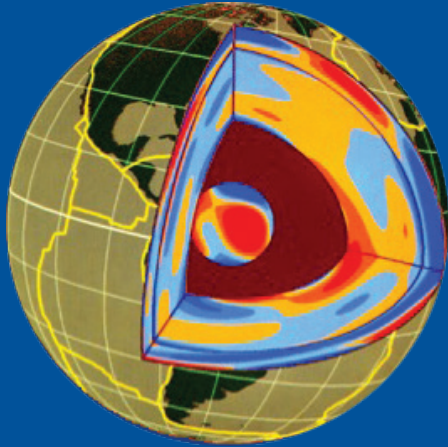
Année académique 2014-2015

Pr Barbara ROMANOWICZ

Structure and Dynamics of Earth-like Planets

Colloque en anglais - Workshop in English
Organisé avec Philippe Lognonné, IPGP

Jeudi 20 et vendredi 21 novembre 2014.
Amphithéâtre Marguerite de Navarre.



Thursday, November 20th, 2014

09h00 Introduction Barbara Romanowicz, *Collège de France*

Session 1: The Moon

Chair: Chloé Michaut, *IPG, Paris*

- 09h05 New Results from NASA's Lunar Gravity Mapping Mission GRAIL
Mark Wieczorek, *IPG, Paris*
- 09h40 Moon Internal Structure from Apollo Seismic Data: a Corner Stone for Planetary Seismology
Raphaël Garcia, *Toulouse*
- 10h15 Towards a Mineral Physics Reference Model for the Moon's Core
Daniele Antonangeli, *UPMC, Paris*
- 10h50 Coffee Break

Session 2: Venus and Mercury

Chair: Jacques Laskar, *Observatoire de Paris*

- 11h20 Structure and Dynamics of the Interior of Mercury: What we Have Learned from the Messenger Mission
Sean Solomon, *LDEO, Columbia University, USA*
- 11h55 Constraints on the Interior Dynamics of Venus
Sue Smrekar, *JPL, Pasadena, USA*
- 12h30 Lunch

Session 3: Mars

Chair: Antoine Mocquet, *University of Nantes*

- 14h00 Volcanism on Mars and Early Oxidation of its Upper Mantle
Bernard Wood, *University of Oxford*
- 14h35 Enigmatic Martian Mantle Reservoirs: Can Dynamic Models Help?
Doris Breuer, *DRL, Berlin*
- 15h10 The InSight Mission: Exploring the Interior of Mars
Bruce Banerdt, *JPL, Pasadena, USA*
- 15h45 Coffee Break

Session 4: Icy Moons and Rocky Exoplanets

Chair: Lapo Boschi, *UPMC*

- 16h10 Dynamics and Evolution of Jupiter's and Saturn's Icy Moons
Gabriel Tobie, *University of Nantes*
- 16h50 Constraining the Interior Structure of Rocky Exoplanets: the Inverse Approach
Caroline Dorn, *University of Bern*
- 17h15 Poster Session (rooms 7-8)

Friday November 21st, 2014

Session 5: Planetary Dynamics

Chair: Anne Davaille, *University Paris Sud, Orsay*

- 09h00 Rotation and Interior of Terrestrial Planets
Veronique Dehant, *Observatoire Royal de Belgique*
- 09h35 Observations and Geodynamic Interpretation of Rapid Plate Motion Variations
Peter Bunge, *University of Munich*
- 10h10 Strain Dependent Strength Profiles: Implications for Planetary Tectonics
Laurent Montesi, *University of Maryland, USA*
- 10h45 Coffee Break

Session 6: Planetary Composition and Mineralogy

Chair: James Badro, *IPG, Paris*

- 11h15 Planetary Accretion Models and the Mineralogy of Planetary Interiors
Daniel Frost, *University of Bayreuth*
- 11h50 Transport in the Earth's Core
Dario Alfe, *University College, London*
- 12h25 Lunch

Session 7: Dynamics of Planetary Cores

Chair: Julien Aubert, *IPG, Paris*

- 13h50 Magnetic Fields – a Window into the Deep Interior of Planets
Ulrich Christensen, *Max Planck Institute, Göttingen*
- 14h25 Turbulence in Planetary Cores'
Henri Claude Nataf, *University Joseph Fourier, Grenoble*
- 15h00 Coffee Break

Session 8: Dynamics of Planetary Cores II

Chair: Alexandre Fournier, *IPG, Paris*

- 15h30 Dynamics of Earth' Interior and Geodynamo
Bruce Buffett, *U.C. Berkeley, USA*
- 16h10 Integrated Approach to Understanding the Composition and Dynamics of Planetary Cores
Yingwei Fei, *Geophysical Lab., Washington*
- 16h40 Melting in Super-Earth Exoplanets
Lars Stixrude, *University College, London*
- 17h00 Panel Discussion
Tilman Spohn, *DLR, Berlin*, Philippe Cardin, *University Joseph-Fourier Grenoble*, Philippe Lognonné, *IPG, Paris*, Stéphane Mazevet, *Observatoire de Paris*, Lars Stixrude, *UCL*, Barbara Romanowicz, *Collège de France / IPG, Paris*