

**Kristen M. DeAngelis, PhD**  
**CURRICULUM VITAE**

Department of Microbiology, University of Massachusetts Amherst  
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**PROFESSIONAL APPOINTMENTS**

2022-present Professor, Microbiology Department, University of Massachusetts Amherst  
2018-2022 Associate Professor, Microbiology Department, University of Massachusetts Amherst  
2011-2018 Assistant Professor, Microbiology Department, University of Massachusetts Amherst, Massachusetts USA  
2010-2011 Postdoctoral Research Associate, Microbial Communities Group, Deconstruction Division, Joint BioEnergy Institute, Emeryville CA USA  
2007-2010 Seaborg Postdoctoral Fellow, Ecology Department, Lawrence Berkeley National Laboratory, Berkeley CA USA  
2007 Postdoctoral Research Associate, Department of Ecosystem Sciences, Policy and Management (ESPM), University of California, Berkeley CA USA  
2000-2006 Graduate student researcher, University of California Berkeley, Microbiology Graduate Group, Plant and Microbial Biology Department, and Department of Environmental Sciences, Policy and Management  
2002-2003 Teaching assistant, University of California Berkeley, Integrative Biology  
1998-2000 Laboratory research technician, Department of Molecular and Cell Biology, University of California Berkeley, California USA  
1997-1998 Laboratory research technician, Boston Children's Hospital, Department of Clinical Chemistry and Clinical Chemistry Research Laboratory, Boston MA USA  
1996-1997 Undergraduate researcher, Dr. Joseph Coyle's lab working with Dr. Ruth Luthi-Carter, Harvard Medical School, Boston MA USA

**EDUCATION**

2000-2006 Ph.D., Microbiology, University of California Berkeley, CA USA  
1993-1997 B.S., Biology, Harvard University, Cambridge, Massachusetts USA

**AWARDS and HONORS**

2022-2025 Elected Officer to the Joint Genome Institute User Executive Committee, Incoming Chair  
2022-2024 American Society for Microbiology Waksman Foundation Lecturer  
2022 Elected Fellow of the American Academy of Microbiology  
2021-2022 University of Massachusetts Distinguished Professor Lecturer  
2021 Recipient of the University of Massachusetts Chancellor's Medal  
2021-2023 UMass ADVANCE Faculty Fellow  
2020-2023 Elected to the Metabolomics Chair, Joint Genome Institute User Executive Committee  
2020 Harvard Forest Bullard Fellow, Petersham MA  
2019 Public Engagement Project Faculty Fellow, University of Massachusetts, Amherst MA  
2017-2019 Elected Member, User Executive Committee, Environmental Molecular Sciences Lab  
2013-2016 Elected Officer of the Microbial Ecology Section of the Ecological Society of America  
2013 Workshop on Sustainable Bioenergy, Department of Energy, Biological and Environmental Research (BER), Germantown, Maryland USA  
2007-2010 Glenn T. Seaborg Postdoctoral Fellow  
2006 Best Student Paper, Soil Ecology Section, Ecological Society of America  
2006 Raymond W. Sarber Award for Academic Achievement in Microbiology, American Society of Microbiology  
2004 National Science Foundation Doctoral Dissertation Improvement Award  
2003-2005 Environmental Protection Agency Science-to-Achieve-Results (EPA STAR) Fellow

## RESEARCH SUPPORT

### Currently Sponsored Projects

Dates	Titles	Funding Source	Co-Investigators
9/01/2022 - 08/31/2025	How Microbes and Minerals Make Necromass that Persists (DE-SC0022996)	Department of Energy \$2,358,722)	<b>KM DeAngelis</b> (PI), E Ruff, M Kleiner, M Mayes (co-Is)
10/01/2022 - 09/30/2024	Evolution of soil microbial stress-biogeochemistry metabolism under climate change across seasons	DOE Joint Genome Institute Community Sequencing Program <sup>i</sup>	<b>KM DeAngelis</b> (PI), J Bhatnagar, C Hicks Pries (co-Is)
9/1/2021 – 8/31/2024	Linking root and soil microbial stress metabolism to watershed biogeochemistry under rapid, year-round environmental change (DE-SC0022194)	Department of Energy, ESS (\$282,686)	J Bhatnagar (PI), KM DeAngelis, P Templer, C Driscoll (co-Is)
7/1/2018 – 6/30/2023	CAREER: Microbial ecology and evolution in a warming world (DEB-1749206)	NSF BIO: Division of Environmental Biology (\$946,705)	<b>KM DeAngelis</b> (PI)

