Natalie H. Raia, Ph.D.

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A metamorphic geologist by training, my current work focuses on studying the physical sample collection and reuse practices of scientists to inform improvements to the functionality and usability of next-gen digital sample and data repositories. I also conduct mapping of data systems to support increased interoperability and lead efforts to develop infrastructures, policies, and guidelines that support scientists in making their data more discoverable and reusable. I bring a breadth of international research and service experience with groups such as the Research Data Alliance, Earth Science Information Partners, AGU, and administrative academic units.

PROFESSIONAL INTERESTS

Digital archival and management of geomaterials; cyberinfrastructure for the earth sciences; data standards; natural history collections; geochemistry; geoinformatics

PROFESSIONAL APPOINTMENTS

2023 – present   Postdoctoral Research Associate II
College of Information Science, University of Arizona
Tucson, AZ, USA

2019 – 2020   Predoctoral Fellow, Department of Mineral Sciences
National Museum of Natural History, Smithsonian Institution
Washington, D.C., USA

EDUCATIONAL BACKGROUND

2023   Ph.D., Earth Sciences (Metamorphic Geology and Tectonics)
University of Minnesota- Twin Cities

2016   B.S., Geological Sciences (with Special Honors)
The University of Texas at Austin

2016   B.A., Plan II Liberal Arts Honors
The University of Texas at Austin

ADDITIONAL RESEARCH EXPERIENCE

2016 (6 weeks)   Misasa International Student Internship Program
Institute for Planetary Materials, Okayama University, Japan

2015 (5 months)   Undergraduate Research Student, Research School of Earth Sciences
Australian National University, Canberra, Australia

2014 (2 months)   Undergraduate Researcher, Juneau Icefield Research Program
University of Alaska Southeast, Juneau, Alaska, USA

2013 – 2016   Undergraduate Research Assistant, High-Temperature Stable Isotope Lab
Jackson School of Geosciences, University of Texas at Austin

SELECT PUBLICATIONS AND OUTPUTS

Damerow, J., **Raia, N.H.**, Stanley, V., Byers, N., Choe, S., Edmunds, R., et al. Opening Doors to Physical Sample Data Discovery, Integration, and Credit. *In review* at Nature Scientific Data. https://doi.org/10.31223/X5ST2K

Vrouwenvelder, K., **Raia, N.H.**, Thomer, A.K. Challenges to dataset citation using bibliographic management software. *In prep* for Data Science Journal.

Damerow, J., **Raia, N.H.**, Stanley, V., Byers, N., Choe, S., Edmunds, R., et al. (2024). A Scientific Author Guide for Publishing Open Research Using Physical Samples. ESIP. Online resource. https://doi.org/10.6084/m9.figshare.24669057

Raia, N.H. Records of fluid-rock interaction in an oceanic subduction complex. (2023). PhD Dissertation. University of Minnesota.

Raia, N.H., Whitney, D.L., Teyssier, C., Lesimple, S. (2022). Serpentinites of different tectonic origin in an exhumed subduction complex (New Caledonia, SW Pacific). Geochemistry, Geophysics, and Geosystems. https://doi.org/10.1029/2022GC010395

Cooperdock, E. H., **Raia, N. H.**, Barnes, J. D., Stockli, D. F., & Schwarzenbach, E. M. (2018). Tectonic origin of serpentinites on Syros, Greece: Geochemical signatures of abyssal origin preserved in a HP/LT subduction complex. Lithos. https://doi.org/10.1016/j.lithos.2017.10.020

RECENT INVITED PRESENTATIONS

Community-driven web interface development for enabling global scientific sample discovery. Women in Data Science Conference. Tucson, AZ. March 2024.

Galvanizing the next generation of open science practitioners. In Open Science Realities: How Open Is Open? Town Hall. American Geophysical Union Annual Meeting. San Francisco, CA. December 2023.

SELECT AWARDS, FELLOWSHIPS, AND DISTINCTIONS

2024   American Geophysical Union, May Monthly Volunteer Spotlight (press release)
2023   Earth Science Information Partners Community Fellow (press release)
2023   American Geophysical Union Voices for Science Fellow, Policy Track
2022   Doctoral Dissertation Fellowship Department Nominee, University of Minnesota
         one of two late-career PhD students nominated by ESCI department to advance to university-wide fellowship competition
2019   Big 10 Predoctoral Fellowship, Smithsonian Institution
2019   Honorable Mention, National Science Foundation Graduate Research Fellowship
2017   Honorable Mention, National Science Foundation Graduate Research Fellowship

PROFESSIONAL AFFILIATIONS
2016 –   Mineralogical Society of America
2015 –   American Geophysical Union
2013 –   Geological Society of America