

# Courtney D. Giles (she/her)

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## EDUCATION

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**2007** Chemistry BS & Environ. Geochem. Sci. BA, State University of New York, New Paltz

**2012** Civil & Environmental Engineering PhD, University of Vermont, Burlington VT

## EMPLOYMENT

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**2024-present** Associate Dean for Academic Affairs  
Senior Lecturer, Civil & Environmental Engineering  
College of Engineering and Mathematical Sciences (CEMS)  
University of Vermont (UVM)

**2019-2024** Director of Curricular Enrichment  
Lecturer, Civil & Environmental Engineering  
UVM College of Engineering and Mathematical Sciences

**2017-19** Engineering Labs Manager  
UVM College of Engineering and Mathematical Sciences

**2014-16** Postdoctoral Research Associate  
James Hutton Institute, Dundee, UK

**2012-14** Postdoctoral Research Associate  
NSF EPSCoR Research on Adaptation to Climate Change  
University of Vermont

**2007-12** Graduate Research/Teaching Assistant, University of Vermont

## SERVICE

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University

**2024** Catamount Core Curriculum Committee Working Group

**2023-present** International Faculty Advisory Board

**2022-2023** International Education: External Programs, Exchange Programs, and  
Study Abroad Parity Working Group

**2022-2023** Catamount Global TREK Advisory Committee

**2021-2023** Salt Mitigation Task Force

**2019-2022** Center for Teaching and Learning Advisory Board

**2020** General Education Committee for Culminating Experience / Capstone

College

**2019-present** Pedagogical Innovation Committee, Co-Chair

**2019-present** Curriculum Committee, Chair 2019-2022

Department	
<b>2023-present</b>	Undergraduate Affairs Committee, Civil & Environmental Engineering
<b>2019-present</b>	Environmental Engineering Curricular Sub-committee
<b>2021</b>	Communication in Undergraduate Curricula Working Group

## HONORS AND AWARDS

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<b>2024</b>	Outstanding New Civic Learning Faculty of the Year Award
<b>2023</b>	Higher Education Resource Services (HERS) Leadership Institute Award
<b>2021</b>	CEMS Professional Service Award
<b>2019</b>	Lab Safety Partnership Award, UVM Risk Management & Safety
<b>2018</b>	Lab Safety Partnership Award, UVM Risk Management & Safety
<b>2016</b>	Travel award, FAPESP-British Council Workshop: "Managing the Rhizosphere to Alleviate Food Poverty". ESALQ, Piracicaba, Brazil
<b>2015</b>	Travel award, 9 <sup>th</sup> International Symposium of the International Society of Root Research, 'Roots Down Under'. Canberra, Australia
<b>2015</b>	Travel award, FAPESP-British Council Workshop, "Environmental and metabolic control of plant growth and development". UNICAMP Campinas, Brazil
<b>2014</b>	Young Scientist Award, 5 <sup>th</sup> International Symposium on Phosphorus in Plants and Soils/4 <sup>th</sup> Sustainable P Summit. Montpellier, France
<b>2011</b>	UVM School of Engineering, Graduate Teaching Assistant of the Year Award
<b>2009</b>	North East SAS Users Group Conference Student Scholarship, Burlington, VT
<b>2007</b>	Collegiate Science & Technology Entry Program (CSTEP) Senior Research Award
<b>2007</b>	Outstanding Poster, Alliance for Minority Participation (AMP)/CSTEP Conference
<b>2006</b>	Alliance for Minority Participation/CSTEP Book Award
<b>2003-04</b>	Women's Educational Society of Colorado College Scholarship

## PROFESSIONAL AFFILIATIONS

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<b>2019-present</b>	American Society for Engineering Education
<b>2015-17</b>	British Society of Soil Science
<b>2010-18</b>	Canadian Society of Soil Science
<b>2011-16</b>	American Geophysical Union
<b>2008-17</b>	Soil Science Society of America
<b>2007-17</b>	American Chemical Society