### Past Funded Proposals

Dates	Titles	Funding Source	Co-Investigators
10/1/2021 – 9/30/2023	Using genomics to understand microbial adaptation to soil warming	Department of Energy, Joint Genome Institute Community Sequencing Program	<b>KM DeAngelis</b> (PI), M Choudoir, S Frey (co-Is)
9/01/2018 – 8/31/2022	Collaborative Research: Manganese(III)-driven Carbon Oxidation at Oxidic-Anoxic Interfaces (EAR-1852754)	NSF Geobiology & Low-temp Geochemistry (\$428,327)	M Keiluweit (PI), J Mao, KM DeAngelis (co-Is)
9/1/2016 – 8/31/2021	The “Who” and “How” of Microbial Control over Soil Carbon Dynamics: A Multi-omics, Stable Isotope Probing, and Modeling Approach	Department of Energy Genomic Sciences Program, \$1,887,107 (\$865,511 to UMass)	<b>KM DeAngelis</b> (PI), S Frey, S Grandy, E Conlon, S Sistla (co-Is)
9/1/2016 – 8/31/2021	Resolving Conflicting Physical and Biochemical Feedbacks to Climate in Response to Long-Term Warming	Department of Energy Terrestrial Ecosystem Sciences, \$600,000 (\$295,830 to UMass)	<b>KM DeAngelis</b> (PI), S Frey, J Melillo, B Mishra, K Kemner (co-Is)
6/1/2020 – 5/31/2021	Mechanisms of soil microbial adaptation to long-term chronic warming: linking genes to metabolites and changes in C cycling	DOE Joint Genome Institute Community Sequencing Program	L Domeignoz-Horta (PI), KM DeAngelis (co-PI)
1/1/2018 - 12/31/2020	Disentangling the relative contributions of the microbiome and physical protection in soil response to long-term environmental stress	DOE Joint Genome Institute Community Sequencing Program	XJA Liu (PI), KM DeAngelis (co-PI)
4/1/2015 – 3/30/2019	Collaborative Research: Soil warming and forest ecosystem feedbacks to the climate system in a Warming World (DEB-1456528)	NSF Long Term Research in Environmental Biology (LTERB), \$450,000 (no personal allocation)	J Melillo (PI), KM DeAngelis, S Frey, J Blanchard, J Tang (co-Is)

9/1/2016 – 8/31/2019	Microbial Carbon Transformations in Wet Tropical Soils: Effects of Redox Fluctuation	Department of Energy Joint Genome Institute (JGI) Community Sequencing Award	J Pett-Ridge (PI), A Campbell, KM DeAngelis, J Kimbrell, E Nuccio (co-Is)
8/1/2018 – 7/31/2019	Iron Chelator-Mediated Biotransformation of Lignin by Novel sp., <i>Tolomonas lignolytica</i> BRL6-1, in Anoxic Conditions	Environmental Molecular Sciences Lab (EMSL) General User Proposal	<b>KM DeAngelis (PI)</b> , G Chaput (co-I)
1/2016 – 12/2017	Expanding genomic diversity of terrestrial bacteria: linking genes to metabolism in the slower-growing members of forest soil bacterial communities	Department of Energy JGI microbial/ metagenome small-scale CSP Award	<b>KM DeAngelis (PI)</b> , G Pold (co-I)
9/1/2012 – 8/31/2017	Changes in soil carbon dynamics in response to long-term soil warming – Integration across scales from cells to ecosystems	DOE Terrestrial Ecosystem Sciences (TES), \$1.05M (\$525,000 to UMass)	J Melillo (MBL PI), <b>KM DeAngelis (UMass PI)</b> , J Blanchard
1/1/16 – 8/31/17	Developing a metabolic map in four targeted organisms using 13C-labeled versions of the lignin-derived model	Department of Energy Joint BioEnergy Institute (JBEI) sub-contract, \$50,000	<b>KM DeAngelis (PI)</b>
11/1/2013 – 10/31/2016	Effects of iron and mixed communities on two anaerobic lignin decomposing bacteria	Department of Energy, Environmental Molecular Sciences Lab (EMSL) Award	<b>KM DeAngelis (PI)</b>
1/1/15 – 12/31/15	Building the lignin metabolic map for the production of advanced biofuels	Department of Energy, Environmental Molecular Sciences Lab (EMSL) Award	<b>KM DeAngelis (co-I)</b> , BA Simmons (PI)
9/1/2011 – 8/31/2015	Microbial community dynamics in a long-term soil warming chronosequence	Department of Energy, Joint Genome Institute (JGI) Community Sequencing Award	J Blanchard (PI), KM DeAngelis, S Frey, J Melillo (co-Is)
9/1/2010 – 8/31/2014	Ecology and genomics of carbon storing bacteria in rhizosphere soils	Department of Energy, JGI Community Sequencing Award	<b>KM DeAngelis (PI)</b> , J Blanchard, T Woyke (co-Is)
11/1/2009 – 10/31/2013	Investigation of anaerobic lignocellulose decomposition in Puerto Rico tropical forest soils and isolates	Department of Energy, Environmental Molecular Sciences Lab (EMSL) Award	<b>KM DeAngelis (PI)</b>

## PUBLICATION RECORD

### PEER-REVIEWED PUBLICATIONS ([orcid.org/0000-0002-5585-4551](https://orcid.org/0000-0002-5585-4551), [Google Scholar](#))

Notations are included for graduate, undergraduate (<sup>UG</sup>), and high school (<sup>HS</sup>) student authors, authors that contributed equally (&), corresponding author if not last author (\*).

#### Articles in Refereed Journals (*last 5 years only*)

Hailey Erb, Ashley Keiser, **Kristen M. DeAngelis**. "Salt Marsh Soil Organic Carbon is Regulated by Drivers of Microbial Activity." *Sustainable Microbiology*, *in press* (2024).

Xiao Jun A. Liu, Shun Han, Serita D. Frey, Jerry M. Melillo, Jizhong Zhou, and **Kristen M. DeAngelis**. "Microbial responses to long-term warming differ across soil microenvironments." *ISME Communications* (2024): ycae051.

