Rose Abramoff

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Current position

Postdoctoral Researcher, Laboratoire des Sciences du Climat et de l'Environnement

Areas of specialization

Biogeochemistry • Terrestrial Biosphere Modeling • Synthesis and Statistical Analysis

Appointments held

2018- Postdoctoral Researcher, Laboratoire des Sciences du Climat et de l'Environnement
2015-2018 Postdoctoral Researcher, Lawrence Berkeley National Laboratory
2009-2015 Teaching Fellow, Boston University

Education

2015 PhD in Biology: Ecology, Behavior and Evolution, Boston University
2015 Certificate in Biogeochemistry, Boston University
2009 BA in Biology, Amherst College
2009 BA in Theater and Dance, Amherst College

Publications & talks

Peer-reviewed articles

2021 **Abramoff RZ**, Georgiou K, Guenet B, Torn MS, Huang Y, Zhang H, Feng W, Jagadamma S, Kaiser K, Kothawala D, Mayes MA, Ciais P, How much more organic carbon can be sorbed to soil? *accepted, Biogeochemistry Letters*

2021 Riley WJ, Sierra C, Tang JY, Bouskill NJ, Zhu Q, **Abramoff RZ**, Next generation soil biogeochemistry model representations: A proposed community open source model farm (BeTR-S). *accepted, in Multi-Scale Biogeochemical Processes in Soil Ecosystems: Critical Reactions and Resilience to Climate Changes, eds. Y. Yang, M. Keiluweit, N. Senesi and B. Xing.*

2020 Zhang H, Goll D, Wang YP, Ciais P, Wieder W, **Abramoff RZ**, Huang Y, Guenet B, Prescher A-K, Viscarra Rossel R, Barré P, Chenu C, Zhou G, Tang X, Microbial dynamics and soil physicochemical properties explain large scale variations in soil organic carbon. *Global Change Biology* DOI:10.1111/gcb.14994

2019 **Abramoff RZ**, Torn MS, Georgiou K, Tang J, Riley WJ, Soil organic matter temperature sensitivity cannot be directly inferred from spatial gradients. *Global Biogeochemical Cycles* 33:6, 761-776, DOI:10.1029/2018GB006001

2018 Contributing author to: 2nd State of the Carbon Cycle Report. Chapter 12: Soils

2018 Sulman BN, Moore JAM, **Abramoff RZ**, Averill C, Kivlin S, Georgiou K, Sridhar B, Hartman M, Wang G, Wieder WR, Bradford MA, Luo Y, Mayes MA, Morrison E, Riley WJ, Salazar A, Schimel JP, Tang J, Classen AT, Multiple models and experiments underscore large uncertainty in soil carbon dynamics. *Biogeochemistry* 141:2, 109-123, DOI:10.1007/s10533-018-0509-z

2018 Savage K, Davidson EA, **Abramoff RZ**, Finzi AC, Giasson M-A, Partitioning Soil Respiration: Quantifying the Artifacts of the Trenching Method. *Biogeochemistry* 1-11. DOI:10.1007/s10533-018-0472-8

2018 **Abramoff RZ**, Xu X, Hartmann M, O'Brien S, Feng W, Davidson EA, Finzi AC, Moorhead D, Schimel J, Torn MS, Mayes M (2018), The Millennial model: in search of measurable pools and exchanges in soil carbon cycling for the new century. *Biogeochemistry* 1-21, DOI:10.1007/s10533-017-0409-7

2017 Georgiou K, **Abramoff RZ**, Harte J, Riley WJ, Torn MS (2017), Microbial community-level regulation explains soil carbon responses to long-term litter manipulations. *Nature Communications* 1223, 1-10, DOI: 10.1038/s41467-017-01116-z

2017 **Abramoff RZ**, Davidson EA, Finzi AC (2017), A parsimonious modular approach to building a mechanistic belowground carbon and nitrogen model. *JGR Biogeosciences* 122, DOI:10.1002/2017JG003796

2016 **Abramoff RZ**, Finzi AC (2016), Seasonality and partitioning of root allocation to rhizosphere soils in a midlatitude forest. *Ecosphere* 7.11, e01547, DOI:10.1002/ecs2.1547

2015 Finzi AC, **Abramoff RZ**, Darby BA, Spiller KS, Brzostek ER, Phillips RP (2015), Rhizosphere processes are quantitatively important components of terrestrial carbon and nutrient cycles. *Global Change Biology* 21.5, 2082-2094, DOI: 10.1111/gcb.12816

2015 **Abramoff RZ**, Finzi AC (2015), Are above-and below-ground phenology in sync? *New Phytologist* 205.3, 1054-1061, DOI: 10.1111/nph.13111

Datasets

2017 Vaughn L, Zhu B, Bimueller C, Porras R, Curtis B, Chafe O, **Abramoff RZ**, Bill M, Torn MS, Soil Mesocosm CO_2 Emissions after 13C-glucose Addition, Soil Physical and Chemical Characteristics, and Microbial Biomass, Barrow, Alaska, 2014-2016. *Next Generation Ecosystems Experiment-Arctic, Oak Ridge National Laboratory (ORNL), Oak Ridge, TN (US)* DOI: 10.5440/1364061

