

# KATHLEEN RODRIGUES

2215 Raggio Parkway

Reno, NV, USA 89512

Email: [kathleen.rodriques@dri.edu](mailto:kathleen.rodriques@dri.edu)

Tel: (775) 673-7435

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## PROFESSIONAL PREPARATION

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**Doctor of Philosophy (Geology, Specialization: Luminescence Geochronology)** 2020

University of Nevada Reno, Reno, NV, USA

- Dissertation: “Development and application of luminescence dating approaches to constrain the timing of tephra deposition and the formation of fluvial landforms” (Advisor: Dr. Amanda Keen-Zebert)

**Master of Science (Geology, Specialization: Luminescence Geochronology and Archaeometry)** 2015

McMaster University, Hamilton, ON, Canada

- Thesis: “OSL Dating of a Coastal Swift Creek Occupation at Harrison Ring, Bay County, Florida” (Advisor: Dr. William J. Rink)

**Honors Bachelor of Science (Biology & Environmental Sciences)** 2013

McMaster University, Hamilton, ON, Canada

- Thesis: “Evaluating OSL equivalent dose distributions in a sandy ant disturbed environment: Apalachicola National Forest” (Advisor: Dr. William J. Rink)

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## EMPLOYMENT

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2022 –	<b>Assistant Research Professor</b> , Department of Earth and Ecosystem Sciences, Desert Research Institute.
2021 – 22	<b>Postdoctoral Researcher</b> , Department of Earth and Ecosystem Sciences, Desert Research Institute.
2020 – 21	<b>Instructor</b> , Natural Sciences Department, Anoka-Ramsey Community College.
2020	<b>Instructor</b> , Department of Geological Sciences and Engineering, University of Nevada, Reno.
2016 – 17, 19	<b>Research Assistant</b> , Department of Earth and Ecosystem Sciences, Desert Research Institute.
2015 – 16, 18	<b>Teaching Assistant</b> , Department of Geological Sciences and Engineering, University of Nevada, Reno.
2013 – 15	<b>Teaching Assistant</b> , School of Geography and Earth Sciences, McMaster University.

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## PUBLICATIONS

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### Peer-Reviewed Publications

- 2022 Mahan, S., Rittenour, T., Nelson, M., Atae, N., Brown, N., DeWitt, R., Durcan, J., Evans, M., Feathers, J., Frouin, M., Guérin, G., Heydari, M., Huot, S., Jain, M., Keen-Zebert, A., Li, B., López, G. I., Neudorf, C., Porat, N., **Rodrigues, K.**, Sawakuchi, A. O., Spencer, J. Q. G., Thomsen, K. Guide for interpreting and reporting luminescence dating results. *GSA Bulletin*, *In press*.
- 2022 **Rodrigues, K.**, Huot, S., Keen-Zebert, A. Exploring the application of blue and red thermoluminescence for dating volcanic glasses. *Radiation Measurements* 153, 106731.
- 2022 **Rodrigues, K.**, Stapor, F. W., Rink, W.J., Dunbar, J., Doran, G. A 5700-year-old beach-ridge set at Cape Canaveral, Florida, and its implication for Holocene sea-level history in the southeastern USA. *The Holocene* 32(1-2), 40-56.
- 2018 Williams, T. J., Collins, M. B., **Rodrigues, K.**, Rink, W. J., Velchoff, N., Keen-Zebert, A., Gilmer, A., Frederick, C. D., Ayalo, S. J., Prewitt, E. R. Evidence of an early projectile point technology in North America at the Gault Site, Texas, USA. *Science Advances* 4(7), eaar5954.
- 2016 **Rodrigues, K.**, Rink, W. J., Collins, M. B., Williams, T. J., Keen-Zebert, A. & López, G. I. New ages of the Clovis, Late Paleoindian and Archaic Components at the Gault Site, Central Texas, U.S.A. *Journal of Archaeological Sciences Reports* 7, 94-103.

### Book Chapters

- 2017 Mercier, N., Rink, W. J., **Rodrigues, K.**, Morley, M. W., Linder, M. V., Whallon, R. Chapter 9: Radiometric Dating of the Crvena Stijena Sequence. in *Crvena Stijena in Cultural and Ecological Context*. Ed. Robert Whallon. Podgorica: Montenegrin Academy of Sciences and Arts. pp. 140-149.