- Ashley Y. Eng<sup>UG</sup>, Achala Narayanan, Charlotte J. Alster, and **Kristen M. DeAngelis**. "Thermal adaptation of soil microbial growth traits in response to chronic warming." *Applied and Environmental Microbiology* 89, no. 11 (2023): e00825-23.
- Luiz Domeignoz-Horta, Grace Pold, Hailey Erb, David Sebag, Eric Verrecchia, Trent Northen, Katherine Louie, Emiley Eloie-Fadrosch, Christa Pennacchio, Melissa A. Knorr, Serita D. Frey, Jerry M. Melillo, **Kristen M. DeAngelis**. "Substrate availability and not thermal-acclimation controls microbial temperature sensitivity response to long term warming." *Global Change Biology*, 29, 1574-1590. <https://doi.org/10.1111/gcb.16544>
- Megan Mitchell, Meghan Graham MacLean, **Kristen M. DeAngelis**. "Microbial Necromass Response to Soil Warming: A Meta-Analysis." *Frontiers in Soil Science*, special article collection "Reviews in Soil Organic Matter Dynamics and Carbon Sequestration 2022". 2:987178. <https://doi.org/10.3389/fsoil.2022.987178>
- Eric Morrison, Joseph L. Seigny, W. Kelley Thomas, **Kristen M. DeAngelis**, A. Stuart Grandy, Serita D. Frey. "Evidence for a genetic basis in functional trait tradeoffs with microbial growth rate but not growth yield." *Soil Biology and Biochemistry* 172:108765 (2022) <https://doi.org/10.1016/j.soilbio.2022.108765>
- Gina Chaput, Jacob Ford<sup>UG</sup>, Lani DeDiego<sup>HS</sup>, Achala Narayanan<sup>UG</sup>, Wing Yin Tam<sup>UG</sup>, Meghan Whalen<sup>UG</sup>, Marcel Huntemann, Alicia Clum, Alex Spunde, Manoj Pillay, Krishnaveni Palaniappan, Neha Varghese, Natalia Mikhailova, I-Min Chen, Dimitrios Stamatis, T.B.K. Reddy, Ronan O'Malley, Chris Daum, Nicole Shapiro, Natalia Ivanova, Nikos C. Kyrpides, Tanja Woyke, Tijana Glavina del Rio, and **Kristen M. DeAngelis**. "*Sodalis ligni* strain 159R isolated from an anaerobic lignin degrading consortium." *Microbiology Spectrum* 10:3 (2022). <https://doi.org/10.1128/spectrum.02346-21>
- Luiz Domeignoz-Horta, Melissa Shinfuku, Pilar Junier, Simon Poirier, Eric Verrecchia, David Sebag, **Kristen M. DeAngelis**. "Direct evidence for the role of microbial community composition in the formation of soil organic matter composition and persistence." *ISME Communications* 1, no. 1 (2021): 1-4. <https://doi.org/10.1038/s43705-021-00071-7>
- Priyanka Roy Chowdhury, Andrew F. Billings, Lauren V. Alteio, Jeffrey Blanchard, Jerry M. Melillo, **Kristen M. DeAngelis**. "The transcriptional response of bacteria to long-term warming and short-term seasonal fluctuations in a temperate forest." *Frontiers in Microbiology* (2021), 12:666558. <https://doi.org/10.3389/fmicb.2021.666558>
- Xiaojun Allen Liu, Serita D. Frey, Jerry M. Melillo, **Kristen M. DeAngelis**. "Physical protection mediates microbial thermal responses to long-term warming." *Soil Biology and Biochemistry* (2021b), 159, p.108298. <https://doi.org/10.1016/j.soilbio.2021.108298>
- Suzanne Ishaq, Francisco Parada Flores, Patricia Wolf, Carla Bonilla, Megan Carney, Amber Benezra, Emily Wissel, Michael Friedman, **Kristen DeAngelis**, et al. Perspective: "Introducing the Microbes and Social Equity Working Group: Considering the Microbial Components of Social, Environmental, and Health Justice." *ASM mSystems* (2021). 6(4), pp.e00471-21. <https://doi.org/10.1128/mSystems.00471-21>
- Gregory Pec, Linda van Diepen, Melissa Knorr, A. Stuart Grandy, Jerry Melillo, **Kristen M. DeAngelis**, Jeffrey Blanchard, Serita Frey. "Fungal Community response to long-term soil warming with potential implications for soil carbon dynamics." *Ecosphere* (2021), 12 (5): e03460. <https://doi.org/10.1002/ecs2.3460>
- Xiaojun Allen Liu, Grace Pold, Luiz A. Domeignoz-Horta, Kevin M. Geyer, Hannah Caris<sup>HS</sup>, Hannah Nicolson<sup>HS</sup>, Kenneth M. Kemner, Serita D. Frey, Jerry M. Melillo, **Kristen M. DeAngelis**. "Soil aggregate-mediated microbial responses to long-term warming." *Soil Biology and Biochemistry* (2021a), 152, p 108055. <https://doi.org/10.1016/j.soilbio.2020.108055>
- Grace Pold, Luiz A. Domeignoz-Horta, and **Kristen M. DeAngelis**. "Heavy and wet: The consequences of violating assumptions of measuring soil microbial growth efficiency using the 18O water method." *Elementa: Science of the Anthropocene* 8, no. 1 (2020). <https://doi.org/10.1525/elementa.069>
- Gina Chaput, Andrew F. Billings, Lani DeDiego<sup>HS</sup>, Roberto Orellana, Joshua N Adkins, Carrie D. Nicora, Young-Mo Kim, Rosalie Chu, Blake Simmons, **Kristen M. DeAngelis**. "Lignin induced iron reduction by novel sp., *Tolomonas lignolytica* BRL6-1." *PLoS One* 15, no. 9 (2020): e0233823. <https://doi.org/10.1371/journal.pone.0233823>
- Luiz Domeignoz-Horta, Grace Pold, Xiaojun Liu, Serita D. Frey, Jerry M. Melillo, **Kristen M. DeAngelis**. "Microbial diversity affects carbon use efficiency in a model soil." *Nature Communications* (2020) 11(1), pp.1-10. <https://doi.org/10.1038/s41467-020-17502-z>
- Grace Pold, Luiz A. Domeignoz-Horta, Eric W. Morrison, Serita D. Frey, Seeta A. Sistla, and **Kristen M. DeAngelis**. "Carbon use efficiency and its temperature sensitivity covary in soil bacteria." *mBio* 11, no. 1 (2020). <https://doi.org/10.1128/mBio.02293-19>

