

KATHRYN RICO

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EDUCATION:

Ph.D., Earth and Environmental Science

May 2019

University of Michigan, Ann Arbor, MI

B.S., Environmental Science

November 2013

DePaul University, Chicago, IL

RESEARCH EXPERIENCE:

Wares Postdoctoral Fellow

September 2019–Present

Geomicrobiology Lab, McGill University, Montreal, QC (CAN)

“Simulating the Early Diagenesis of Banded Iron Formations (BIFs)”

NSF Graduate Student Research Fellow

September 2014–August 2019

Continental Environments Research Group, University of Michigan, Ann Arbor, MI (USA)

“Controls on the Sediment Geochemistry of a Low-Oxygen Precambrian Analogue”

Contestant: EPA P3 Student Design Competition for Sustainability

August 2013–April 2014

DePaul University, Chicago, IL

“Community-based Soil Quality Assessment as a Tool for Designing an Urban Green Infrastructure Network to Manage Runoff”

Undergraduate Researcher

April 2012–September 2013

DePaul University, Chicago, IL

“A Characterization of Marsh Sediment at Prairie Wolf Slough”

AWARDS AND FELLOWSHIPS:

- McGill University, “Wares Postdoctoral Fellowship” September 2019–Present
- ESIP, Education Committee, “Community Fellowship” November 2018–Present
- NSF, “Graduate Research Fellowship” September 2015–August 2019
- ESIP, “FUNding Friday Award” July 2019
- Graduate Student Oral Presentation Award, SACNAS Conference October 2018
- University of Michigan nominee, Schmidt Science Fellowship August 2018
- First Place Poster and Presentation Award, MGU Symposium April 2018

RESEARCH GRANTS:

- Scott Turner Award in Earth and Environmental Sciences, \$1500 December 2018
- Scott Turner Award in Earth and Environmental Sciences, \$2000 April 2018
- Rackham Graduate School, “Travel Grant,” \$800 October 2017
- Scott Turner Award in Earth and Environmental Sciences, \$1975 April 2017
- Rackham Graduate School, “Travel Grant,” \$731 October 2016
- Rackham Graduate School, “Graduate Student Research Grant,” \$1500 February 2016
- Geological Society of America, “Research Grant,” \$1864 April 2015
- Scott Turner Award in Earth and Environmental Sciences, \$1500 April 2015
- Rackham Graduate School, “Travel Grant,” \$800 October 2015
- SACNAS National Conference, “Travel Scholarship” August 2013
- DePaul University, “Environmental Science and Studies Scholarship”, \$1,050 April 2013
- SACNAS National Conference, “Travel Scholarship” August 2012
- Illinois Association of Environmental Professionals, Student Research Grant, \$1000 May 2012
- SACNAS National Conference Travel Scholarship August 2011

PROFESSIONAL INVOLVEMENT:

- American Geophysical Union July 2019–Present
- Earth Science Information Partners October 2018–Present
- Geochemical Society April 2018–Present
- Geobiology Society April 2017–Present
- Geological Society of America January 2015–Present
- Society for the Advancement of Chicanos and Natives in Science January 2011–Present

CONFERENCES:

- ESIP Summer Meeting, Tacoma, WA July 2019
- Michigan Geophysical Union Symposium, Ann Arbor, MI April 2019
- ESIP Winter Meeting, Bethesda, MD January 2019
- Geological Society of America Conference, Indianapolis, IN November 2018
- SACNAS National Conference, San Antonio, TX October 2018
- Midwest Geobiology Conference, Evanston, IL October 2018
- Goldschmidt Conference, Boston, MA August 2018
- Michigan Geophysical Union Symposium, Ann Arbor, MI April 2018
- Geological Society of America Conference, Seattle, WA October 2017
- Geobiology Society Conference, Banff, Canada June 2017
- SACNAS National Conference, Long Beach, CA October 2016
- Midwest Geobiology Conference, Cincinnati, OH October 2016
- Michigan Geophysical Union Symposium, Ann Arbor, MI April 2016
- Geological Society of America Conference, Baltimore, MD October 2015
- Midwest Geobiology Conference, Bloomington, IN October 2015
- Midwest Geophysical Union Symposium, Ann Arbor, MI April 2015
- EPA P3 Competition for Sustainability April 2014
- Chicago Area Undergraduate Research Symposium, Chicago, IL April 2013
- DePaul STEM Showcase, Chicago, IL November 2013