### Journal and Proposal Review

Canadian Journal of Soil Science • Journal of Soil Science and Plant Nutrition • European Journal of Soil Biology • Soil Science Society of America Journal • Journal of Environmental Quality • Plant and Soil • Biology and Fertility of Soils • Soil Biology and Biochemistry  
 • NSF Proposal Review: Geobiology and Low-Temperature Geochemistry Program 2015, 2016

## RESEARCH / GRANTS

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<b>2023-2026</b>	<i>Learning Map Framework to Align Instruction and Improve Student Learning in STEM Course Sequences</i> (NSF Improving Undergraduate STEM Education) PI: Giles; Co-PIs: P. Wijesinghe, L. Medsker, V. Seneviratne
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- 2023-2024** *The Classroom as Research: The Scholarship of Teaching and Learning* (UVM Office of the Provost and Senior Vice President, Faculty Professional Advancement Events)  
PI: Giles; Co-PIs: S. Harrington, H. Buckland-Parker
- 2022-2023** *UVM Salt Mitigation Task Force Co-Curricular Projects* (UVM Sustainability Fund)  
PI: Lens; Co-PIs: Giles, P. Campo, L. Wood, K. Stepenuck, E. Berliner
- 2021-2022** *UVM Salt Mitigation Task Force Co-Curricular Projects* (UVM Sustainability Fund)  
PI: Giles; Co-PIs: J. Lens, P. Campo, L. Wood, K. Stepenuck, E. Berliner

## FACULTY DEVELOPMENT

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### Coordinated: Workshops, Retreats, Book Groups, and Trainings

1200+ faculty and student participants since 2019

- 2024** UVM Scholarship of Teaching and Learning Symposium
- 2024** CEMS Spring Retreat: Inclusive Excellence Updates and Progress
- 2023** STEM Teaching Slam and Student Engagement Workshop with Scott Auerbach, UMass Amherst, at CEMS Spring Retreat, May 2023
- 2023** CEMS Integrated Concentration in Science Learning Community Meetings (3)
- 2022** TEACH Faculty Round Table: Brightspace Transition
- 2022** *Teaching with Case Studies* with Scott Auerbach UMass Amherst iCons
- 2022** TEACH Faculty Round Table: Physics Dept Welcome
- 2022** CEMS Graduate Student DEI Training
- 2022-23** CEMS Graduate Student *Leading an Effective Lab Session* workshop
- 2021-24** CEMS Peer Mentor, Student Leadership Retreat Sessions
- 2022** Engaging in the Scholarship of Teaching and Learning Book Group
- 2022** TEACH Faculty Round Table: Pandemic Teaching
- 2022** Kroepsch-Maurice Awardees: CEMS Faculty Panel Discussion
- 2022** CEMS Assessment Retreat
- 2021** *Designing, Managing, and Assessing Student Teams*
- 2021** *Academic Integrity in CEMS: Current Practices and Future Needs*
- 2021** Cheating Lessons Book Group
- 2021** *How to Avoid Cheating*, Jen and Deanna Garrett-Ostermiller CTL
- 2021** *Cheating with Chegg*, Jen and Deanna Garrett-Ostermiller CTL
- 2021** *Keeping it Real in College* with Scott Auerbach, UMass Amherst iCons
- 2021** *Introduction to Community Engaged Learning*, Susan Munkres
- 2021** *Active Learning for Busy Skeptics* with Mike Prince, Bucknell University
- 2021** *Teaching Backwards* with Mike Prince, Bucknell University
- 2021** *Practical Introduction to Problem & Project-based Learning* with Mike Prince
- 2021** *Inclusive Teaching Practices* with Holly Buckland-Parker CTL
- 2021** TEACH Faculty: Tips for Remote Finals and Alternative Assessments
- 2021** TEACH Faculty: What teaching looks like for me this semester
- 2021** *Humanizing Online and Remote Classrooms* with Christa Hagan-Howe
- 2020** *CEMS Classroom Technology: Applications for Different Modalities*
- 2020** *Remote and Online Assessment Tools: Blackboard and Respondus*
- 2020** *Screencasting Tools: Screencast-o-matic 101*
- 2020** CEMS Emergency Remote Instruction Drop-in Sessions
- 2020** *iClicker and iClicker Cloud* with Jen Garrett-Ostermiller CTL
- 2020-23** CEMS Teaching Support Drop-in Sessions