2016 **Abramoff RZ**, Finzi AC (2016), Phenology and Carbon Allocation of Roots at Harvard Forest 2011-2013. *Long Term Ecological Research Network*, Dataset. DOI:10.6073/pasta/b2fe6d68f23ad815f62a022826028328

Selected Invited Oral Presentations

2020 **Abramoff RZ**, Microbes, minerals, and math: Mechanisms of soil C sequestration, the models used to make predictions, and their role in understanding global climate change. *Williams College Colloquium, Williamstown*

2019 **Abramoff RZ**, Georgiou K, Guenet B, Huang Y, Zhang H, Feng W, Jagadamma S, Kaiser K, Kothawala D, Mayes M, Camino-Serrano M, Ciais P, Maximum capacity of mineral-sorbed organic matter. *Soil process seminar, LUKE, Helsinki*

2018 **Abramoff RZ**, Torn MS, Georgiou K, Tang J, Riley WJ, A tale of four models, or Spatial gradients can hide the temperature sensitivity of soil organic matter to warming. *Enviro-Lunch Seminar, UC Merced*

2017 **Abramoff RZ**, Georgiou K, Tang J, Torn MS, Riley WJ, Mineral surface properties and mean annual temperature control soil carbon stock. *Department of Geography, UZH Zurich*

2017 **Abramoff RZ**, Harden J, Georgiou K (presenting author), Tang J, Torn MS, Riley WJ, Managing for C sequestration: a modeling framework for decision-making. *European Geophysical Union Annual*

Meeting, Vienna, Austria

Grants, honors & awards

2020 H2020 Work Programme Sustainable Food Security (Holisoils No.101000289) Participant
2018 Marie Curie Individual Fellowship (No.834169)
2018 MOPGA Laureate
2017 LBNL EESA Early Career Development Grant
2015 BU Biogeoscience Symposium Outstanding Oral Presentation Award
2014 AAUW Dissertation Fellowship
2013 AGU Outstanding Student Paper Award
2012,2014 AGU Student Travel Grant Award
2012-2014 BU George R. Bernard, Jr. Travel Award
2011-2014 BU GRS Graduate Scholarship
2011-2012 NSF Graduate STEM in K-12 Education Fellowship
2010-2014 BU Teaching Fellowship
2010 NSF East Asia and Pacific Summer Institutes Fellowship
2009-2011 Amherst College Fellowship for Graduate Study
2009 BU Dean's Fellowship
2007 Howard Hughes Medical Institute Independent Research Fellowship

Teaching & Mentorship

2013-2014 Pomona College undergraduate thesis advisor: Johanna Recalde
2012,2013 Harvard Forest REU Program Mentor: Samuel Knapp, Arline Gould, Johanna Recalde
2011-2015 Undergraduate Research Intern Mentor: Amanda Alon, Aubree Woods
2011-2012 NSF GK-12 GLACIER Teaching Fellow: Curley K-8 School
2010-2015 BU Teaching Fellow: Biology I, Biology II, Ecology

Service to the profession

Professional Service

2020 Expert Reviewer for EJP SOIL 1st Internal Call
2019- Biogeo Seminar Series Co-organizer
2019- Ecological Forecasting Initiative Member
2019 Expert Reviewer for Working Group I IPCC Sixth Assessment Report
2017- European Geophysical Union Member
2016-2019 LBNL Women Scientists and Engineers Council Empowerment Committee Member
2016-2017 CRS BASIS Steering Committee Member
2016 CCIWG International Decade of Soil Workshop Organizer
2015-2018 AGU Global Environmental Change Executive Committee Member
2014- Reviewer for 20+ journals, including: Nature Climate Change, Nature Communications, Global Change Biology, Ecology Letters, New Phytologist, Soil Biology $ Biochemistry, Geoscientific
2013-2015 Model Development, Biogeosciences, Agricultural & Forest Meteorology LTER Higher Education Working Group Member
2013-2015 LTER Harvard Forest Graduate Student Representative
2012-2015 Ecological Society of America Member

2012- American Geophysical Union Member

Outreach

2017-2018 The Climate Music Project Science Advisor
2015-2016 CRS BASIS Volunteer & Team Leader
2012-2015 BU Advocates for Literacy in Environmental Sciences Founding Member
(Received Graduate Student Organization Award for Excellence in Student Activities)
2013 Pierce School Climate Change Summit Moderator
2012 Curley K-8 School Science Fair Judge
2011 NSF GK-12 GLACIER Fundraiser Organizer
2011 Summer Pathways Program: Tech Savvy Program Coordinator
2011 Biology Inquiry & Outreach with Boston University Graduate Students Volunteer Instructor

Media Mentions

2018 One Planet Summit: Rose Abramoff concrétise son projet de recherche avec le programme Make Our Planet Great Again YouTube
2018 When Rainforest is Cleared for Palm Oil, a Jet Liner of Carbon is Produced Inverse
2017 EESA Leads Development of New-Generation Soil Carbon Model EESA News Page
2017 Editor's Highlight Journal of Geophysical Research: Biogeosciences
2017 EESA Research Shines Light on Role Soil Microbes Play in Carbon Sequestration EESA News Page
2015 Tracing Our Roots: GRS student digs deep into the carbon cycle BU Today

Programming Skills

R, Matlab, Fortran, Python, High Performance Computing