Grace Pold, Seeta A. Sistla, **Kristen M. DeAngelis**. "Metabolic tradeoffs and heterogeneity in microbial responses to temperature determine the fate of litter carbon in simulations of a warmer world." *Biogeosciences*. 2019 Dec 15;16(24). <https://doi.org/10.5194/bg-16-4875-2019>

Andrew D. Steen, Alex Crits-Christoph, Paul Carini, **Kristen M. DeAngelis**, Noah Fierer, Karen G. Lloyd, J. Cameron Thrash. "High proportions of bacteria and archaea across most biomes remain uncultured." *The ISME Journal*, (2019). <https://doi.org/10.1038/s41396-019-0484-y>

### Genome Announcements (last 5 years only)

Claire E. Kitzmiller<sup>UG</sup>, Wyatt C. Tran<sup>UG</sup>, Brendan Sullivan<sup>UG</sup>, Florencia Cortez<sup>UG</sup>, Mallory Choudoir, Rachel Simoes<sup>UG</sup>, Nipuni Dayarathne<sup>HS</sup>, and **Kristen M. DeAngelis**. "High-quality genomes of *Paenibacillus* spp. RC334 and RC343, isolated from a long-term forest soil warming experiment." *Microbiology Resource Announcements* 12, no. 9 (2023): e00371-23.

Wyatt C. Tran<sup>UG</sup>, Brendan Sullivan<sup>UG</sup>, Claire E. Kitzmiller<sup>UG</sup>, Mallory Choudoir, Rachel Simoes<sup>UG</sup>, Nipuni Dayarathne<sup>HS</sup>, and **Kristen M. DeAngelis**. "Draft genome sequence of *Paenibacillus* sp. strain RC67, an isolate from a long-term forest soil warming experiment in Petersham, Massachusetts." *Microbiology Resource Announcements* 12, no. 11 (2023): e00373-23.

Brendan Sullivan<sup>UG</sup>, Claire E. Kitzmiller<sup>UG</sup>, Wyatt C. Tran<sup>UG</sup>, Mallory Choudoir, Rachel Simoes<sup>UG</sup>, Nipuni Dayarathne<sup>HS</sup>, and **Kristen M. DeAngelis**. "Complete genome sequence of *Bacillus thuringiensis* strain RC340, isolated from a temperate forest soil sample in New England." *Microbiology Resource Announcements* 12, no. 11 (2023): e00607-23.

Trevor Fisher, Francesca Durmazolu, **Kristen DeAngelis**, and Maureen Morrow. "Complete genome sequence of *Bradyrhizobium* NP1, isolated from forest soil." *ASM Microbiology Resource Announcements*. *In review*.

Hanaa Ahmed<sup>UG</sup>, **Kristen M. DeAngelis**, Maureen A. Morrow. "Draft Genome Sequence of *Leifsonia poae* strain BS71, Isolated from a Drought Microcosm." *ASM Microbiology Resource Announcements* 11:1 (2022) <https://doi.org/10.1128/mra.00951-21>

Maureen A. Morrow, Grace Pold, **Kristen M. DeAngelis**. "Draft Genome Sequence of a terrestrial Planctomyete, *Singulisphaera* sp. GP187, Isolated from Forest Soil." *Microbiology Resource Announcements* (2020) 9, no. 50. <https://doi.org/10.1128/MRA.00956-20>

**Kristen M. DeAngelis**, Grace Pold. "Genome Sequences of *Frankineae* sp. MT45 and *Jatrophihabitans* sp. GAS493, two novel Actinobacteria isolated from forest soil." *Microbiology Resource Announcements* (2020) 9, no. 38. <https://doi.org/10.1128/MRA.00614-20>

Gina Chaput, Jacob Ford<sup>UG</sup>, Lani DeDiego<sup>HS</sup>, Achala Narayanan<sup>UG</sup>, Wing Yin Tam<sup>UG</sup>, Meghan Whalen<sup>UG</sup>, Marcel Huntemann, Alicia Clum, Alex Spunde, Manoj Pillay, Krishnaveni Palaniappan, Neha Varghese, Natalia Mikhailova, I-Min Chen, Dimitrios Stamatis, T.B.K. Reddy, Ronan O'Malley, Chris Daum, Nicole Shapiro, Natalia Ivanova, Nikos C. Kyrpides, Tanja Woyke, **Kristen M. DeAngelis**. "Complete Genome Sequence of *Serratia quinivorans* Strain 124R, a Facultative Anaerobe Isolated on Organosolv Lignin as a Sole Carbon Source." *Microbiol Resour Announc* 8, no. 18 (2019): e00409-19. <https://doi.org/10.1128/MRA.00409-19>