<b>2020-23</b>	CEMS New Faculty Teaching and Learning Orientation
<b>2019</b>	<i>Not All Active Learning is Created Equal</i> , A. Murray-Close, H. Buckland-Parker
<b>2019</b>	<i>Best Practices in Video and Screencasting</i> with Jen Garrett-Ostermiller CTL
<b>2017-18</b>	CEMS Laboratory Safety Day
<b>2016</b>	International Organic Phosphorus Workshop, UK
<b>2012</b>	VT-EPSCoR Research on Adaptation to Climate Change, Seminar Series
<b>2008-10</b>	Graduate Student Seminar, UVM Civil & Environmental Engineering

## PROFESSIONAL DEVELOPMENT ATTENDED

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<b>2023-24</b>	Higher Education Resource Services (HERS) Weekend Leadership Institute
<b>2023</b>	UVM Professional and Continuing Education Summit
<b>2023</b>	Teaching in the Inclusive Classroom Workshop
<b>2023</b>	How to Engineer Engineering Education, 3-day course at Bucknell University
<b>2023</b>	Aberdeen-UVM Leadership Exchange Program
<b>2023</b>	UVM Inclusive Excellence Symposium
<b>2023</b>	Navigating Differences in Teaching STEM workshop series
<b>2022</b>	Brightspace Essentials
<b>2022</b>	ASEE Essentials of Effective NSF Educational Proposal Preparation Course
<b>2022</b>	UVM Enrollment Management Summer Academy
<b>2022</b>	UVM Schedule of Courses Training
<b>2022</b>	National Survey of Student Engagement: Using UVM Student Data for Teaching
<b>2022</b>	UVM Scholarship of Teaching and Learning Research Design Workshop
<b>2022</b>	Project-based Learning: Strategies for Successful Teamwork, Kristin Wobbe WPI
<b>2021</b>	UVM Equity-Centered Trauma-Informed Education Book Group
<b>2021</b>	ASEE First Year Engineering Experience Online Conference
<b>2021</b>	National Effective Teaching Institute 2B Online Course
<b>2021</b>	Inclusive STEM Teaching Project MOOC
<b>2021</b>	Contemplative Practices for Anti-Racist Education, Dr. Kamilah Majied
<b>2021</b>	UVM Community Engaged Learning Faculty Fellows Program
<b>2020</b>	UVM Pivotal Pedagogy Workshop Series
<b>2020</b>	Teaching & Learning in the Diverse Classroom MOOC
<b>2020</b>	UVM Academic Assessment Training
<b>2020</b>	National Effective Teaching Institute 1A, San Diego CA
<b>2019</b>	Alan Alda Communicating Science Workshop, Burlington VT
<b>2018</b>	Machine Safeguarding Seminar, Rockford Systems LLC, IL
<b>2016</b>	Winning Research Funding, James Hutton Institute, Scotland
<b>2015</b>	Next Gen. Sequencing, James Hutton Institute, Scotland
<b>2015</b>	Scientific Writing for Publication. James Hutton Institute, Scotland
<b>2012</b>	NSF Communicating Science Workshop, Burlington VT

## PUBLICATIONS [Google Scholar](#)

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Giles, C.D., Wijesinghe, P., Seneviratne, V., Medsker, L. (2024) Learning Map Framework to Align Instruction and Improve Student Learning in a Physics-Engineering Mechanics Course Sequence. American Society for Engineering Education Annual Conference Proceedings, 23 – 26 June 2024.

Giles, C.D. (2023) Definitions of Success and Sense of Preparedness Among Engineering and Mathematical Sciences Students in a College-Wide First Year Seminar Course. 2023 ASEE Peer, Annual Conference Proceedings, 28 June 2023.

