

CURRICULUM VITAE

LENNART DE GROOT

UTRECHT UNIVERSITY

UTRECHT, THE NETHERLANDS

L.V.DEGROOT@UU.NL

HISTORY OF EMPLOYMENT

- 2016 – today Assistant professor, paleomagnetic laboratory Fort Hoofddijk, department of Earth Sciences, Utrecht University, the Netherlands.
- 2013 – 2016 Postdoctoral research fellow at paleomagnetic laboratory Fort Hoofddijk, including a visiting Research Fellowship at the Paleomagnetic lab of Scripps Institute of Oceanography, UCSD, La Jolla, USA, working together with prof. Lisa Tauxe.
- 2012 – 2013 Extension of my PhD project to compensate the time invested as lecturer for the course '*Mathematics for Earth Sciences*' for three years in a row.
- 2008 – 2012 PhD candidate at paleomagnetic laboratory Fort Hoofddijk. PhD project: '*A new approach for determining the absolute paleointensity of the Earth's magnetic field*' under supervision of dr. Mark J. Dekkers and prof.dr. Cor G. Langereis.
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ACADEMIC DEGREES

- 2008 – 2013 PhD in Geophysics, *cum laude* (top 3 to 5%), Universiteit Utrecht, date of defense: 6 September 2013. Dissertation: High-resolution records of non-dipole variations in the intensity of the Earth's magnetic field, ISBN: 978-90-6266-332-3.
- 2007 – 2008 Master program Geophysics, Universiteit Utrecht. GPA: 4.0. One semester of the program was done at Colorado School of Mines, Golden, CO, USA.
- 2002 – 2007 Bachelor program Earth Sciences, Universiteit Utrecht. Graduated in May 2007.
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NARRATIVE OF RESEARCH EXPERIENCE

My research career focuses on the Holocene evolution of the Earth's magnetic field; I am especially intrigued by its rapid, regional variations, such as the South Atlantic Anomaly. My most important contributions are in the development of new paleointensity methods and in unravelling rock-magnetic processes that hamper these experiments. After obtaining my PhD in 2013, I received a prestigious VENI grant from the Netherlands Organisation for Scientific Research (NWO) to continue my work on geomagnetic anomalies. During my VENI research project I provided the proof-of-concept for 'Micromagnetic Tomography', a new technique that makes it possible to determine the magnetizations of individual grains inside a lava. To establish this new method as paleomagnetic and rock-magnetic technique I received a Starting Grant of the European Research Council in 2019. Also in 2019, I received a VIDI grant from NWO to extend my research on geomagnetic anomalies.

As researcher I find it important to bring science in general and my field of research in particular to the general public. Over the past years I featured in programs on (Dutch) national television and radio explaining my research for both children and adults. I also contributed to articles in popular science magazines and gave lectures at high schools in and around the city of Utrecht.

Another important part of being a scientist is scientific leadership. I had an active role in the discussion on Open Access publishing (Plan-S) in the Netherlands, including an opinion piece in a leading Dutch newspaper, a live interview on national radio and a presentation for members of the Dutch House of Representatives. Furthermore, I was lead organizer of the International Conference on Rock Magnetism 2017 held in Utrecht.

KEY PUBLICATIONS

The selected publications below reflect my scientific breakthroughs that were instrumental to my successful ERC StG application (de Groot et al., 2018), and the groundbreaking results from my PhD and postdoc research projects (de Groot et al., 2013, 2014). Furthermore, they show my efforts towards Open Science by providing a new Open Source software package to interpret common datasets in my field of research, first-authored by my PhD candidate (Béguin et al., 2020); and my capabilities to work in an interdisciplinary team with colleagues from within and outside the Earth Sciences (van Hinsbergen et al., 2015).

de Groot, L.V., Fabian, K., Béguin, A., Reith, P., Barnhoorn, A., Hilgenkamp, J.W.M., 2018: Determining individual particle magnetizations in assemblages of micro-grains, **Geophysical Research Letters**, 45, doi: 10.1002/2017GL076634.

de Groot, L.V., Fabian, K., Bakelaar, I.A., Dekkers, M.J., 2014: Magnetic Force Microscopy reveals meta-stable magnetic domain states that prevent reliable absolute palaeointensity experiments, **Nature Communications**, 5, p. 1-10, doi: 10.1038/ncomms5548.

de Groot, L.V., Biggin, A.J., Dekkers, M.J., Langereis, C.G. and Herrero-Bervera, E., 2013: Rapid regional perturbations to the recent global geomagnetic decay revealed by a new Hawaiian record, **Nature Communications**, 4, p. 1–7, doi: 10.1038/ncomms3727.

Béguin, A., Paterson, G.A., Biggin, A.J., **de Groot, L.V.**, 2020: Paleointensity.org: an online, open source, application for the interpretation of paleointensity data, **Geochemistry, Geophysics, Geosystems**, 21, doi: 10.1029/2019GC008791.

van Hinsbergen, D.J.J., **de Groot, L.V.**, van Schaik, S.J., Spakman, W., Bijl, P.K., Sluijs, A., Langereis, C.G., and Brinkhuis, H., 2015: A paleolatitude calculator for paleoclimate studies, **PLoS ONE**, 10(6): e0126946, doi:10.1371/journal.pone.0126946.

HONORS

2019 **ERC (European Research Council) – Starting Grant:** *'Paleomagnetism and rock-magnetism by Micro-Magnetic Tomography' (MIMATOM)*, **k€ 1,820**, PI.

2019 **NWO (Netherlands Organization for Scientific Research) – VIDI:** *'The Spatial and Temporal Evolution of Geomagnetic Anomalies'*, **k€ 800**, PI.

2018 **NWO – Open Competition Earth and Life Sciences:** *'Unravelling magnetic behaviour of igneous rocks by Micromagnetic Tomography'*, **k€ 329**, PI.

2018 **AGU – William Gilbert Award 2018** - The William Gilbert Award is given annually to one honoree in recognition of 'outstanding and unselfish work in magnetism of Earth materials and of the Earth and planets' by the Geomagnetism, Paleomagnetism and Electromagnetism section of the AGU.

2018 **NWO – DeepNL** - 'Probing the micromechanics of small magnitude earthquake slip', **725 k€**, co-PI.

2016 **NWO – Vening Meinesz prize 2016** –The Vening Meinesz prize is a bi-annual talent award for an outstanding young researcher in Earth Sciences in the Netherlands within six years after obtaining his/her doctorate degree, **10 k€**.

2015 **NWO – VENI** - *'Capturing short-lived treats of the Earth's magnetic field'*, **250 k€**, PI.

2013 **NWO – ISES** – *'Vibrating Sample Magnetometer including expertise'*, **232 k€**, co-PI.

PROFESSIONAL SOCIETY MEMBERSHIPS

- American Geophysical Union
- European Geosciences Union