### Articles in Preprint

Shinfuku, Melissa S., Luiz A. Domeignoz-Horta, Mallory J. Choudoir, Serita Frey, and **Kristen M. DeAngelis**. "Season, not long-term warming, affects the relationship between ecosystem function and microbial diversity." *bioRxiv* (2023): 2023-08. <https://doi.org/10.1101/2023.08.14.553264>

Hila Schaal, Vedang Diwanji, Mallory Choudoir, John Stoffolano, **Kristen M. DeAngelis**. "Chitosan diet alters the microbiome of the adult house fly *Musca domestica*." *bioRxiv* 2022, <https://doi.org/10.1101/2022.08.31.502951>

### REVIEW ARTICLES and BOOK CHAPTERS (last 5 years only)

Lennon, J. T., R. Z. Abramoff, S. D. Allison, R. M. Burckhardt, **K. M. DeAngelis**, J. P. Dunne, S. D. Frey et al. "Priorities, opportunities, and challenges for integrating microorganisms into Earth system models for climate change prediction." *Mbio*(2024): e00455-24.

Mallory Choudoir and **Kristen M. DeAngelis**. "Contributions of Dispersal on the Spatiotemporal Dynamics of Soil Microbial Communities." *iScience* by Cell Press (2022) v25, n3, 103887. **Invited Review to Special**

**Issue:** "A framework for integrating microbial dispersal modes into soil ecosystem ecology," edited by Stefano Tonzani. <https://doi.org/10.1016/j.isci.2022.103887>

Allison Murray, **Kristen M. DeAngelis**, et al. "A Roadmap for Naming Uncultivated Archaea and Bacteria" *Nature Microbiology*, *Nature Microbiology* (2020): 1-7. <https://doi.org/10.1038/s41564-020-0733-x>

**Kristen M. DeAngelis**, Priya Roy Chowdhury, Grace Pold, Adriana Romero-Olivares, Serita Frey. (2019) "Microbial responses to experimental soil warming: Five testable hypotheses." Invited chapter in *Ecosystem Consequences of Soil Warming: Microbes, Vegetation, Fauna and Soil Biogeochemistry*, edited by Jacqueline Mohan. Elsevier Press. <https://doi.org/10.1016/B978-0-12-813493-1.00007-7>

## **PUBLISHED OPEN EDUCATION MATERIALS**

**Kristen M. DeAngelis**, Mallory Choudoir, Ashley Eng, Maureen Morrow. (2021) "Bioinformatics Lab, Bacterial Genomics." MICROBIO 567 (was 590B). DOI: 10.7275/g0fg-5939. [https://works.bepress.com/kristen\\_deangelis/28/](https://works.bepress.com/kristen_deangelis/28/)

**Kristen M. DeAngelis** and Luiz Domeignoz Horta. (2020) "Integrative Experience: Soil Microbes and the Sustainability of Organic Agriculture" MICROBIO 494FI. DOI: 10.7275/m8bk-4h65. [http://works.bepress.com/kristen\\_deangelis/27/](http://works.bepress.com/kristen_deangelis/27/)

**Kristen M. DeAngelis** and Cecilia Prado. (2017) "Microbiology 562: Batch Fermentation Module." DOI: 10.7275/R5VM49G1. [https://works.bepress.com/kristen\\_deangelis/3/](https://works.bepress.com/kristen_deangelis/3/)

## **INVITED PRESENTATIONS (last 5 years only)**

- [61] Invited talk, San Diego State University Department of Biology Seminar Series, "Soil microbes adapt to a warming world." 28 Feb 2022
- [60] Invited talk, Lawrence Berkeley National Laboratory, Ecology Department monthly meeting. "Soil microbes adapt to climate warming." February 16, 2022
- [59] Invited talk, Hubbard Brook Experimental Forest fall quarterly meeting is focused on the topic of evolution, via Zoom on Monday, October 25th 2021
- [58] Systems Biology Keynote speaker (*declined*), 2021 Purdue Microbiome Symposium.
- [57] Invited talk, Gordon Research Conference on Applied and Environmental Microbiology 2021, Conference, subtitled "Writing the Microbial Constitution", session title is "Close Encounters of the Microbial Kind: Exploring Complex Networks of Communities", talk title is "Amending the Constitution: Microbial Adaptation to Climate Change"; conference postponed until 2023
- [56] Invited talk, ESA 2021 Kristen M. DeAngelis, Mallory J. Choudoir, Luiz A. Domeignoz-Horta, Ashley Eng and Achala Narayanan. "Microbial traits under selection in a warming world." Ecological Society of America Annual Meeting, Session: (INS 3): Connecting Evolutionary and Ecological Perspectives to Find What Matters in Microbial Responses to Change. Virtual Meeting, Aug 2-6, 2021. Organized by Moira Hough, Elsa Abs, Adriana Romero-Olivares. Ecological Society of America.
- [55] Invited talk, Microbial Diversity course. "Feedbacks between microbial communities, the carbon cycle, and climate change." Woods Hole, Massachusetts. July 15, 2021
- [54] Invited talk, Harvard Forest Symposium, with Serita Frey. "How will climate change, climatic variability, and extreme events interact with underlying and ongoing ecological processes to alter the composition, structure, and function of forest ecosystems?" March 16 & 17, 2021
- [53] Keynote Speaker, "Soil microbial acclimation and adaptation to a warming world" Tri-Service Microbiome Consortium (TSMC), Department of Defense, Sept 25, 2020
- [52] Invited talk, PUGSLEY (Pop-Up Global Symposia about Life & Ecology for You), #9, June 18 2020. "Drivers and mechanisms of long-term soil adaptation to warming"
- [51] Invited talk to Harvard Forest Seminar series, "Life in the Anthropocene: Microbes Adapt to Soil Warming" February 21, 2020
- [50] Invited talk, Cell Press LabLinks meeting on Microbial Genomics. "Soil microbial acclimation and adaptation to a warming world" Feb 7, 2020
- [49] Invited talk to UNH MCB "Soil microbial acclimation and adaptation to a warming world" November 22, 2019
- [49] Invited talk to 1st. ISME-Latin America Congress, Valparaiso Chile. Talk title, "Adaptation of microbial carbon use efficiency in a warming world" Sept 11-13, 2019

