Eron Raines

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Education

- 2021 PhD, Isotope Geochemistry, University of Wollongong, Australia
- 2021 PhD, Geology, Victoria University of Wellington, New Zealand
- 2017 MS, Biogeochemistry, University of Florida, USA
- 2017 PGC, Geospatial Analysis, University of Florida, USA
- 2014 BS, Biology, University of Memphis, USA
  Minors: Mathematics, Chemistry, Geology, Anthropology

Honors/Awards

- 2020-21 HDR Matching Scholarship
- 2018-21 Rutherford Discovery Scholarship
- 2018 ASA Certification – Graduate Statistician
- 2014-17 UF Graduate Fellowship
- 2014 Research highlighted at University of Memphis
- 2014 Biology Department Faculty Award
- 2013 Memphis Herb Society Research Scholar
- 2013 Edward T. Browne Scholar
- 2013 SAMS Fellow
- 2013 West Tennessee STEM Science Ambassador
- 2012-14 MemphiSTEM Fellowship (NSF)
- 2012-14 Cristal STEM Research Scholarship (NSF)
- 2012-13 University of Memphis Green Initiative Internship(s)

Professional Training

- 2018 Consejos Colectivos: Increasing STEM success at HSIs, Dallas TX
- 2018 ASA Conference on Statistical Practice, Portland OR
- 2017 MSI Minority Student Success: Using Data to Effect Change, Mesquite TX
- 2017 AGU-SEG Hydrogeophysics Workshop, Stanford CA
- 2015 CUASHI Near-Surface Geophysics for Hydrology-Short Course, Phoenix AZ
- 2015 DBHydro Environmental Database Training, Miami FL
- 2014 Emerging Leaders Alliance Conference-Science Leadership Training, Washington DC

Work Experience

- 2017-18 Statistician, Dallas County Community College

- 2017 Math/Science Consultant, Legacy Preparatory Charter School
- 2014-17 Graduate Assistant, University of Florida
- 2014 Science Tutor, Jackson State Community College
- 2013-14 Laboratory Assistant, UM Department of Earth Sciences
- 2013-14 Student Associate, Memphis Ground Water Institute
- 2013-14 Field Technician, UM Center for Partnerships in GIS
- 2013-14 Math/Science tutor, Peer Power
- 2013-14 Math/Science tutor, STEM HUB
- 2012-13 Botanist Internship, Memphis Botanic Garden
- 2011-13 Laboratory Technician, UM Department of Chemistry
- 2011 Paleontologist Internship, Memphis Pink Palace and Museum

Teaching Experience

Math Teacher:
6^{th}- 8^{th} grade mathematics; High school Algebra 1,2; High school Geometry
Graduate Teaching Assistant:
Introduction to Soils in the Environment; Environmental Sampling; Soils for Environmental Professionals
Tutor:
Probability; General Biology I, II; University Physics I, II; Calculus I, II; Differential Equations; General Chemistry I, II
Science/Math Consultant:
Special Education years 6-12

Public Outreach

- 2017 R-programming workshops offered by Eastfield College
- 2015-17 Sponsored undergraduate research projects
- 2013-14 Mentored high school students
- 2013-14 Tutored elementary students
- 2013-14 Organized science talks for Wolf River Nature Conservancy
- 2013 Guest Science Blogger for Memphis Botanic Garden

Publications

Raines, ER. Osborne, TZ. Universalities in the parameter space of globally distributed sinkholes (*In preparation*).
Raines, ER. Cross Validation Permutation Testing of Linear Models for Classification. (*In preparation*).

Presentations

Raines, ER. Microbes move mountains. Victoria University of Wellington, Wellington, NZ. August 08, 2018
Raines, ER. Cypress domes do not emerge from ecologic processes. Victoria University of Wellington, Wellington, NZ. May 17, 2018
Raines, ER. Urbina, D., Muro, M., Square, G., Guidry, P. Complexity Theory Based Approach to Modeling STEM Students. El Centro College, Dallas, TX. February 28, 2018
Muro, M., **Raines, ER.** Urbina, D., Guidry, P. Outreach methods for student success. El Centro College, Dallas, TX. February 28, 2018
Raines, ER. Osborne TZ. Evolution of subtropical shallow carbonate systems: the role of biota in shaping geology. Whitney Laboratory for Marine Science, St. Augustine, FL. Feb 1, 2016.
Raines, ER. Lin, F., Winkel, CK., Tsalickis, A., Choy, J., Allen, CM., Osborne TZ., Biology at the Beach Graduate Student Symposium, St. Augustine, FL. May 7, 2016.
Cohen, MJ Quintero, CJ. Ward, ND. **Raines, ER.** Brown, A. Martin, JB. Bianchi, TS. McLaughlin, DL. Osborne, TZ. Heffernan, JB. Watts, A. An Ecological Drill: Biogeomorphic Pattern Evolution in a Low-Relief Carbonate Landscape. Presentation-*AGU*
Osborne, TZ., **Raines, ER.** Exploring Climate change in the Matanzas River Basin. Keynote Address- *Biology at the Beach Symposium*. Marineland, FL 2015.
Osborne, TZ., Simpson L., **Raines, ER.** Coastal Ecosystems and climate change: a local perspective with global relevance. *UF Whintey Laboratory Docents Lecture*. Marineland FL 2015
Raines, ER. Cohen, MJ. Osborne TZ. Landscape denudation rates of a low relief carbonate platform. *Soil and Water Science Departmental Symposium*. Gainesville, FL 2015.
Raines, ER. Osborne TZ. Landscape evolution of a south Florida carbonate system. *Biology at the Beach Symposium*. Marineland FL 2015.
Raines, ER. Larsen, D. Taller, BJ. Testing for allelopathy in *Impatiens capensis* via environmental and molecular analyses. Poster-*Student Research Forum*. Memphis TN 2014
Raines, ER. The evolutionary logic of herbaceous plants. *Memphis Herb Society Annual Gala*. Memphis TN 2014
Raines, ER. Rosenberg, MJ. Larsen D. Cosby, C. Taller, BJ. Schoech, SJ. Characterization of PAH's in soils of varying plant communities. *Biology Department Seminar*. Memphis TN 2013
Raines, ER. Taller, BJ. Cosby, C. A method for measuring plant health: molecular and environmental analysis. Scholarship Acceptance-*Memphis Herb Society Annual Gala*. Memphis TN 2013

Professional Organizations

- American Statistical Association
- American Geophysical Union

Research Interests

- Abiogenesis
- Complex adaptive systems
- Geomathematics
- Near surface geophysics