Matthieu Laneuville

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Profile

I am a geodynamicist with a backgroud in physics. I have developed strong modeling skills and expertise in planetary sciences. In the next years, I will integrate the geophysical consequences of life in the geodynamic evolution of the Earth, considering both aspects as part of the same system. To date, my work involved aspects of the evolution of Mercury, the Earth and the Moon. I seek an academic position involving both research and teaching in a vibrant intellectual environment.

Employment

2015-present Project Assistant Professor, Earth Life Science Institute (Tokyo Institute of Technology)
- co-chair of ELSI's 4th International Symposium "Planets as Integrated Systems"
- member of the research interaction committee to promote collaborations

2014-2015 Research Scientist, Earth Life Science Institute (Tokyo Institute of Technology)
- organization of an "English lunch" for Japanese students, and several social activities
- part of meeting series to improve inter-disciplinary understanding/communication
- lead of a discussion group to model the Earth as a system, including the biosphere

Education

Ph.D. *Thermochemical Evolution of the Moon*, Institut de Physique du Globe de Paris (IPGP) **2010-2013**

Collaboration between IPGP (M. Wieczorek) and the DLR (D. Breuer).
Received with jury's honours (C. Jaupart, S. Labrosse, T. Spohn, J. Aubert).

M.Sc. *Physics*, Université Pierre et Marie Curie (UPMC), Paris, France **2008-2010**

Internship at Institut de Physique du Globe de Paris (IPGP), with Mark Wiezorek.
Internship at German Aerospace Center (DLR), with Doris Breuer.

B.Sc. *Physics*, Université de Provence I, Marseille, France **2005-2008**

Exchange student at Ottawa University, Canada, for 1 year.

Awards/Grants

2015 Itoh Foundation Fellow (JPY 400,000)
2015 ELSI's Director Fund for Multidisciplinary Studies (JPY 500,000)
2013 Co-PI HLRN Supercomputer Access (1,200k hours)
2012 Co-PI JSC Supercomputer Access (384k hours)
2012 CNES Alpbach Summer School Fellow (EUR 1,100)

Professional duties

2015 Co-chair for ELSI's 4th International Symposium
2015 Reviewer for JGR Planets, PSS
2014 Contributions for outreach articles in French and German newspapers
2014 Reviewer for JGR Planets, PEPI
2010 Co-chair for IPGP's "Congrès des Doctorants"

Teaching

2011 Course Assistant for 1st year Computing Tools students
2010 Course Assistant for 2nd year Mathematics students

Publications

[8] Guttenberg N., Laneuville M., Ilardo M. & Aubert-Kato N. Transferable measurements of heredity in models of the origins of life. **PLoS ONE** (in press).

[7] Bocanegra-Bahamon T., Bracken C., Costa Sitja M., Dirkx D., Gerth I., Konstantinidis K., Labrianidis C., Laneuville M., Luntzer A., MacArthur J., Maier A., Morschhauser A., Nordheim T., Sallantin R. & Tlustos R. MUSE – Mission to the Uranian system: unveiling the evolution and formation of ice giants. **Adv Space Res** 55, 2190-2216 (2015).

[6] Arridge C., et al. (114 authors). The science case for an orbital mission to Uranus: exploring the origins and evolution of ice giant planets. **Planet Space Sci** 104, 122-140 (2014).

[5] Laneuville M., Wieczorek M., Breuer D., Aubert J., Morard G. & Rueckriemen T. A long-lived lunar dynamo powered by core crystallization. **Earth Planet Sci Lett** 401, 251-260 (2014).

[4] Laneuville M., Wieczorek M., Breuer D. & Tosi N. Asymmetric thermal evolution of the Moon. **J Geophys Res** 118, 1435-1452 (2013).

[3] Miljkovic K., Wieczorek M., Collins G., Laneuville M., Neumann G., Melosh J., Solomon S., Phillips R., Smith D. & Zuber M. Asymmetric distribution of lunar impact basins caused by variations in target properties. **Science** 342, 724-726 (2013).

[2] Le Bars M., Wieczorek M., Karatekin O., Cebron D. & Laneuville M. An impact-driven dynamo for the early Moon. **Nature** 479, 215-218 (2011).

[1] Grott M., Breuer D. & Laneuville M. Thermo-chemical evolution and global contraction of Mercury. **Earth Planet Sci Lett** 307, 135-146 (2011).

Conference Talks

[7] Laneuville M., Hernlund J., Labrosse S. & Guttenberg N. Effect of a fractionated basal magma ocean on the Earth dynamo. **12th Asia Oceania Geoscience Society Annual Meeting**, Singapore, Singapore (2015).

[6] Laneuville M., Foriel J., Fujii Y. & Virgo N., Energy and entropy flows in planets. **11th Rencontres du Vietnam**, Quy Nhon, Vietnam (2015).

[5] Laneuville M., Wieczorek M., Breuer D., Aubert J., Morard G. & Rueckriemen T. A long-lived lunar dynamo powered by core crystallization. **45th Lunar and Planetary Science Conference**, Houston, USA (2014).

[4] Laneuville M., Wieczorek M., Breuer D. & Tosi N. Asymmetric thermal evolution of the Moon. **44th Lunar and Planetary Science Conference**, Houston, USA (2013).

[3] Laneuville M., Wieczorek M., Breuer D. & Tosi N. Asymmetric thermal evolution of the Moon. **Geodynamics Workshop**, Wandlitz, Germany (2012).

[2] Laneuville M., Wieczorek M., Breuer D. & Tosi N. Asymmetric thermal evolution of the Moon. **Planetary Volcanism Workshop**, Toulouse, France (2012).

[1] Laneuville M., Breuer D. & Grott M. Thermo-chemical evolution and global contraction of Mercury. **European Planetary Science Congress**, Rome, Italy (2010).