PUBLICATIONS

- Rico, K. I.,** Sheldon, N. D. Associations between redox-sensitive trace metals and microbial communities in a Proterozoic ocean analogue, *in prep.*
- Rico, K. I.,** Sheldon, N. D., Gallagher, T. M., Chappaz A. Redox chemistry and molybdenum burial in a Mesoproterozoic lake. *Geophysical Research Letters*, 46, 5871–5878. doi: 10.1029/2019GL083316
- Rico, K. I.,** Sheldon, N. D. (2019) Nutrient and iron cycling in a modern analogue for the redoxcline of a Proterozoic ocean shelf. *Chemical Geology*, 511, 42–50. doi: 10.1016/j.chemgeo.2019.02.032
- Montgomery, J.A., Klimas, C.A., Arcus, J., DeKnock, C., **Rico, K.**, Rodriguez, Y., Vollrath, K., Webb, E., Williams, A. (2015). Soil quality assessment is a necessary first step for designing urban green infrastructure. *Journal of Environmental Quality*, 45, 18-25. doi:10.2134/jeq2015.04.0192
- Rico, K.** (2013). A characterization of marsh sediment at Prairie Wolf Slough Wetland. *DePaul Discoveries*, 2, 242-248. Available at: <https://via.library.depaul.edu/depaul-disc/vol2/iss1/8>
- Karver, C. E., Molina, E. S., Economos, E. T., Fuentes, J. C., Kaitson, S. M., Kogan, S., ... & **Rico, K.** (2014). Novel Copolymers of Styrene. 12. Halogen Ring-Substituted Methyl 2-Cyano-3-Phenyl-2-Propenoates. *Journal of Macromolecular Science, Part A*, 51, 101-105. doi: 10.1080/10601325.2014.864914

INVITED SEMINARS AND TALKS:

- “Controls on the sediment geochemistry of a low-oxygen Precambrian analogue” (2018) Department of Earth and Atmospheric Sciences, Central Michigan University, Mount Pleasant, MI.
- “Controls on the sediment geochemistry of a low-oxygen Precambrian analogue” (2018) Department of Geological and Atmospheric Sciences, Iowa State University, Ames, IA.

PRESENTATIONS:

- Rico, K. I.,** Sheldon, N. D., Gallagher, T. M., Chappaz, T. “Redox chemistry and molybdenum burial in a Mesoproterozoic lake” *Poster presented at the 2019 MGU symposium in Ann Arbor, MI.*
- Rico, K. I.,** Sheldon, N. D. “Associations between redox-sensitive trace metals and microbial communities in a Proterozoic ocean analogue” *Oral presentation at the 2018 SACNAS conference in San Antonio, TX.*
- Rico, K. I.,** Sheldon, N. D. “Sediment trace metal contents do not reflect porewater chemistry in a low-oxygen Precambrian analogue” *Poster presented at the Midwest Geobiology Symposium in Evanston, IL.*
- Rico, K. I.,** Sheldon, N. D. “Associations between redox-sensitive trace metals and microbial communities in a Proterozoic ocean analogue” *Oral presentation at the 2018 Goldschmidt conference in Boston, MA.*
- Rico, K. I.,** Sheldon, N. D. “Associations between redox-sensitive trace metals and microbial communities in a Proterozoic ocean analogue” *Poster presented at the 2018 MGU symposium in Ann Arbor, MI.*
- Rico, K. I.,** Sheldon, N. D., Gallagher “Biogeochemical pathways of nutrient and metal burial in Proterozoic lakes and implications for atmospheric oxygen levels” *Oral presentation at the 2017 GSA conference in Seattle, WA.*
- Rico, K. I.,** Sheldon, N. D., Gallagher “Biogeochemical pathways of nutrient and metal burial in Proterozoic lakes and implications for atmospheric oxygen levels” *Poster presented at the 2017 Geobiology conference in Banff, Canada.*
- Rico, K. I.** and Sheldon, N. D. “Nutrient and metal cycling in a submerged Lake Huron sinkhole” *Poster presented at the Midwest Geobiology Symposium in Cincinnati, OH.*
- Rico, K. I.** and Sheldon, N. D. “Nutrient and metal cycling in a submerged Lake Huron sinkhole” *Poster presented at the 2016 SACNAS conference in Long Beach, CA.*
- Rico, K. I.** and Sheldon, N. D. “Carbon burial and metal accumulation in a low-oxygen Great Lakes environment” *Poster presented at the 2016 MGU symposium in Ann Arbor, MI.*
- Rico, K. I.** and Sheldon, N. D. “Carbon burial and metal accumulation in a low-oxygen Great Lakes environment” *Poster presented at the 2015 Midwest Geobiology Conference in Bloomington, IN.*
- Rico, K. I.** and Sheldon, N. D. “Carbon burial and metal accumulation in a low-oxygen Great Lakes environment” *Poster presented at the 2015 GSA conference in Baltimore, MD.*
- Rico, K.** “A Characterization of Marsh Sediment at Prairie Wolf Slough” *Poster presented at the 2015 Michigan Geophysical Union Symposium in Ann Arbor, MI.*
- DeKnock, C., **Rico, K.**, Rodriguez, Y., Vollrath, K., Webb, E., and Williams, A.: “Community-based Soil Quality Assessment as a Tool for Designing an Urban Green Infrastructure Network to Manage Runoff” *Poster presented at the 2014 EPA P3 Competition in Washington, D.C.*
- Rico, K.** “A Characterization of Marsh Sediment at Prairie Wolf Slough” *Oral presentation at the 2013 Chicago Area Undergraduate Research Symposium in Chicago, IL.*
- Rico, K.,** Edwards, M., Henderson, A., and Zalinger, R: “The Physical and Chemical Properties of Prairie Wolf Slough” *Poster presented at the 2012 DePaul STEM Showcase in Chicago, IL.*