Giles, C.D. (2021) Widening the Umbrella in the Midst of a Pandemic: Mathematics, Statistics, and Computer Science Students Join First Year Engineering Design Course. 2021 ASEE Northeast Section Annual Meeting, 14 October 2021.

Liu, Z, R Worley II, F Du, CD Giles, M Dewoolkar, D Huston, T Tan (2020). Avalanches during flexure of early age basalt fiber reinforced concrete beams. Journal of Cleaner Production 279: 123695. doi: 10.1016/j.jclepro.2020.123695.

Liu, Z, R Worley II, F Du, CD Giles, M Dewoolkar, D Huston, T Tan (2020). Avalanches during flexure of early-age steel-fiber reinforced concrete beams. Materials & Structures 53: 160. doi: 10.1617/s11527-020-01520.

Giles, CD, AE Richardson, BJ Cade-Menun et al. (2018). Phosphorus acquisition by citrate- and phytase-exuding *Nicotiana tabacum* plant mixtures depends on soil phosphorus availability and root intermingling. Physiol Planta doi: 10.1111/ppl/12718.

Parker, SP, W Bowden, MB Flinn, CD Giles, et al. (2018). Effect of particle size and heterogeneity on sediment biofilm metabolism and nutrient uptake scaled using two approaches. Ecosphere 9: 1-18. doi: 10.1002/ecs2.2137.

Mezeli, MM, D Menezes-Blackburn, TS George, CD Giles et al. (2017). Effect of citrate on *Aspergillus niger* phytase and catalytic activity in soil. Geoderma 305: 346-353. doi: 10.106/j.geoderma.2017.06.015.

Giles, CD, L Dupuy, G Boitt et al. (2017). Root development impacts on the distribution of phosphatase activity: Improvements in quantification using soil zymography. Soil Biol Biochem 116. doi: 10.1016/j.soilbio.2017.08.011.

George, TS, CD Giles, D Menezes-Blackburn et al. (2017). Organic phosphorus in the terrestrial environment: a perspective on the state of the art and future priorities. Plant Soil 426: 191-208. doi: 10.1007/s11104-017-3391-x.

Menezes-Blackburn, D, CD Giles, T Darch et al. (2017). Opportunities for mobilizing recalcitrant phosphorus from agricultural soils: a review. Plant Soil 427: 5-16. doi: 10.1007/s11104-017-3362-2.

Darch, T, CD Giles, MSA Blackwell et al. (2017). Inter- and intra-species intercropping of barley cultivars and legume species, as affected by soil phosphorus availability. Plant Soil 427: 191-208. doi: 10.1007/s11104-017-3365-z.

Giles, CD, TS George, LK Brown et al. (2017). Linking the depletion of rhizosphere phosphorus to the heterologous expression of a fungal phytase in *Nicotiana tabacum* as revealed by enzyme-labile P and solution <sup>31</sup>P NMR spectroscopy. Rhizosphere 3: 82-91. doi: 10.1016/j.rhisph.2016.11.004.

Menezes-Blackburn, D, C Paredes, H Zhang, CD Giles et al. (2016). Organic Acids Regulation of Chemical-Microbial Phosphorus Transformations in Soils. *Environ. Sci. Technol.* 50: 11521-11531. doi: 10/1021/acs.est.6b03017.

Giles, CD, TS George, LK Brown et al. (2016). Response-based selection of barley cultivars and legume species for complementarity: Root morphology and exudation in relation to nutrient source. *Plant Sci.* 255: 12-28. doi: 10.1016/j.plantsci.2016.11.002.

Giles, CD, TS George, LK Brown et al. (2016). Does the combination of citrate and phytase exudation in *Nicotiana tabacum* promote the acquisition of endogenous soil organic phosphorus? *Plant Soil* 412: 43-59. doi: 10.1007/s11104-016-2884-3.

Alegria-Terrazas, R, CD Giles, E Paterson, S Robertson-Albertyn, S Cesco, T Mimmo, Y Pii, D Bulgarelli (2016). Plant-microbiota interactions as a driver of the mineral turnover in the rhizosphere. *In: Advances in Applied Microbiology*. Elsevier.

