Lacey A. Pyle

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EDUCATION

2017	PhD. Rice University, Houston, TX Thesis: The production and movement of pyrogenic carbon through the landscape
2012	M.S.Geo.Sci. University of Texas, Austin, TX Thesis: Isolating the effect of mineral-organic interactions on the decomposition of recalcitrant organic soil carbon
2009	B.S. Rice University, Houston, TX Earth Science

AWARDS

2017	Douglas and Martha Lou Broussard Fellowship
2017	Ford Dissertation Fellowship Honorable Mention
2016-2017	Mills-Bennett Fellowship for Hydrology
2016	Carl Storm Fellowship (Gordon Organic Geochemistry Conference)
2016	Goldschmidt Conference Student Travel Grant
2015-2016	Graduate Education for Minorities Program Fellowship
2014	Department Service Award in Earth Science
2014	SIPES Foundation Earth Science Scholarship
2014	Chevron Travel Grant (AGU Fall Meeting)
2013-2014	Alliances for Graduate Education and the Professoriate Program Fellowship
2013	Houston Geological Society Calvert Scholarship
2012-2013	Sam & Helen Worden Fellowship
2011	National Science Foundation Graduate Research Fellowship Honorable Mention

PEER REVIEWED PUBLICATIONS

Pyle LA, Magee KL, Gallagher ME, Hockaday WC, Masiello CA. Short-term changes in physical and chemical properties of soil charcoal following wildfire. Journal of Geophysical Research: Biogeosciences. 2017;122(11): 3098-3107. DOI: 10.1002/2017JG003938.

Gao X, Driver L, Kasin I, Masiello CA, **Pyle LA**, Dugan B, Ohlson M. Effect of environmental exposure on charcoal density and porosity in a boreal forest. Science of the Total Environment. 2017;592:316-325. DOI: 10.1016/j.scitotenv.2017.03.073.

Pyle LA, Hockaday WC, Masiello CA, Boutton TW, Zygourakis K, Kinney TJ. Chemical and isotopic thresholds in charring: implications for the interpretation of charcoal mass and isotopic data. Environmental Science & Technology. 2015. DOI: 10.1021/acs.est.5b03087.

Wiedemeier DB, Abiven S, Hockaday WC, Keiluweit M, Kleber M, Masiello CA, McBeath AV, Nico PS, **Pyle LA,** Schneider MPW, Smernik RJ, Wiesenberg GLB, Schmidt MWI. Aromaticity and the degree of aromatic condensation of chars. Organic Geochemistry. 2015; 78: 135-143. DOI: 10.1016/j.orggeochem.2014.10.002.

Schneider MPW, **Pyle LA**, Clark KL, Hockaday WC, Masiello CA, Schmidt MWI. Toward a "Molecular Thermometer" to Estimate the Charring Temperature of Wildland Charcoals Derived from Different Biomass Sources. Environmental Science & Technology. 2013;47(20):11490-11495. DOI:10.1021/es401430f.

IN REVIEW/IMMINENT SUBMITTAL PUBLICATIONS

Pyle LA, Clark K, Wahab L, Masiello CA. The effects of fire frequency and time since fire return on metrics for soil organic matter decomposition. In prep.

Pyle LA, Davies C, Clark K, Wahab L, Masiello CA. Long-term fire effects on soil nitrogen isotopes. In prep.

PRESENTATIONS

August 2017 **Pyle LA.** It's getting hot in here: The effect of increasing fire frequency on soil organic matter. Rice University PhD Defense Presentation, Houston, Texas.

July 2016 **Pyle LA**, Masiello CA, Magee K, Clark K, Davies C. Burnt: The effect of fire frequency on soil carbon. Gordon Organic Geochemistry Conference, Holderness, New Hampshire.

July 2016 **Pyle LA**, Masiello CA, Magee K, Clark K, Davies C. Density changes of black carbon particles and effects on particle movement and storage. Goldschmidt Geochemistry Conference, Yokohama, Japan.

April 2016 **Pyle LA**, Masiello CA, Magee K, Clark K, Davies C. Charcoal physical characteristics in soils. European Geosciences Union General Assembly, Vienna, Austria.

July 2015 **Pyle LA.** Quick introduction to burnt toast: black carbon and its role in the global carbon cycle. CIDER 2015, UC Berkeley, Berkeley, CA.

December 2014 **Pyle LA**, Hockaday WC, Boutton TW, Zygourakis K, Kinney TJ, Masiello CA. Chemical and isotopic thresholds in charring: implications for the interpretation of charcoal mass and isotopic data. Fall American Geophysical Union Meeting, San Francisco, CA.

April 2013 **Pyle LA.** Introduction to the study of soils. Invited Lecture for Earth Science into Action, Rice University, Houston, TX.

