

Curriculum Vitae

Marla Metternich

Ph.D computational geophysics
ETH Zürich, Switzerland

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PROFESSIONAL EXPERIENCE

2023 – present

Ph.D Geophysics, ETH Zürich

Advisor: prof. Paul J. Tackley (ETH)

EDUCATION

2020 - 2023

MSc Earth, Structure & Dynamics, Utrecht University, the Netherlands (Cum Laude: 4.0/4.0 GPA)

- Thesis: *'The effects of intrusive magmatism and water on the dynamics and evolution of Venus'*. (Grade: 8.1/10.0)
Advisors: prof. dr. Paul J. Tackley, ETH Zürich & dr. Cédric Thieulot, Utrecht University
- Internship project: *'Evaluation of magnitude scales for small earthquakes in Groningen'*. (Grade 8.3/10.0)
Advisors: dr. Elmer Ruigrok, Royal Dutch Meteorological Institute & prof. dr. Arwen Deuss, Utrecht University.
- Research project: *'Reversed flux patch in the magnetic field model COV-OBS.x1 and the locked geodynamo: a qualitative study'*. (Grade: 9.0/10.0)
Advisors: dr. Lennart V. de Groot, Utrecht University & prof. dr. Chris Davies, University of Leeds.
- Report written *'Evaluating computational techniques within FDM and FEM by modelling advective-diffusion systems'* (Grade 8.5/10.0)
- Report written *'Thermal convection of an incompressible fluid in a 2D box'*. (Grade 8.4/10.0)
- Proposal written *'Thermal control of the lower mantle on the occurrence of the low-intensity region SAA'*. (Grade 8.3/10.0)
- Report written *'Reviewing the forces and parameters driving the deformation in the Aegean-Anatolian tectonic region'*. (Grade 7.0/10.0)

2016 - 2019

BSc Earth Sciences, Utrecht University, the Netherlands (4.0/4.0 GPA)

- Thesis: *'Constraints on the Martian lithosphere beneath Olympus Mons using flexure and gravity field modelling'*. (Grade 8.0/10.0)
Advisors: dr. ir. Bart Root, TU Delft & dr. Cédric Thieulot, Utrecht University.
- Course *'Differential equations in Earth Sciences'*. (Grade 8.4/10.0)
- 2nd year geology fieldwork. (Grade 8.0/10.0)
- 1st year geology fieldwork: *'The faults and folds in Aliaga: normal faults and multiple folding events'*. (Grade 7.4/10.0)

CONFERENCE CONTRIBUTIONS

- [01.2024](#) *Rocky Worlds 3*
- [11.2023](#) Swiss Geoscience Meeting 2023, Mendrisio, session 1 'Structural Geology, Tectonics & Geodynamics', *oral presentation 'The effects of water on the tectonic regime of Venus'*.
- [5.2023](#) European Geoscience Union (EGU) 2023 General Assembly, Vienna, session PS4.2, *poster 'The effects of intrusive magmatism and water on the tectonic regime of Venus'*.

EXTRACURRICULAR ACTIVITIES

[2021 - 2022](#) Student Ambassador MSc Earth, Structure & Dynamics, Utrecht University

As a student ambassador of my master program, I acted as mediator between the program and the upcoming students. I answered their questions and shared my experiences regarding the program, both on the master's Open Days and continuously via an online chat platform.

- [Testimonial](#)

[2020 - 2021](#) Participant Graduate Honours Interdisciplinary Seminars, Utrecht University

The extracurricular GHIS program brings together master students from a broad range of disciplines to work on societal relevant and challenging topics. The aim is to view the cases from an interdisciplinary perspective to then think of an applicable and appropriate solution. The entry was competitive and based on motivation letter, academic CV, and degree of personal and academic uniqueness in order to create an environment as diverse and interdisciplinary as possible. Students were selected after an interview in the form of a group discussion.

- **Workshop** 'Connecting interdisciplinary research and education', dr. Merel van Goch
- **Seminar** 'COVID-19 and its influence on society'
- **Seminar** 'Complex systems: anomalous dynamics'
- **Seminar** 'Climate Change & the Anthropocene'
- **Interdisciplinary research grant proposal:** *'Managing the threats of the climate emergency on tangible, cultural heritage: developing an innovative preservation framework for Bangladeshi sites at risk.'*

SKILLS

- Programming experience in Fortran, Python, MATLAB
 - Fortran, course 'Numerical modelling in Fortran', ETH Zürich
 - Fortran, course 'Programming & modelling of Earth's processes', Utrecht University (Grade 7.3/10.0)
 - Python, course 'Data processing & Inverse Theory', Utrecht University (Grade 9.4/10.0)
 - MATLAB, used in BSc thesis project; internship project; MSc thesis project.
- Proficient in LaTeX, Microsoft Office
- Experience with Affinity Designer
- Experience with HPC facilities
 - Euler, ETH Zürich, Switzerland
 - Tesla, Palaeomagnetic Laboratory, Utrecht University, the Netherlands

FURTHER EDUCATION & TRAINING

- Course '[Shape your doctorate: Managing your projects, research & time](#)', dr. Olga Pardo & Peter Dorthé, ETH Zürich
- Workshop 'Neurological bases of stress & stress management', dr. Ariane Orosz, ETH Zürich
- Workshop 'Developing scientific writing skills at doctoral level', dr. Kimberly Lewis, ETH Zürich
- Workshop 'Energy Management', Jacky Limvers, Utrecht University

OTHER

- Received **mobility funding**, ETH Zürich, Switzerland
- Coffee **training**, KEEN coffee, Utrecht, the Netherlands
- Wine/beer tasting **training**, restaurant BROEI, Utrecht, the Netherlands
- **Mentor** first-year Earth Science students, U.A.V., Utrecht University
- **Mentor** first-year students, Utrecht Introduction Time (UIT), Utrecht
- **Treasury secretary** for first-year committee of study association, U.A.V., Utrecht University