Menezes-Blackburn, D, H Zhang, M Stutter, CD Giles et al. (2016). A Holistic Approach to Understanding the Desorption of Phosphorus in Soils. *Environ Sci Technol.* doi: 10.1021/acs.est.5b05395.

Isles, PDF, CD Giles, TA Gearhart, Y Xu, GK Druschel, AW Schroth, A.W. (2015). Dynamic internal drivers of a historically severe cyanobacteria bloom in Lake Champlain revealed through comprehensive monitoring. *J Great Lakes Res.* 41(3): 818-829. doi: 10.1016/j.jglr.2015.06.006.

Schroth, AW, CD Giles, PDF Isles, Y Xu, Z Perzan, GK Druschel (2015). Dynamic Coupling of Iron, Manganese, and Phosphorus Behavior in Water and Sediment of Shallow Ice-Covered Eutrophic Lakes. *Environ Sci Technol.* 49(16): 9758-9767. doi: 10.1021/acs.est.5b02057.

Giles, CD, P Isles, G Druschel, AW Schroth (2015d). Phosphorus and metals mobility in the sediment-water continuum of a shallow, freshwater lake under stratified and mixed water-column conditions. *Biogeochem.* 127 (1): 15-34. doi: 10.1007/s10533-015-0144-x.

Giles, CD, L Hsu, M Hurst, AE Richardson, JE Hill (2015c). The role of *Pseudomonas* sp. gluconate production in the mineralization and bioavailability of calcium-phytate to *Nicotiana tabacum*. *Canadian J Microbiol.* 61(12): 885-97. doi: 10.1139/cjm-2015-0206.

Giles, CD, BJ Cade-Menun, JE Hill (2015b). The short-term transport and transformation of phosphorus species in a saturated soil following poultry manure amendment and leaching. *Geoderma.* 257-258: 134-141. doi: 10.1016/j.geoderma.2014.08.007.

Giles, CD, LG Lee, BJ Cade-Menun, JE Hill, G Druschel, AW Schroth (2015a). Characterization of Organic Phosphorus Form and Bioavailability in Lake Sediments using <sup>31</sup>P NMR and Enzymatic Hydrolysis. *J Environ Qual.* 44:1-13. doi:10.2134/jeq2014.06.0273.

Giles, CD, BJ Cade-Menun (2014). Phytate in Animal Manure and Soils: Abundance, Chemistry and Bioavailability, Chapter 11. *In: Applied Manure and Nutrient Chemistry for Sustainable Agriculture*. He, Z, H Zhang (eds). Springer. ISBN 978-94-017-8806-9.

Giles, CD, L Hsu, M Hurst, AE Richardson, JE Hill (2014). Plant assimilation of phosphorus from an insoluble organic form is improved by addition of an organic anion producing *Pseudomonas* sp. *Soil Biol Biochem.* 68: 263-269. doi:10.1016/j.soilbio.2013.09.026.

Giles, CD, AE Richardson, G Druschel, JE Hill (2012). Organic Anion-Driven Solubilization of Precipitated and Sorbed Phytate Improves Hydrolysis by Phytases and Bioavailability to *Nicotiana Tabacum*. *Soil Sci.* 177 (10): 591-598. doi: 10.1097/SS.0b013e318272f83f.

Hill, JE, CD Giles (2011). Think Globally, Act Locally: Targeting the Rhizosphere to Control Soil Fertility and Improve Water Quality. American Geophysical Union, Hydrology Section. December 2011 Newsletter, pp. 28-30.

Giles, CD, BJ Cade-Menun, JE Hill (2011). The Inositol Phosphates in Manures and Soils: Abundance, Cycling, and Measurement. Can J Soil Sci. 91: 397-416. doi: 10.4141/cjss09090.

## CONFERENCE PROCEEDINGS & PRESENTATIONS

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**2024** June 28 - Learning Map Framework to Align Instruction and Improve Student Learning in a Physics-Engineering Mechanics Course Sequence. American Society for Engineering Education Annual Conference, NSF Grantees Poster Session, Portland OR.