### Manuscripts in Preparation/Under Review

- 2022 **Rodrigues, K.**, Keen-Zebert, A., Shepherd, S., Hudson, M. R., Bitting, C. J., Johnson, B. G., Langston, A. The role of lithology and climate on bedrock river incision and terrace development along the Buffalo National River, Arkansas. *Quaternary Research*, *Under Review*.
- 2022 **Rodrigues, K.**, Keen-Zebert, A., Crews, J. B., Schumer, R., Neudorf, C. M. An overview of the physical basis of luminescence dating. *Quaternary Geochronology*, *In preparation*.

### Professional Research Reports

- 2022 **Rodrigues, K.**, Keen-Zebert, A. Depositional ages of sediment from Barqa, Wadi Faynan, Jordan determined using optically stimulated luminescence on coarse grained quartz. Reno, NV: DRI Luminescence Lab. Prepared for Russell Adams at the University of Waterloo.
- 2014 Hendricks, R., **Rodrigues, K.**, Hodson, A., Rink, W. J. Nexen OSL dating report for Calgary quartz samples. Hamilton, ON: McMaster University AGE lab. Prepared for Nexen (CNOOC ltd).
- 2014 **Rodrigues, K.**, Rink, W. J., Keen-Zebert, A. Gault, Texas archaeological dating report. Hamilton, ON: McMaster University AGE lab. Prepared for Dr. Michael B. Collins at the University of Texas Archaeological Research Laboratory.
- 2013 **Rodrigues, K.** & Rink, W. J. Dating report for coastal Georgia samples. Hamilton, ON: McMaster University AGE lab. Prepared for Dr. Clark R. Alexander at the Skidaway

Institute of Oceanography.

- 2013 **Rodrigues, K.** & Rink, W. J. Dating report for Ryan-Harley, a Middle Paleoindian archaeological site. Hamilton, ON: McMaster University AGE lab. Prepared for Harley G. Means at the Florida Geological Survey.

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#### PRESENTATIONS (\*Presenting author)

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- 2021 **Rodrigues, K.\***, Keen-Zebert, A., Huot, S. Exploring the use of luminescence techniques for dating volcanic glasses, Luminescence and Electron Spin Resonance Dating (LED) 16th Annual Conference, September 13, 2021. (Oral Presentation).
- 2019 **Rodrigues, K.\***, Keen-Zebert, A., Huot, S. Investigating the potential of the red thermoluminescence signal for dating volcanic glass, Monticello, IL: New World Luminescence Dating Workshop, August 4-7, 2019. (Oral Presentation).
- 2017 Keen-Zebert, A.\*, **Rodrigues, K.**, Shepherd, S. L. (2017). Variability in the depositional age of alluvial fill overlying strath terraces: Implications for determining river incision rates using optically stimulated luminescence dating, New Orleans, LA: American Geophysical Union Fall Meeting, December 11-15, 2017. (Oral Presentation).
- 2017 **Rodrigues, K.\***, Keen-Zebert, A., Huot, S., Adams, K. D. (2017). Testing the potential of thermoluminescence dating of volcanic glass with known-age samples, Seattle, WA: Geological Society of America, October 22, 2017. (Oral Presentation).
- 2017 **Rodrigues, K.\***, Keen-Zebert, A., Huot, S., Adams, K. D. (2017). Testing the suitability of the TL signal for dating volcanic glass, Cape Town, South Africa: Luminescence and Electron Spin Dating Conference (LED 2017), September 11, 2017-September 15, 2017. (Poster Presentation).
- 2016 **Rodrigues, K.\*** and W. J. Rink. OSL investigations of a coastal Swift Creek occupation at Harrison Ring, Bay County, Florida. Denver, CO: GSA Annual Meeting, September 27, 2016. (Oral Presentation).
- 2014 **Rodrigues, K.\*** and W. J. Rink. Evaluating OSL equivalent dose distributions in an ant disturbed environment: Apalachicola National Forest. Montreal, QC: Luminescence and Electron Spin Resonance Dating (LED) 14<sup>th</sup> Annual Conference, July 6, 2014. (Poster Presentation).

