

Nicola M. Allen

Doctoral candidate in noble gas cosmochemistry

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Education

- 2021-2025 **PhD in Cosmochemistry**, ETH Zürich, Switzerland
- Focus on noble gases in micrometeorites, interplanetary dust particles and in experimentally aqueously altered meteorite material
 - Use of additional techniques including ultramicrotomy, Raman spectroscopy and NanoSIMS
- 2017-2021 **MSci in Geology** with Study Abroad
- Department of Earth Sciences, University of Bristol, UK
Department of Geology, University of Otago, New Zealand
- *MSci Thesis: Investigating the role of asteroid interiors on slopes affected by seismic shaking*
 - *BSc thesis: The Geology of Ullapool*

Peer-reviewed publications

Allen, N. M., Riebe, M. E.I., Foustoukos, D. I., Mertens, C. A.K., Busemann, H., Alexander, C. M.O'D., Cody, G. D., Maden, C. (2023) Temperature dependent loss of noble gases from insoluble organic matter and presolar grains during hydrothermal alteration. *Earth and Planetary Science Letters* 624:118460.

Conference abstracts

Allen, N. M., Riebe, M. E.I., Väisänen, S. T., Kohout, T., Suhonen, H., Taylor, S., Maden, C., Busemann, H. (2024). Atmospheric entry heating in Antarctic micrometeorites. *86th Annual Meeting of The Meteoritical Society 2024*, abstract 6204.

Riebe, M., **Allen, N.** Maden, C., Cody, G. (2024) Linking meteorite noble gases to atmospheric entry temperatures: an experimental study. *86th Annual Meeting of the Meteoritical Society 2024*, abstract 6249.

Kipfer, K. A., Ligterink, N. F.W., Riebe, M. E.I., **Allen, N. M.** (2024) The origin of Insoluble Organic Matter: Formation of macromolecules from heavily irradiated simple ices. *Europlanet Science Congress 2024*, abstract 174.

Krzesińska, A. M., Tyimiński, Z., **Allen, N. M.**, Busemann, H., Maden, C., Stachowicz, M., Kusiak, M. A., Lee, S. (2024) Collisional history of L chondrite Antonin inferred from K-Ar, U,Th-He and phosphate U-Pb dating. *86th Annual Meeting of The Meteoritical Society 2024*, abstract 6168.

Allen, N. M., Riebe, M. E.I., Foustoukos, D. I., Busemann, H., Alexander, C. M. O'D., Cody, G. D., Maden, C. (2022) Noble gases in hydrothermally altered Murchison (CM2) insoluble organic matter. *84th Annual Meeting of The Meteoritical Society 2022*, abstract 6215;

Allen, N. M., Susorney, H., Teanby, N. (2021) The role of regolith thickness in seismic shaking on asteroids. *Europlanet Science Congress 2021*, vol 15, abstract 118.

Talks

2023/05 Noble gas losses in experimentally hydrothermally altered Murchison (CM2) insoluble organic matter, **Gordon Research Seminar**, USA

Grants and awards

2024 Barringer Crater Company Travel Award (800 USD) to attend the 87th Annual Meeting of the Meteoritical Society

2023 Gordon Research Seminar and Conference travel support (1235 USD) to attend the Origins of the Solar System meeting

2022 Barringer Crater Company Travel Award (1000 USD) to attend the 85th Annual Meeting of the Meteoritical Society

Teaching

2022-2024 Teaching assistant in Erdwissenschaftliche Datenanalyse und Visualisierung mit Python (*Earth science data analysis and visualisation with Python*)

Departmental activities

2024-present Member of the Department Conference as a representative of the Academic Association of Scientific Staff at the Department of Earth Sciences

2024-present Member of the Welcoming Committee of Academic Association of Scientific Staff at the Department of Earth Sciences

2023-2024 Lead organiser for the 2024 Doctoral Retreat of the Department of Earth Sciences at ETH Zürich

- Bringing together early career scientists across the department for a 4-day event
- Organisation of scientific and social programmes, logistics, and finances

Additional Work and Volunteering Experience

2017 **Youth Worker**, Disability Challengers

- Working to provide young, disabled people (aged 13-18) enjoy safe and engaging activities which provide opportunities usually denied to them
- Attended courses in safeguarding and behaviour management

2013-2020 **Guide Leader** (UK and NZ)

- Volunteering on a weekly basis to organise meetings and activities for girls aged 10-14

2017 **Activities Support Team Member**, Scoutabout

- Supervising activities at a camp with over 6000 Scouts and Guides

Languages

English, native

German, intermediate (B1)