**2023** June 28 - Definitions of Success and Sense of Preparedness Among Engineering and Mathematical Sciences Students in a College-Wide First Year Seminar Course. 2023 ASEE Annual Conference, First Year Programs Division, Baltimore MD.

**2021** October 14 – ‘UVM Salt Mitigation Task Force’ Video Presentation at Adirondack Champlain Region Salt Summit, Lake George NY.

**2021** October 21 – American Society of Engineering Education, Northeast Section Meeting. Paper Presentation. Worcester Polytechnic Institute, Worcester MA.

**2018** September 10-13 – ‘*Quantitative measurement of phosphatase activity distribution in the rhizosphere – impact of root hairs*’. Talk. Symposium on Phosphorus in Soils and Plants, Leuven, Belgium.

**2016** May 25 – ‘*Complementary root exudation traits for improved acquisition of soil phosphorus*’. Talk. International Society of Root Research, Plant-Soil and Slope Interactions Workshop. Dundee, UK.

**2016** February 11 – ‘*Complementarity and soil phosphorus acquisition by barley and legume varieties with variable root biochemical and physiological responses to phosphorus deficiency*’. Talk. The James Hutton Institute, Annual Barley Away Day. Birnam, UK.

**2015** November 12. ‘*Characterization of phosphorus compounds in soil using solution <sup>31</sup>P NMR spectroscopy*’. Talk. British Society of Soil Science, autumn meeting of the South West Regional Discussion Group. Rothamsted Research North Wyke, Devon UK.

**2015** October 6 – 9. (1) ‘*Complementarity and soil phosphorus acquisition by barley and legume varieties with variable root biochemical and physiological responses to phosphorus deficiency*’. Talk. (2) ‘*Complementarity in the acquisition of phosphorus among citrate and phytase exuding tobacco (*Nicotiana tabacum*) plants*’. Poster. 9<sup>th</sup> International Symposium of the International Society of Root Research. Canberra, Australia.

**2015** July 5 – 10. (1) ‘*Temporal characterization of phosphorus forms, bioavailability, and mobility in Lake Champlain sediments*’. Talk. (2) ‘*Phosphorus transformations and mobility in the rhizosphere of phytase-exuding plants*’. Poster. (3) ‘*Short-term transport and transformation of phosphorus species from a poultry manure amended soil during leaching*’. Poster. Interactions of Soil Microorganisms and Organic Matter (ISMOM), Soil Interfaces for Sustainable Development Meeting. McGill University, Montreal, Canada.

**2015** March 23 – ‘*We want all the phosphorus! Plant and microbial strategies for improving plant utilization of soil organic phosphorus*’. Talk. British Council – FAPESP Workshop: ‘Environmental and metabolic control of plant growth and development’. Universidad Estadual de Campinas (UNICAMP), Campinas, Brazil.

**2014** November 21 – ‘*Exploiting root exudation of organic acids and phytases to enhance plant utilization of soil phosphorus*’. Poster. The James Hutton Institute, Annual Barley Away Day. Birnam, UK.

**2014** September 1-3 – ‘*Temporal and spatial studies of organic phosphorus cycling in sediments of a eutrophic bay in Lake Champlain, USA*’. Poster. Sustainable Phosphorus Summit, 5<sup>th</sup> International Symposium. Montpellier, France.

**2014** September 1 – Young Scientists’ Message to the 4<sup>th</sup> Sustainable Phosphorus Summit, Workshop Outcomes. Talk. Sustainable Phosphorus Summit, 5<sup>th</sup> International Symposium. Montpellier, France.

**2014** August 26-29 – ‘*The role of plant and bacterial organic anion production in plant access to insoluble organic phosphorus*’. Poster. Phosphorus in Soils and Plants, 5<sup>th</sup> International Symposium. Montpellier, France.

**2013** December 12 – ‘*The Use of Enzymatic Hydrolysis to Assess the Seasonal Mobility and Bioavailability of Organic Phosphorus in Lake Sediments*’. Poster. American Geophysical Union, Fall Meeting, San Francisco CA.

