

Claire Zurkowski

Affiliation and Contact

Postdoctoral Research Associate
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Education

2021 **The University of Chicago**, Chicago, IL
Ph.D., Geophysical Sciences
2016 **San Francisco State University**, San Francisco, CA
B.S., Geology

Research Interests

Combining powder and single-crystal X-ray diffraction techniques to explore the phase relations and crystal structures of materials relevant to Earth and planetary deep interiors.

Publications **Zurkowski C.C.**, Lavina B., Chariton S., Greenberg E., Tkachev S. N., Prakapenka, V.B. & Campbell A. J. (2020). The novel high-pressure/high-temperature compound Co_{12}P_7 determined from synchrotron data. *Acta Crystallographica E* 76, 1665-1668. <https://doi.org/10.1107/S2056989020012657>

Publications in Press

Zurkowski C.C., Lavina B., Chariton S., Greenberg E., Prakapenka V.B. & Campbell A.J. (2021) The crystal structure of Fe_2S at 90 GPa based on single-crystal X-ray diffraction techniques. *American Mineralogist*, in press. <https://doi.org/10.2138/am-2022-7973>

Submitted Publications

Zurkowski C.C., Lavina, B., Brauser, N. M., Davis, A. H., Chariton, S., Tkachev, S., Greenberg, E., Prakapenka, V. B., and Campbell, A. J. Pressure-induced C23-C37 transition and compression behavior of orthorhombic Fe_2S to Earth's core pressures and high temperatures. Submitted to *American Mineralogist*.

Scholarships and Awards

2021 Advances in synchrotron-based research towards understanding the structure, evolution, and dynamics of Earth and planetary interiors workshop postdoc participation award, Advanced Photon Source
2020 Arts, Science + Culture Initiative graduate collaboration grant awarded
2019 Student Presentation Award, COMPRES Annual Meeting
2018 Student Presentation Award, COMPRES Annual Meeting
2018–2021 NSF Graduate Research Fellowship
2017 Outstanding Student Paper Award, Mineral and Rock Physics, AGU Fall Meeting
2016–2021 McCormick Fellowship, University of Chicago
2016 Department Honoree, San Francisco State University's Geology Department

2016
2013–2016

Summa Cum Laude, San Francisco State University
Dean's List San Francisco State University

Invited Talks

2021 **Carnegie Institution for Science**, Experimental Petrology and Mineral Physics Group,
Investigating the structural properties of Fe-rich sulfides to Earth's core pressures and high temperatures

Conference Presentations

Zurkowski, C.C., Lavina, B., Chariton, S., Greenberg E., Prakapenka V.B., and Campbell A.J. (2020) Phase stability and structural properties of Fe₂S and its analog Co₂P at high pressures and temperatures. Abstract EGU21-1862 presented at 2021 meeting, EGU, 26 Apr. (Oral Presentation)

Zurkowski, C.C., Lavina, B., Chariton, S., Greenberg E., Prakapenka V.B., and Campbell A.J. (2020) Phase stability and structural properties of Fe₂S and its analog Co₂P at high pressures and temperatures. Abstract MR024-05 presented at 2020 meeting, AGU, 1-17 Dec. (Oral Presentation)

Zurkowski, C.C., Davis, A.H., Chariton, S., Greenberg, E., Prakapenka, V.B. and Campbell, A.J. (2020) A hexagonal Fe₃S phase at Earth's core conditions. Abstract. COMPRES Annual Meeting (Oral Presentation)

Zurkowski, C.C., Brauser, N.M., Greenberg, E., Prakapenka, V.B. and Campbell, A.J. (2019) Phase stability and thermal equations of state of Fe₃S and Fe₂S polymorphs to Earth's core pressures and high temperatures. Abstract D113A-05 presented at 2019 meeting, AGU, Washington, D.C., 9-13 Dec. (Oral Presentation)

Zurkowski, C.C., Brauser, N.M., Greenberg, E., Prakapenka, V.B. and Campbell, A.J. (2019) Phase stability and thermal equations of state of Fe₃S and Fe₂S polymorphs to Earth's core pressures and high temperatures. Abstract. COMPRES Annual Meeting (Poster Presentation)

