

# Noelle Espinosa

PhD Candidate

School of Natural Resources and the Environment  
University of Arizona  
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## EDUCATION

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Ph.D., Natural Resources, with a focus on Watershed Management and Ecohydrology (In Progress)  
*University of Arizona, Anticipated May 2018*

B.S., Soil, Water and Environmental Science  
*University of Arizona, January 2013*

## RESEARCH EXPERIENCE

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Graduate Research Assistant

*University of Arizona, School of Natural Resources and the Environment, Aug 2013 – present*

Studying how soil microbial communities regulate carbon storage and cycling through soils and the influence of climate change and fire disturbance.

Undergraduate Research Assistant

*University of Arizona, School of Natural Resources and the Environment, Aug 2012 – Jan 2013*

Performed laboratory analysis of soil samples for grazing management manipulation at the proposed Rosemont Copper Mine site.

Undergraduate Research Assistant

*University of Arizona, Ecology and Evolutionary Biology Department, Sept 2010 – Aug 2012*

Monitored experimental trials testing competition theories in micro-algal populations

Field Research Assistant

*University of Arizona Study Abroad, Namibia, Africa, May 2011 – July 2011*

Distinguished lizard species and surveyed habitat

## TEACHING EXPERIENCE

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Graduate Instructor, UA Science Sky School

*UA Science Steward Observatory, University of Arizona, Aug 2014 – Present*

Graduate Teaching Instructor, Sustainable Earth, RNR150C

*University of Arizona, School of Natural Resources and the Environment, Fall 2016*

Curriculum Development and Training, UA Critical Zone Discovery Program

*UA Science Flandrau Science Center, University of Arizona, Summer 2016*

Graduate Instructor, Sustainable Earth, RNR 150C Summer I

*University of Arizona, School of Natural Resources and the Environment, Summer 2016*

Teaching Assistant, Natural Resources Management Practices, RNR 384  
*School of Natural Resources, University of Arizona, Spring 2016*

Teaching Assistant, Natural Resource Ecology, RNR 316  
*School of Natural Resources, University of Arizona, Fall 2015*

Outreach Instructor, Biosphere 2 Summer Science Academy  
*College of Science, University of Arizona, Summer 2015*

Instructor / Teaching Assistant, Microbial Genetics Laboratory, MIC 428/528  
*Microbiology, University of Arizona, Spring 2015*

Teaching Assistant, Natural Resource Ecology, RNR 316  
*School of Natural Resources, University of Arizona, Fall 2014*

Instructor / Teaching Assistant, Microbial Genetics Laboratory, MIC 428/528  
*Microbiology, University of Arizona, Spring 2014*

Teaching Assistant, Natural Resource Ecology, RNR 316  
*School of Natural Resources, University of Arizona, Fall 2013*

## **WORK EXPERIENCE**

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Environmental Consultant

*Terracon Consultants Inc., Tucson, Arizona, March 2013 to present*

Duties: environmental assessments of commercial properties, asbestos building inspection, and long-term monitoring of remedial activities for groundwater quality and landfill gas emissions.

## **PEER-REVIEWED PUBLICATIONS AND MNUSCRIPTS IN PREP**

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Docherty, K.M., Borton, H.M., **Espinosa N.J.**, Gebhardt, M., Gil-Loaiza, J., Gutknecht, J.L.M., Maes, P.M., Mott, B.M., Parnell, J.J., Purdy, G., Rodrigues, P.A.P., Stanish, L.F., Walsler, O.N., Gallery, R.E. 2015. Key edaphic properties largely explain temporal and geographic variation in soil microbial communities across four biomes. *Plos One*.

Driscoll, W.W., **Espinosa, N.J.**, Eldakar, O.T., Hackett, J.D., 2012. Allelopathy as an emergent exploitable public good in the bloom-forming microalga *Prymnesium parvum*. *Evolution*. 67:1582-1590

**Espinosa, N.J.**, Gallery, R.E. 2017. Coarse woody debris associated with woody plant encroachment alters microbial activities in a semiarid ecosystem. **(In Prep)**.