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#### RESEARCH GRANTS

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##### Contributions to Ongoing Funded Research

- 2021 – *Testing the impact of reworking on the isochronicity of tephras deposited in diverse sedimentary environments.*  
PI's: Amanda Keen-Zebert, Ken Adams, Kathleen Rodrigues  
NSF Sedimentary Geology and Paleobiology, \$359,810 USD  
Role: Development of research concept, design, and methods for proposal. Responsible for the technical conduct of the project from sample collection and preparation through to the dissemination of results.

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## HONORS AND AWARDS

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2020	Robert J. Watters Great Basin Chapter Scholarship – \$1,500 USD
2019	New World Luminescence Dating Workshop – 2 <sup>nd</sup> Place Presentation
2018	UNR Graduate Student Association Poster Symposium – 2 <sup>nd</sup> Place
2018	DRI Student Poster Competition – 1 <sup>st</sup> Place Presentation
2018	UNR Graduate Student Association Outstanding International Student Scholarship – \$1,500 USD
2018	University of Nevada, Reno Research Grant Award – \$2,500 USD
2017	UNR Graduate Student Association Poster Symposium – 1 <sup>st</sup> Place Presentation
2017	GSA Travel Grant (UNR) – \$500 USD
2016	GSA Travel Grant (UNR) – \$500 USD
2015	Jonathan O. Davis Scholarship in Quaternary Sciences (DRI) – \$7,500 USD
2014	McMaster University Graduate Scholarship – \$10,000 CAD
2013	McMaster University Graduate Scholarship – \$9,500 CAD
2010 – 13	McMaster University Dean’s Honor List
2008	McMaster University Entrance Scholarship – \$3,000 CAD
2008 – 11	Queen Elizabeth Aiming for the Top Scholarship – \$14,000 CAD

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## TEACHING

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### **Anoka-Ramsey Community College**

NATS 1001	Astronomy (Instructor)	2020 – 21
NATS 1003	Geology (Instructor)	2020 – 21
NATS 1005	Meteorology (Instructor)	2020 – 21

### **University of Nevada, Reno**

GEOL 102	Historical Geology (Instructor)	2020
GEOL 102	Historical Geology (TA)	2019
GEOL 260	Introductory Field Geology (TA)	2016
GEOL 211	Earth Materials and Geochemistry (TA)	2015, 18
GEOL 100	Earthquakes, Volcanoes, and Geologic Hazards (TA)	2015, 16

### **McMaster University**

EARTH SC 3QQ3	Introduction to Scientific Dating (TA)	2015
EARTH SC 3T03	Geochemistry of Minerals and Rocks (TA)	2015
EARTH SC 2M03	Crystallography, Origins and Characteristics of Gemstones (TA)	2014
LIFE SC 2H03	Environmental Life Science (TA)	2014
EARTH SC 1G03	Earth and the Environment (TA)	2013

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## SERVICE ACTIVITIES

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### **Journal Review**

- Quaternary Geochronology (3)

- Geoarchaeology (1)
- Archaeometry (2)
- Science of the Total Environment (1)

### **Graduate Student Committees**

2022 – 23 Taryn Hicks, MSc Student (Auburn University, Department of Geosciences)

### **Other Service**

2022 Co-Convener of the OSL Dating Short Course: Essential Guide for Sampling and Dark Secrets Behind the Technique. GSA Cordilleran Section Meeting. Endorsed by the GSA Geochronology Division and GSA Quaternary Geology and Geomorphology Division

2021 – 22 Mentor for the ‘Girls in STEM’ annual program organized by Sierra Nevada Journeys

2019 – American Association of Engineering Geologists (AEG) Great Basin Chapter Vice Chair

2018 – 19 Advisory Board Member for NSHE Police Services

2017 – 18 DRI Graduate Student President

2013 – 14 McMaster School of Geography and Earth Sciences Graduate Committee Member

2013 – 15 McMaster School of Geography and Earth Sciences Research Day Committee Member

2010 McMaster Science Society Peer Mentor

2009 – 11 McMaster Student Accessibility Services Note Taker

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### **PROFESSIONAL AFFILIATIONS**

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2018 – Association of Environmental & Engineering Geologists (AEG)

2016 – American Geophysical Union (AGU)

2016 – Association for Women Geoscientists (AWG)

2016 – The Geological Society of America (GSA)

2015 – The American Quaternary Association (AMQUA)

2014 – 15 American Association of Petroleum Geologists (AAPG) – McMaster University Chapter member