

Verity G. Salmon, PhD

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EDUCATION

- 2011- 2016 PhD August 2016
Biology Department, University of Florida, College of Liberal Arts and Sciences
- 2005-2009 Bachelor of Arts
Biology (magna cum laude)
Boston University, College of Arts and Sciences

RESEARCH EXPERIENCE

Fall 2011- Summer 2016 Doctoral research at University of Florida (Gainesville, FL)

PhD research supervised by Dr. Edward Schuur with field work in Healy, AK. Growing seasons were spent working within the Carbon in Permafrost Experimental Heating Research (CiPEHR) project. Research focused on coupling changes in ecosystem carbon balance with changes in nitrogen cycling during the process of permafrost thaw.

Fall 2009- Fall 2011 Research Assistant at Marine Biological Laboratory (Woods Hole, MA)

Research technician for Dr. Gaius Shaver at Ecosystems Center. June-August were spent at Toolik Lake LTER, North Slope, AK. All lab and field work in support of the International Tundra Experiment (ITEX). Primary focus of research was determining the effects of fire and long term fertilization on tundra ecosystems.

Fall 2008- Fall 2009 Undergraduate Thesis for Distinction (Boston University, Boston, MA)

Conducted research under the supervision of Dr. Adrien Finzi on the role Eastern Hemlock (*Tsuga canadensis*) tannins play in nitrogen cycling of temperate forest soils.

PUBLICATIONS

V. G. Salmon, P. Soucy, M. Mauritz, G. Celis, S. M. Natali, M. C. Mack, and E. A. G. Schuur, "Nitrogen availability increases in a tundra ecosystem during five years of experimental permafrost thaw," *Glob. Chang. Biol.*, 2016.

K.K. Deane-Coe, M. Mauritz, G. Celis G, **V. G. Salmon**, K. G. Crummer, S.M. Natali, E. A. G Schuur. "Experimental warming alters productivity and isotopic signatures of tundra mosses," *Ecosystems*, 18, 1070, 2015.

S. M. Natali, E. A. G. Schuur, M. Mauritz, J. D. Schade, G. Celis, K. G. Crummer, C. Johnston, J. Krapek, E. Pegoraro, **V. G. Salmon**, and E. E. Webb, "Permafrost thaw and soil moisture driving CO₂ and CH₄ release from upland tundra," *J. Geophys. Res. Biogeosciences*, pp. 1–13, 2015.

M. J. Weg, G. R. Shaver, and **V. G. Salmon**, "Contrasting effects of long term versus short-term nitrogen addition on photosynthesis and respiration in the Arctic," *Plant Ecol.*, vol. 214, no. 10, pp. 1273–1286, 2013.

G. R. Shaver, E. B. Rastetter, **V. G. Salmon**, L. E. Street, M. J. van de Weg, A. Rocha, M. T. Van Wijk, and M. Williams, "Pan-Arctic modelling of net ecosystem exchange of CO₂," *Philos. Trans. R. Soc. B Biol. Sci.*, vol. 368, no. 1624, p. 20120485, 2013.

FELLOWSHIPS AND AWARDS

2016	Department of Energy Science Student Travel Fellowship (\$500)
2015	University of Florida, Graduate Student Council Travel Grant (\$350)
2015	University of Florida, College of Liberal Arts and Sciences Travel Grant (\$300)
2015	Department of Energy Science Student Travel Fellowship (\$500)
2014	University of Florida, College of Liberal Arts and Sciences Travel Grant (\$300)
2014	Permafrost Young Researchers Network Travel Grant (\$500)
2013	Discover Denali Research Fellowship through Denali National Park (\$6000)
2011	Graduate Student Fellowship, University of Florida (tuition & stipend)
2009	Biology Department Honors Thesis Work for Distinction, Boston University
2008-2009	Funded Research Opportunity Grants, UROP, Boston University (\$1000 total)

RESEARCH TOOLS

Lab methods

Set up of long term soil incubation & processing of automated CO₂ flux measurements
TIC/TN analyzer for dissolved organic carbon and total nitrogen concentration (Shimadzu)
Autoanalyzer for ammonium and nitrate concentrations (Astoria Pacific)
Chloroform slurry method soil microbial biomass
Denitrifier method for $\delta^{15}\text{N}$ analysis
Elemental Analyzer for CN
Chlorophyll extraction
Substrate induced respiration in temperate forest soils using ¹⁴C labeled amino acids
Tannin extraction and purification on chromatographic column
Phenolic characterization (Prussian blue and acid butanol method)
Assays for soil proteolytic capacity and enzyme activity

Field methods

Identification of vascular and non-vascular plant species in moist acidic tussock tundra
Point intercept method for nondestructive aboveground biomass sampling
Cation and Anion binding resins for soil nitrogen availability
Spectral analysis of arctic vegetation (Unispec SC, Unispec DC, ASD FieldSpec and Tetracam)
Autochamber system maintenance
Collection of ¹⁴CO₂ samples
CO₂ flux measurement with LiCOR 6400 (leaf level) and LiCOR 820 (chamber level)
Soil, root, foliar and fungal sampling
Datalogger programming and data handling

Data analysis

Proficient in R (data processing, graphing and statistics)
Experience with manipulating large, multiyear datasets for publication as well as archival
Use of LTER, Ameriflux, Fluxnet and MODIS databases

Communication

Participation in scientific meetings (AGU annual meeting, Permafrost Coordination Network)
Denali National Park Factsheet on permafrost carbon research
Reviewer for *Ecology*, *Biogeosciences*, and *Biogeochemistry*

SHARED DATA PRODUCTS

Five years of aboveground biomass from the CiPEHR project. Bonanza Creek LTER data archives
<https://portal.lternet.edu/nis/mapbrowse?packageid=knb-lter-bnz.501.10>

Six years of plot level NDVI from EML Site in Healy, AK. Bonanza Creek LTER data archives
<https://portal.lternet.edu/nis/mapbrowse?packageid=knb-lter-bnz.638.2>