- [48] Kristen M. DeAngelis. "Microbial Traits Associated with Adaptation to Climate Warming in Soils" Keynote Speaker. NorthEastern Microbiologists: Physiology, Ecology and Taxonomy Meeting, Blue Mountain Lake, NY. 6/28/2019
- [47] Kristen M. DeAngelis. Soil microbial adaptation and acclimation in a warming world. Microbial Diversity Course, Woods Hole, MA. 8/6/2019
- [46] Kristen M. DeAngelis, Xiao-Jun Allen Liu, Grace Pold, Luiz Domeignoz-Horta, Bhoopesh Mishra, Kenneth M. Kemner, Serita D. Frey, Jerry M. Melillo. Soil Microbes Enact both Physical and Biochemical Feedbacks to Climate in Response to Long-Term Warming. Department of Energy, Genomic Sciences PI Meeting, Potomac, MD. 4/23/2019
- [45] "Changes in soil microbes and microbial communities in a warming world." ASM Microbe 2019, Track Hub Talk in Applied and Environmental Science.
- [44] Invited talk on the soil microbiology of long-term warming. Harvard Forest Annual Ecology Symposium, Petersham, MA. 3/19/2019
- [43] Invited presentation, University of New Hampshire, Department of Molecular, Cellular and Biomedical Sciences, November 30, 2018.
- [42] Invited talk, Asociación Latinoamericana de Microbiología (ALAM), Nov 14, 2018 Santiago Chile
- [41] Invited participant and speaker, Workshop Biología de Sistemas de Microorganismos Ambientales, November 7, 8, 9, and 12, 2018 Valparaíso, Chile

## TEACHING ACTIVITIES

### Ph.D. Advisees

- Maria Montero Sanchez (Fall 2023 to present), Microbiology Graduate Program
- Lucca Mancillio (Spring 2023), Microbiology Graduate Program Rotation Student
- Aizah Khurram (Spring 2023), Plant Biology Graduate Program Rotation Student
- Megan Mitchell (August 2021 to present), Organismic and Evolutionary Biology Program
- Melissa Shinfuku (January 2018 to present), Microbiology Graduate Program
- Grace Pold (Fall 2014 to 2019), Organismic and Evolutionary Biology Graduate Program
- Gina Chaput (Summer 2014 to 2019), Microbiology Graduate Program

### M.S. Advisees

- Skyler Jabbour (2022-2024), Microbiology Graduate Program
- Hailey Erb (September 2018 to 2021), Plant Biology Graduate Program
- Hila Schaal, Microbiology Graduate Program 2019-2021
- Grace Pold, MS Microbiology 2012-2014
- Andrew Billings, MS Microbiology 2011-2013

### Postdoctoral Researchers

- Cam Anderson, Postdoctoral Researcher in Microbiology (Sept 2023 to present), supported by the Department of Energy Genomic Sciences Program
- Mallory Choudoir, Postdoctoral Researcher in Microbiology (June 2020 to June 2022), supported by the National Science Foundation
- Xiaojun Liu, Postdoctoral Researcher in Microbiology (June 2017 to May 2021), supported by the US Department of Energy Terrestrial Ecosystem Sciences Program. Current affiliation: Postdoctoral Researcher, University of Oklahoma
- Luiz Domeignoz-Horta, Postdoctoral Researcher in Microbiology (May 2017 to May 2020), supported by the US Department of Energy Genomic Sciences Program. Current affiliation: Postdoctoral Research Associate, University of Zurich
- Priya Chowdhury, Darwin Postdoctoral Fellow, Organismic and Evolutionary Biology (Aug 2015 to Aug 2017). On Aug 22, 2017: Assistant professor, Biology, Keene State College, New Hampshire
- Roberto Orellana (2014-2015). Current affiliation: Postdoctoral investigator, Center for Biotechnology, Federico Santa María Technical University, Valparaíso, Chile
- Larry Feinstein (2012). Current affiliation: Assoc Prof of Biology, University of Maine at Presque Isle