**2013** February 5 – ‘*The Role of Plant and Bacterial Organic Anion Production in Plant Access to Insoluble Organic Phosphorus*’. Talk. Organic Phosphorus Workshop, Smithsonian Tropical Research Institute, Panama.

**2013** February 4 – 6 – ‘*Characterization of Particulate and Sediment Phosphorus in a Hydrologic Transect of the Lake Champlain Basin: Phosphorus Species Analysis and Enzyme-Lability*’. Poster. Organic Phosphorus Workshop, Smithsonian Tropical Research Institute, Panama.

**2012** November 27 & October 11 – ‘*Phosphorus in the Environment: Classes, Compounds, and Analysis*’. Guest Lecture Series, UVM School of Engineering, CE295-B: Phosphorus in the Environment.

**2012** July 22 – 26 – ‘*Algal Availability of Sediment-Bound-Phosphorus Species in a Hydrologic Transect of the Lake Champlain Basin*’. Poster. Gordon Research Conference: The Metabolic Basis of Ecology, University of Maine, Biddeford ME.

**2011** September 4-7 – ‘*Secreted organic anions from Pseudomonas spp. solubilize myo-inositol hexakisphosphate from goethite surfaces, thereby increasing the potential for assimilation of phosphorus by plants*’. Poster. 13<sup>th</sup> International Pseudomonas Conference. Sydney, Australia.

**2011** October 21 – ‘*Optimizing Crop Productivity: The Role of Soil Bacteria in Plant Phosphorus Nutrition*’. Talk. UVM Board of Trustees Meeting, Burlington VT.

**2011** April 26 – ‘*Utilization of Organic Anion-Producing Pseudomonads to Improve Plant Access to Mineral-Bound Phytate in Soils*’. Poster. UVM Graduate Student Research Symposium, Burlington VT.

**2010** June 6 – 7 – ‘*Transformation and Leaching of Organic Phosphorus in a Poultry-Manure-Amended Vermont Soil*’. Poster. Lake Champlain Research Conference, Burlington VT.

**2009** November 1 – 5 – ‘*Leachate Phosphorus Fractionation Study of a Poultry-Manure-Amended Vermont Soil*’. Talk. Soil Science Society of America Annual Meeting, Pittsburgh PA.

**2009** August 16 – 20 – ‘*Phosphorus Mobility and Transformation in a Poultry Manure-Amended Soil Tracked Over Time and Depth*’. Talk. ACS National Conference, Washington D.C.

## **VOLUNTEERING & OUTREACH**

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**2017-23** FIRST Technical Challenge, Volunteer Coordinator, UVM CEMS  
**2018-20** Duxbury VT Land Trust Board Member & Outreach Committee  
**2018-20** Waterbury Community Yoga, Founder and Instructor, Waterbury VT  
**2016-17** People Learning About Nature in Tayport (PLANT), Tayport UK  
**2016** James Hutton Institute, LEAF Technical Day, Dundee UK  
**2015** Dundee Women in Science Festival, Dundee UK  
**2015** James Hutton Institute, LEAF Open Farm Sunday, Dundee UK  
**2015** Royal Highland Show, Edinburgh UK. *The Phosphorus Game*, K-12  
**2014** St. Andrew’s University Student Visit Day, Dundee UK  
**2012** *Research on Adaptation to Climate Change in the Lake Champlain Basin*.  
 Webinar VT-EPSCoR/RACC/CWDD, Burlington VT  
**2012** *Nutrient of Concern: Phosphorus in the Lake Champlain Basin*. VT-  
 EPSCoR/RACC. Orientation, Saint Michael’s College, Winooski VT  
**2012** *Overview of Lake and Watershed Processes in the Lake Champlain  
 Basin*. VT- EPSCoR/RACC. Intern Orientation, Saint Michael’s College  
**2010** MATHCOUNTS Middle School Math Competition. Burlington VT  
**2010** Vermont Works for Women – Chemistry Workshop. Essex Junction VT  
**2009** Camels Hump Middle School – *Fun with Phosphorus*, Richmond VT