## PROFESSIONAL PRESENTATIONS

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- Espinosa, N.J.** Stability of microbial activity in an experimentally warmed dryland. ISME 2016, Montreal, Quebec, Canada.
- Espinosa, N.J.**, Moore, D.J.P., Rasmussen, C., Fehmi, J.S., Gallery, R.E. 2016. Responses of soil enzymes to a temperature manipulation experiment in a semiarid ecosystem: Earth Week, SNRE Conference, Tucson, Arizona.
- Hansen, J.M., **Espinosa, N.J.**, Gallery, R.E., 2016. Examining pH and soil carbon in forest soils affected by fire: Earth Week, SNRE Conference, Tucson, Arizona.
- Utzinger, A.F., **Espinosa, N.J.**, Schmitz, B.W., Murphy, M.A., Gallery, R.E. 2016. The impacts of buffelgrass on microbial communities involved in nitrogen cycling. Southern Arizona Science and Engineering Fair, Tucson, Arizona.
- Espinosa, N.J.**, Moore, D.J.P., Rasmussen, C., Fehmi, J.S., Gallery, R.E. 2015. Some like it hot: soil extracellular enzyme activity and respiration are unresponsive to warming treatments in two semi-arid soils. Institute of the Environment: GradBlitz, Tucson, Arizona.
- Espinosa, N.J.** 2015. Soil microbial responses to disturbances; how community composition and activity may inform our understanding of local biogeochemical cycling. [Invited talk]. United States Geological Survey, Denver, Colorado.
- Espinosa, N.J.**, Gallery, R.E. 2014. Response of soil microbes to climate change in semi-arid systems. Research Insights in Semi-Arid Environments Symposium (RISE), Tucson, Arizona.
- Contento, T., **Espinosa, N.J.**, Juang, P., Maxwell, R., 2011. From Garbage to Gardens. University of Arizona Student Showcase, Tucson, Arizona.

## SERVICE AND ASSOCIATIONS

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- Southern Arizona Environmental Management Society, *President-Elect, 2016*
- American Geophysical Union, *Session Primary Convener & Member, 2016*
- International Society for Microbial Ecology, *Member 2016*
- Girls Excelling in Math and Science (GEMS) Club, *Outreach Presentation, 2016*
- Mathematics Engineering Science Achievement (MESA), *Outreach Presentation, 2016*
- Southern Arizona Regional Science and Engineering Fair, *Student Mentor, Sep 2015 – Mar 2016*
- Undergraduate Research Assistant Mentor, May 2015 - Present
- Tucson Clean and Beautiful Mini Grant Committee, *Reviewer, 2015*
- Southern Arizona Environmental Management Society, *Member, 2015*
- Tucson Clean and Beautiful Mini Grant Committee, *Reviewer, 2014*
- Southern Arizona Environmental Management Society, *Member, 2014*
- Southern Arizona Environmental Management Society, *Member, 2013*
- Watershed Management Group, *Volunteer, 2012*
- Soil, Water and Environmental Science Club, *President, 2011-2012*
- The Nature Conservancy of Tucson, *Volunteer, 2010-2013*

**HONORS AND AWARDS**

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C.P. Patrick Reid Scholarship, 2017  
Clifford W. Carstens Jr. Scholarship, 2017  
Southern Arizona Environmental Management Society Scholarship, 2016/17  
School of Natural Resources and the Environment, Public Service and Outreach Award, 2016  
School of Natural Resources Earth Week Symposium, First Place, Poster, 2016  
NSF GRFP Honorable Mention, 2015  
ASUA Green Fund Grant, 2015  
Southern Arizona Environmental Management Society Scholarship, 2015/16  
Steward Observatory Fellowship, 2015  
CALs Graduate College Fellowship, 2015  
Clifford W. Carstens Jr. Scholarship, 2015  
Steward Observatory Fellowship, 2014  
Clifford W. Carstens Jr. Scholarship, 2014  
Arizona Scholars Grant, 2014  
CALs Graduate College Fellowship, 2014  
Summer University Grant, 2011