### Courses Taught

- **Microbiology Honors Colloquium (MICROBIO 391H):** A small group tutorial learning about the next big things in microbiology, while practicing communicating science and asking questions.
- **Microbial Physiology and Diversity (MICROBIO 480):** An upper-level undergraduate course teaching the fundamentals of microbial diversity and recognition of sources of diversity in Earth ecosystems
- **Integrative Experience: Social Equity of the Microbiome (MICROBIO 494FI):** General studies class organized around addressing the question: Are healthy microbiomes a right or a privilege?
- **Microbial Biotechnology Lab (MICROBIO 497A):** This online laboratory course on computational microbiology includes lectures, discussions, and assignments. Led two modules: (1) Introduction to R, and (2) Modeling Microbial Activity
- **Biotechnology Lab (MICROBIO 567):** Computer lab course designed to help students become comfortable and familiar with asking and answering questions using programming and sequence data, including the computer skills Unix and Markdown languages as well as cloud computing on Unity
- **Ecology Core Course for Organismic and Evolutionary Biology (OEB 617):** Led section on core concepts in Community and Microbial Ecology
- **Phylogenetics Journal Club (MICROBIO 797L):** A discussion-based course in which we read papers which describe methods of phylogenetic inference and phylogenetic comparative analysis, both classics and recent primary literature
- **Microbial Ecology Journal Club (MICROBIO 797E):** A discussion-based course reviewing current literature on microbial ecology, environmental microbiology, evolution, and phylogeny

## SERVICE ACTIVITIES

### Service to the Microbiology Department/College of Natural Sciences at UMass Amherst

- Department Personnel Committee Chair, Microbiology Department 2022-2023
- Graduate Operations Committee, Organismic and Evolutionary Biology (OEB), 2.5 year commitment beginning January 2021
- Plant Biology Diversity, Equity, and Inclusion Committee (DEI), 2020-2021, 2021-2022
  - Organized Hollaback! Bystander intervention for our unit
- Chair, 17th Annual Symposium in Plant Biology: The Plant Biology of Climate Change, 2019
  - <https://gpls.cns.umass.edu/pb/symposium/history>
- Faculty Workload and Rewards Program Committee Chair, 2019-2020
- National Research Mentoring Network Trained Instructor. Trained at UMass to facilitate trainings developed by the National Research Mentoring Network (NRMN, <https://nrmnet.net/>).
- Panel reviewer for the CNS Lotta Crabtree Fellowship, November 2019
- Director of the Microbiology Departmental Honors Program, Fall 2014 to present
- Academic appointments
  - Faculty, School of Earth and Sustainability, since 2017
  - Faculty, Graduate Program in Plant Biology, since 2016
  - Faculty, Graduate Program in Organismal & Evolutionary Biology, since 2011

### Service to UMass Amherst

- 2021-2023 ADVANCE Faculty Fellow, CNS delegate to Microbiology
  - Goal to promote gender and racial equity for faculty at UMass
- ADVANCE program mutual mentoring grant, "Quantitative Life Sciences (QLS) Community", with representatives from every department in CNS, and myself representing Microbiology
  - Sponsoring monthly seminars and conversations in quantitative life sciences
- CNS Workplace Climate Committee member and Microbiology Climate Committee Chair, 2019-2020
- CNS Bridge and Science Funding Reviewer, Spring 2020, Spring 2021
- MSP Climate Justice Committee, 2020-2021
- 2019 Public Engagement Project Fellow. Training to present research for better engagement with the community groups, policymakers, and practitioners
- Institute for Applied Life Sciences (IALS) Computational Biology search committee, Fall 2016
- IALS Theme Participant, "Integrated Plant-Microbial Genomic Systems (IPMGS)" (2012-2016) and "Plant-Microbial Innovation (PMI)" (2017 to present)



- Special Course Coordinator, Software Carpentry Bootcamp, May 23 & 24, 2013
  - Software carpentry is a non-profit funded by the Mozilla and Sloan foundations whose goal is to promote programming mastery and community through teaching
  - Training graduate students, postdocs & professors in R, python, testing, version control
  - 34 attendees from CNS, College of the Humanities & Fine Arts, and the Five Colleges

### Service that Supports Diversity and Inclusion

- Hollaback! Bystander Intervention training arranged for the Plant Biology graduate program
  - Training is during departmental seminar on December 2, 2021
- Microbes and Social Equity Working group member since 2020
  - Introducing the Microbes and Social Equity Working Group: Considering the Microbial Components of Social, Environmental, and Health Justice (<https://journals.asm.org/doi/10.1128/mSystems.00471-21>)
- Evidence-based STEM Teaching.
  - Completed the online course ([STEMTeachingCourse.org](https://stemteachingcourse.org)) in 2017
  - Developed an interactive seminar presentation entitled "Evidence-based STEM Undergraduate Teaching" (<https://wordpress.com/block-editor/post/kristendeangelis.net/271>).
- Bioinformatics training Instructor. To provide students with programming literacy in the languages unix, R, and python, including hosting a Software Carpentry Workshop at UMass