Zurkowski, C.C., Chidester, B.A., Greenberg, E., Prakapenka, V.B. and Campbell, A.J. (2018). Phase relations in the Fe–S–O system to Earth and planetary core conditions. Abstract MR42A-02 presented at 2018 meeting, AGU, Washington, D.C., 10-14 Dec. (Oral Presentation)

Zurkowski, C.C., Chidester, B.A., Greenberg, E., Prakapenka, V.B. and Campbell, A.J. (2018). Stability of the high pressure phase Fe₃(S,O)₂ to Earth and planetary core conditions in the Fe–S–O system Abstract. *COMPRES Annual Meeting*. (Oral Presentation).

Zurkowski, C.C., Chidester, B.A., Greenberg, E., Prakapenka, V.B. and Campbell, A.J. (2018). Stability of the high pressure phase Fe₃(S,O)₂ to Earth and planetary core conditions in the Fe–S–O system. Abstract. *COMPRES Annual Meeting*. (Poster Presentation).

Zurkowski, C.C., Chidester, B.A., Davis, A.H., Brauser, N.M., Greenberg, E., Prakapenka, V.B. and Campbell, A.J. (2017). Stability of the high pressure phases Fe₃S₂ and Fe₂S to Earth's core pressures in the Fe–S–O and Fe–S–O–Si systems. Abstract MR54A-07

presented at 2017 meeting, *AGU*, New Orleans, Louisiana, 10-15 Dec. (Oral Presentation).

Brennan, M, **Zurkowski, C.C.**, Chidester, B.A., Campbell, A.J. (2017) Deep-Earth equilibration between molten iron and solid silicates. Abstract MR43C-0483 presented at 2017 meeting, *AGU*, New Orleans, Louisiana, 10-15 Dec. (Poster Presentation).

Zurkowski, C.C., Chidester, B.A., Davis, A.H., Brauser, N.M., Greenberg, E., Prakapenka, V.B. and Campbell, A.J. (2017) Stability of the high pressure phase Fe₃S₂ up to 175 GPa in the Fe–S–O system. Abstract. *COMPRES Annual Meeting*. (Poster Presentation)

Professional Experience

Current	Postdoctoral Research Associate , Carnegie Institution for Science <i>working with Yingwei Fei</i>
Jan-19–Mar 19	Teaching Assistant , University of Chicago Department of Geophysical Sciences <i>Mineralogy</i>
Jan-15–Jun-16	High Temperature Geochemistry Research Group , San Francisco State University <i>Geochemistry Field and Research Assistant</i> Advisor: Dr. Mary Leech
Jan-15–Jun-15	United States Geological Society , Menlo Park <i>Geophysics Research Assistant</i> Advisor: Dr. Walter Mooney
Jan-14–Jan-15	The Isotope Geochemistry Laboratory , University of Maryland <i>Geochemistry Research Assistant</i> Advisors: Dr. Roberta Rudnick and Dr. William McDonough

Outreach

2021	Advanced Photon Source High-Pressure Workshop Crystallography session chair
2020	UChicago Department of the Physical Sciences Conduct Committee Committee member
2020	Notre Art-science interview
2020	Space Us Art-science interview
2019	UChicago News Art-science interview
2019	AGU Mineral and Rock Physics Twitter account manager
2019	ArtSciInitiative Instagram account manager
2018	COMPRES Student Planning Committee Vice Chair
2019	AGU Mineral and Rock Physics Planning Committee Student Representative
2018	COMPRES Student Planning Committee Committee member
2018	UChicago Women in Graduate Science Student Leadership Team Geophysical sciences representative
2018	UChicago Physical Sciences Division Dean's Student Advisory Committee Geophysical sciences representative
2017	Field Museum Outreach Docent

2017	Marillac Social Center Math and science tutor
2016	UChicago Lab Tours Featured speaker and tour guide
2016	Chicago Upward Bound Tutoring Program Math and science tutor
2016	Argonne National Lab's Hour of Code Initiative Classroom assistant at Peck Elementary School
2016	Mentor Matching Engine Chicago Mentor

Washington DC, 30 August 2021