

Alexandra M. Huddell

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EDUCATION

Columbia University

Ph.D. Candidate, Ecology, Evolution, and Environmental Biology

American University, *Magna Cum Laude*

Double Major: BA Economics and BA in International Studies: International Development

PROFESSIONAL EXPERIENCE

Research Assistant, University of Vermont, Dr. Gillian Galford Jan.- Aug. 2016

- Assisted with field work on aquatic biogeochemistry and a literature review for NSF project, “Disrupted Nitrogen Cycles”, Mato Grosso, Brazil

Research Assistant, Columbia University, NY, Dr. Duncan Menge May-Aug. 2015

- Assisted with field work and greenhouse study

TechnoServe, Cost Analyst, West and Southern Africa, Washington D.C. Jan.-Nov. 2014

Economic Growth Program Specialist, May 2011 – Jan. 2014 Sudan and South Sudan Program Office, Bureau for Africa, U.S. Agency for International Development (USAID), Washington D.C.

GRANTS AND FELLOWSHIPS

Fellowships:

- National Science Foundation Graduate Research Fellowship 2016 **\$138,000**
- Columbia University Dean’s Fellow

Grants:

- Malone Family Land Preservation Foundation and the Land Institute 2019 **\$20,973**
- National Science Foundation Graduate Research Opportunities Worldwide 2019 **\$5,000**
- National Science Foundation Graduate Research Opportunities Worldwide 2018 **\$5,000**
- Vetenskapsrådet Graduate Research Opportunities Worldwide 2018 **\$17,000**
- USDA Northeast SARE Graduate Student Research Grant (declined) **\$14,813**
- USAID Brazil Research and Innovation Fellowship for Agriculture 2017 **\$6,500**
- Earth Institute Travel Award Fall 2016, 2017 and 2018 **\$750**
- Columbia University E3B 2016 **\$3,000**

PUBLICATIONS

Huddell, Alexandra M., Christopher Neill, Cheryl A. Palm, and Duncan Menge. “Anion exchange capacity explains increased soil nitrate from Brazilian forest to croplands.” (*In preparation*).

Huddell, Alexandra M., Christopher Neill, Leonardo Maracahipes-Santos, and Duncan N. L. Menge. Nitric and nitrous oxide fluxes from intensifying crop agriculture in the seasonally dry tropical

Amazon-Cerrado border region. (*In review*). Journal of Geophysical Research: *Biogeosciences*.

Liao, Wenying, Adefunke Sonaike, **Alexandra M. Huddell**, Matthew I. Palmer, Kevin L. Griffin.

“Symbiotic nitrogen-fixing tree species *Robinia pseudoacacia* maintain similar photosynthesis but re-absorb less foliar nitrogen during leaf senescence in a temperate deciduous forest” (*Submitted*). *Canadian Journal of Forest Research*.

Huddell, Alexandra M., Gillian L. Galford, Katherine L. Tully, Cynthia Crowley, Cheryl A. Palm, Christopher Neill, Jonathan E. Hickman, and Duncan N. L. Menge. “Meta-Analysis on the Potential for Increasing Nitrogen Losses from Intensifying Tropical Agriculture.” *Global Change Biology* 26, no. 3 (2020): 1668–80. <https://doi.org/10.1111/gcb.14951>.

SELECTED PRESENTATIONS

- Field experiment tour. Is the Future of Agriculture Perennial? meeting, Lund, Sweden, May 2019
- “Nitrogen losses from tropical agroecosystems.” Ecological Society of America meeting, Portland, OR, August 2017
- “Nitrogen cycling in tropical soils.” Intensification of the world’s largest agriculture frontier: reconciling agricultural production and environmental integrity in a changing climate meeting, Brasília, Brazil, May 2017

TEACHING EXPERIENCE

- Conservation Policy, Spring 2020, Dr. Sara Kross, Columbia University, NY
Graded assignments and provided feedback on oral assignments and participation in class
- Statistical Modeling, Spring 2019, Dr. Evan Eskew, Columbia University, NY
Provided one-on-one instruction for students during lab section and graded assignments
- Ecosystem Ecology and Global Change, Fall 2017, Instructor: Dr. Duncan Menge, Columbia University, NY
Developed curriculum for and led discussion sections; lectured on nitrogen losses from ecosystems, graded assignments

MENTORSHIP EXPERIENCE

- Mentored undergraduate student, Eleanor Pressman, Spring 2017, in research internship doing a literature review, funded by the Earth Institute at Columbia University
- Hired and mentored three interns, 2015-2016, at the USAID Sudan and South Sudan Program Office

SERVICE AND OUTREACH

- Volunteer mentor to high school student on college readiness, iMentor, 2016-2019
- Volunteer for “Girls Science Day” 2016, Columbia University

TECHNICAL COMPETENCIES

- **Field skills:** Stable isotope techniques, soil greenhouse gas flux measurement, nitrate leaching measurements, soil extraction for ammonium and nitrate concentrations
- **Laboratory skills:** wet chemistry with a discrete analyzer, ion chromatography, gas chromatography, and spectrophotometry
- **Programming skills:** advanced in *R*; basic in Python
- **Language skills:** Advanced proficiency in Spanish and Portuguese
- **Field experience:** Mexico, Brazil, South Sudan, Liberia, Mozambique, and South Africa

REFERENCES

Dr. Duncan N. L. Menge (Ph.D. adviser)
Department of Ecology, Evolution, and Environmental Biology, Columbia University
Phone: (212) 854-6889
Email: dm2972@columbia.edu

Dr. Christopher Neill (Ph.D. committee member)
Woods Hole Research Center
Phone: (508) 444-1559
Email: cneill@whrc.org

Dr. Cheryl Palm (Ph.D. committee member)
Soil Biological and Ecological Processes, Institute for Sustainable Food System, University of Florida
Phone: (352) 392-1864
Email: cpalm@ufl.edu

Dr. Timothy Crews (Ph.D. committee member)
The Land Institute
Phone: (785) 376-0596
Email: crews@landinstitute.org

Dr. Ruth DeFries (Ph.D. committee member)
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