PROFESSIONAL DEVELOPMENT:

- Preparing Future Faculty Seminar Series May 2017
- Science Communications Fellowship Workshops March 2017
- Diversity and Inclusivity in Teaching Seminar Series February 2017
- CRLT GSI Teaching Orientation August 2014

TEACHING EXPERIENCE:

Class Instructor

June 2018

University of Michigan, Ann Arbor, MI
Wolverine Pathways: Prove It! Activity

Graduate Student Instructor January 2018–Present
University of Michigan, Ann Arbor, MI
 Introduction to Environmental Science

Graduate Student Instructor September 2017–December 2017
University of Michigan, Ann Arbor, MI
 Aquatic Geochemistry

Graduate Student Assistant July 2017
Southfield High School, Southfield, MI
 Wolverine Pathways: Prove It! Activity

Graduate Student Instructor September 2014–December 2014
University of Michigan, Ann Arbor, MI
 Introduction to Physical Geography

Teaching Assistant September 2013–November 2013
DePaul University, Chicago, IL
 Intro to Environmental Science

Teaching Assistant April 2013–June 2013
DePaul University, Chicago, IL
 Honors Environmental Science

Teaching Assistant January 2013–March 2013
DePaul University, Chicago, IL
 Earth Systems Science

Teaching Assistant September 2012–November 2012
DePaul University, Chicago, IL
 Soil Science

COMMITTEE SERVICE

Fellow October 2018–Present
 Earth Science Information Partners (ESIP) Education Committee

- Documents and participates in monthly telecons related to education in the Earth Sciences
- Assists with session monitoring, documentation, and contributing to a database of session products (e.g. presentations) during the Summer and Winter ESIP meetings

President April 2018–April 2019
 University of Michigan SACNAS Chapter

- Oversees daily operations, projects, and activities of the organization and ensures that it functions efficiently
- Leads board meetings and general meetings to ensure a balance between outreach, professional development, fundraising, and social events

National Liaison Co-Chair; Professional Development Co-Chair April 2017–April 2018
 University of Michigan SACNAS Chapter

- Maintained communication between the university and other university organizations, and University of Michigan SACNAS Chapter
- Coordinated workshops and lectures for undergraduate and graduate students
- Prepared the mid-year report, annual report, and chapter award applications

OUTREACH:

Undergraduate Supervision
 C. Crist (2015–2017), R. Dzombak (2015–2016), C. Connop (2016–2017), M. Hammond (2017–2019), A. Jelic (2018–Present)

Graduate Student Faculty Representative September 2018–April 2019

University of Michigan, Department of Earth and Environmental Sciences, Ann Arbor, MI

- Attends bimonthly faculty meetings, providing graduate student feedback for prospective faculty hires and postdoctoral fellowship recipients
- Relays major faculty discussion points to graduate and undergraduate student populations

Science Communications Fellow February 2017–August 2019

University of Michigan, Ann Arbor, MI

- Developed hands-on activities that effectively convey scientific concepts related to my research
- Engages the general public with these activities in Scientist Spotlight events

Scientific Consultant August 2016–January 2019

University of Michigan, Ann Arbor, MI

Earth Systems Museum Exhibit Development

- Worked with a team of museum developers and University of Michigan faculty to help determine the critical scientific concepts in the Earth sciences
- Proposed ways to make these concepts engaging and education for the general public

Event Organizer; Graduate Student Consultant March 2018

University of Michigan, Ann Arbor, MI

Poster Workshop for Undergraduate Research Opportunity Program (UROP) Students

- Organized graduate student volunteers to give feedback to undergraduates on their research posters

Graduate Student Representative November 2015–2018

University of Michigan, Department of Earth and Environmental Sciences, Ann Arbor, MI

Fall Preview Weekend

- Moderated conversations about graduate school between current graduate students and visiting undergraduates from underrepresented groups
- Organized graduate students for a poster session geared towards displaying the breadth of research done in the Earth and Environmental Sciences department