October 2013 Masiello CA, Brewer C, Dugan B, Liu Z, Gonnerman H, Zygourakis K, Gao X, Davies C, Panzacchi P, and **Pyle LA**. Biochar physical properties are key to understanding environmental performance. Geological Society of America Annual Meeting, Denver, CO.

July 2012 **Pyle LA**, Breecker DO, and Dickinson R. Isolating the effect of mineral-organic interactions on the decomposition of recalcitrant organic soil carbon. Eurosoil 4th International Congress, Bari, Italy.

August 2011 Hockaday WC, Gallagher ME, Masiello CA, **Pyle LA**, Polley WH, Baldock JA. Biochemical inventories as a tool to assay ecosystem carbon dynamics. Ecological Society of America Meeting, San Antonio, TX.

December 2010 **Pyle LA**, Masiello CA, Hockaday WC, Boutton TW, Kinney T, and LeCroy C. Production and isotopic composition of black nitrogen following experimental charring of plant materials. AGU Fall Meeting, San Francisco, California.

December 2010 Hockaday WC, Gallagher ME, Masiello CA, **Pyle LA**, Polley WH, Baldock JA. The Response of Soil Carbon Stocks to Changing Atmospheric Carbon Dioxide Concentrations are Soil-Type-Dependent. Fall American Geophysical Union Meeting, San Francisco, CA.

October 2010 Masiello CA, Hockaday WC, Zygourakis K, Dugan B, Rudgers JA, Alvarez PJJ, Boutton TW, **Pyle LA**, Kinney TJ, Sun H, Li D. Biochar Research at Rice University: An Overivew. Geological Society of America, Denver, CO.

TEACHING/ACTIVITIES

Spring 2017 Instructor: Freshman Environmental Seminar – introduction for freshman students to scientific research. Duties include: syllabus/assignment design, lecture, grading

Fall 2016	Teaching Assistant: Global Biogeochemical Cycles – examines elemental cycles, particularly carbon and nitrogen. Duties include: leading lectures and group discussion, grading, lab development.
Spring 2016	Teaching Assistant: Earth's Interior - core geophysics course for Rice University undergraduates. Duties include: teaching lab, mentoring students, grading.
Summer 2015	CIDER participant, University of California, Berkeley - cooperated with other scientists on an interdisciplinary self-led original research project.
Summer 2011	Collaborated with Biogeochemical research group at University of Zurich on developing char characterization methods and field trials with char and fertilizer application.

FIELD EXPERIENCE

July 2016 – Organized and co-lead industry funded geological field trip through the Canadian Rockies.

Summer 2014 & 2015 – Planned and executed two summer field campaigns in the New Jersey Pine Barrens to collect soil samples for my PhD work. Data published in dissertation and journal publication forthcoming.

2012 & 2013 – Collected soil samples in regions impacted by the 2011 Texas wildfires, a result of prolonged drought. Data published in Pyle, et al. 2017.

PROPOSAL HISTORY

2016 - "*The production and movement of pyrogenic carbon through the landscape*," P.I.: L.A. Pyle. American Association of University Women, $20,000, Declined.

2016 - "*The production and movement of charcoal through the landscape*," P.I.: L.A.Pyle. Ford Foundation Fellowship Program, $25,000, Honorable Mention.

2015 - "*The abundance of charcoal and its movement through the landscape*," P.I.: L.A. Pyle. American Association of Petroleum Geology, $3,000, Declined.

2014 - "*Climate change impacts on carbon storage in soils in the Pine Barrens*," P.I.: L.A. Pyle. Joint Fire Science Program, $34,135, Declined.

2013 - Calvert Scholarship, P.I.: L.A. Pyle. Houston Geological Society, $18,000, Funded.

2012 - Sam & Helen Worden Fellowship, P.I.: L.A. Pyle. Rice University, $29,000, Funded.

2011 - "*Black carbon stability in soils across a range of climates*," P.I.: L. A. Pyle. National Science Foundation, $30,000/year, Honorable Mention.

EXTERNAL SERVICE

Ad hoc journal reviewing: Environmental Science & Technology, PLOS ONE, Journal of Analytical and Applied Pyrolysis.

LEADERSHIP

Mentor for REU student in Biogeochemistry lab, Summer 2016
American Association of Petroleum Geologists Rice Student Chapter, President, 2015-2016

American Association of Petroleum Geologists Rice Student Chapter, Treasurer, 2014-2015
Rice Earth Science Department Geounion, President, 2013-2014
Mentor for REU students in Isotope Geochemistry lab, Summer 2012
Geosciences Congressional Visits Day 2011, Graduate Student Attendee

MEMBERSHIPS

Soil Science Society of America, Member
Geological Society of America, Member
European Geosciences Union, Member
American Geophysical Union, Member

CERTIFICATIONS

Volunteer Burn Team Certified, Armand Bayou Nature Center, December 2008