### Bibliography that Guides my Diversity and Inclusion Efforts

- Chaudhary, V. Bala, and Asmeret Asefaw Berhe. "[Ten simple rules for building an antiracist lab.](#)" (2020): e1008210.
- Cronin, Melissa R., Suzanne H. Alonzo, Stephanie K. Adamczak, D. Nevé Baker, Roxanne S. Beltran, Abraham L. Borker, Arina B. Favilla et al. "[Anti-racist interventions to transform ecology, evolution and conservation biology departments.](#)" *Nature Ecology & Evolution* (2021): 1-11.
- Demery, Amelia-Juliette Claire, and Monique Avery Pipkin. "[Safe fieldwork strategies for at-risk individuals, their supervisors and institutions.](#)" *Nature Ecology & Evolution* 5, no. 1 (2021): 5-9.
- Ishaq, Suzanne L., Maurisa Rapp, Risa Byerly, Loretta S. McClellan, Maya R. O'Boyle, Anika Nykanen, et al. "[Framing the discussion of microorganisms as a facet of social equity in human health.](#)" *PLoS biology* 17, no. 11 (2019): e3000536.
- Ishaq, Suzanne L., Francisco J. Parada, Patricia G. Wolf, Carla Y. Bonilla, Megan A. Carney, Amber Benezra, Emily Wissel, Michael Friedman, Kristen M. DeAngelis, et al. "[Introducing the Microbes and Social Equity Working Group: Considering the Microbial Components of Social, Environmental, and Health Justice.](#)" *Msystems* 6, no. 4 (2021): e00471-21.
- Marks, Gabriela Serrato, Caroline Solomon, and Kaitlin Stack Whitney. "[Meeting frameworks must be even more inclusive.](#)" *Nature Ecology & Evolution* 5, no. 5 (2021): 552-552.
- Pascual, Unai, William M. Adams, Sandra Díaz, Sharachandra Lele, Georgina M. Mace, and Esther Turnhout. "[Biodiversity and the challenge of pluralism.](#)" *Nature Sustainability* (2021): 1-6.
- Tseng, Michelle, Rana W. El-Sabaawi, Michael B. Kantar, Jelena H. Pantel, Diane S. Srivastava, and Jessica L. Ware. "[Strategies and support for Black, Indigenous, and people of colour in ecology and evolutionary biology.](#)" *Nature Ecology & Evolution* 4, no. 10 (2020): 1288-1290.

### Outreach and Public Engagement

- Guest panelist on Science Café, "Dirty Details: Soil Microbial Adaptation to Climate Change"
  - <https://oebsciencecafe.org/2023/03/16/dirty-details-with-dr-kristen-deangelis/>
- ASM Hill Day, December 1, 2022
- Distinguished Professor Lecture Series and Chancellor's Medal - Academic Year 2021-2022
- Interview for Science for the People on the WGBH Forum Network, 10 May 2021
  - <https://forum-network.org/lectures/living-dirt-soils-microbe-ecosystems/>
- Invited speaker and panelist at the annual meeting of the Ecological Landscape Alliance
  - "Microbial response to drought: keep carbon in the ground!", *Invited panelist*, 2017
  - Our research was featured in the ELA Newsletter: <https://www.ecolandscaping.org/10/climate-change/keep-carbon-in-the-ground/>

- Public Engagement Project fellowship (2019), I wrote a column in the Conversation about the compost as a potential for personal mitigation of climate change
  - <https://theconversation.com/city-compost-programs-turn-garbage-into-black-gold-that-boosts-food-security-and-social-justice-136169>
- Interviewed for a research feature published in Harper's magazine written by an undergraduate student
  - <https://harpers.org/archive/2020/06/ground-control-harvard-forest-massachusetts/>
- Interviewed by Ira Flatow for Science Friday
  - <https://www.sciencefriday.com/segments/the-future-of-soil-under-a-changing-climate/>
- Research featured in the Science for the People Science Fair
  - <https://westernmass.scienceforthepeople.org/events/peoples-science-fair/>
- Panelist on Climate Change at the Life Science Café, 10 October 2019
- Interviewed on Lab Talk with Laura, <https://ivy.fm/podcast/lab-talk-with-laura-431231>
  - A weekly radio show where Laura Fattaruso and a local comic interview STEM researchers at UMass Amherst.

### Professional Service

- Elected to the Metabolomics Chair, Joint Genome Institute (JGI) User Executive Committee, 2020-2023
- ESS-DIVE Archive Partnership Board, Advisory member, Department of Energy Environmental Systems Science (ESS) Deep Insight for Earth Science Data (DIVE), 2018-2020
- Member of the Healthy Soils Action Plan working group.
- User Executive Committee Member, Environmental Sciences Molecular Laboratory, elected to serve a three-year term, 2017 – 2020
- Carbon Cycle Interagency Working Group (CCIWG) Workshop, "Understanding Soil's Resilience and Vulnerability." Resulted in Contributed review article, Global Change Biology
- Editorial Service to Peer-reviewed journals, including Editor at Microbiology Spectrum (since April 2021)
- Panel reviewer
  - Scientific Focus Area (SFA) reviewer, Department of Energy, Office of Biological & Environmental Research (BER) Los Alamos National Laboratory (LANL), "Microbial Carbon Cycling in Terrestrial Ecosystems" (August, 2021)
  - Panel reviewer for DOE Office of Science Graduate Student Research Program's FY 2017 Solicitation 2 (2018)
  - National Science Foundation Population and Community Ecology Division, panelist 2020, Division of Environmental Biology (2016, 2019), Geobiology and Low-Temperature Geochemistry Program (2018)
- Ad hoc reviewer
  - National Science Foundation, Antarctic Sciences (ANT) Research Opportunities (2021)
  - Deutsche Forschungsgemeinschaft (German Research Foundation) review (2021)
  - National Academies' Chemical Sciences Roundtable Reviewer, "Proceedings of a Seminar Series on the Chemistry of Microbiomes, January 2017
- **Ad-Hoc Journal Reviewer:** AAAS Science Advances, Applied & Environmental Microbiology, International Society for Microbial Ecology (ISME) Journal, Proceedings of the National Academy of Science, Scientific Reports at Nature

### Professional Societies

Since 2000     American Society for Microbiology  
 Since 2002     Ecological Society of America  
 Since 2002     International Society for Microbial Ecology  
 Since 2022     Applied Microbiology International

*Last updated 4/21/24*