

# Benjamin E. Wolfe

Tufts University  
Department of Biology  
200 Boston Ave, Medford, MA  
benjamin.wolfe@tufts.edu

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## EDUCATION and POSITIONS:

2020-present **Associate Professor**, Department of Biology, **Tufts University**  
2014-2020 **Assistant Professor**, Department of Biology, **Tufts University**  
2011-2014 **Postdoctoral Researcher**, FAS Center for Systems Biology, **Harvard University**  
2005-2010 **Ph.D.**, Organismic and Evolutionary Biology, **Harvard University**  
2003-2005 **M.Sc.**, Department of Botany, **University of Guelph**  
1999-2003 **B.S.**, Natural Resources/Plant Science, *magna cum laude*, **Cornell University**

## RESEARCH and TEACHING INTERESTS:

- Mechanisms of microbiome assembly
- Host-microbe interactions
- Microbiology of food systems
- Plant microbiomes
- Public perceptions and knowledge of microbes (microbial literacy)

## PUBLICATIONS:

(post-doctoral<sup>§</sup>, graduate<sup>#</sup>, and undergraduate\* authors)

- Madden, AA, AM Oliverio, PJ Kearns, JB Henley, N Fierer, PTB Starks, **BE Wolfe**, LM Romero, and CR Lattin. 2022. Chronic stress and captivity alter the cloacal microbiome of a wild songbird. **Journal of Experimental Biology**, 225:jeb243176.
- Landis, EA<sup>#</sup>, E Fogarty, JC Edwards, O Popa, A Murat Eren, **BE Wolfe**. 2022. Microbial diversity and interaction specificity in kombucha tea fermentations. *mSystems* (provisionally accepted)
- Landis, EA<sup>#</sup>, AM Oliverio, EA McKenny, LM Nichols, N Kfoury, M Biango-Daniels<sup>§</sup>, LK Shell, AA Madden, LR Shapiro, SK Sakunala\*, K Drake\*, A Robbat, M Booker, RR Dunn, N Fierer, **BE Wolfe**. 2021. The structure and function of sourdough starter microbiomes. **eLife**, 10: e61644
- Ellis, JL, JP Karl, AM Oliverio, X Fu, JW Soares, **BE Wolfe**, CJ Hernandez, JB Mason, SL Booth. 2021. Dietary vitamin K is remodeled by gut microbiota and influences community composition. **Gut Microbes**, 13: 1-16
- Biango-Daniels, M<sup>§</sup>, **BE Wolfe**. 2021. American artisan cheese quality and spoilage: A survey of cheesemakers' concerns and needs. **Journal of Dairy Science**, 104: 6283-6294
- Marco, ML, ME Sanders, M Gänzle, MC Arrieta, PD Cotter, LD Vuyst, C Hill, W Holzapfel, SLebeer, D Merenstein, G Reid, **BE Wolfe**, R Hutkins. 2021. The International Scientific Association for Probiotics and Prebiotics (ISAPP) consensus statement on fermented foods. **Nature Reviews Gastroenterology & Hepatology** 18: 196-208
- Pierce, EC, M Morin, JC Little, RB Liu, J Tannous, NP Keller, **BE Wolfe**, LM Sanchez, RJ Dutton. 2021. Bacterial-fungal interactions revealed by genome-wide analysis of bacterial mutant fitness. **Nature Microbiology**, 6: 87-102
- Stewart, T, **BE Wolfe**, SM Fuchs. 2021. Defining the role of the polyasparagine repeat domain of the *S. cerevisiae* transcription factor AZF1p. **PLoS One**, 16 :e0247285
- Cosetta, CM,<sup>#</sup> **BE Wolfe**. 2020. Fungal volatiles mediate cheese rind microbiome assembly. **Environmental Microbiology**, 22: 4745-4760

- Fulcher, MR, ML Bolton, MD Millican, MJ Michalska-Smith, JP Dundore-Arias, J Handelsman, JL Klassen, KC Milligan-Myhre, A Shade, **BE Wolfe**, LL Kinkel. 2020. Broadening participation in scientific conferences during the era of social distancing. *Trends in Microbiology* 28: 949-952
- Niccum, BA<sup>§</sup>, EK Kastman, N Kfoury, A Robbat, **BE Wolfe**. 2020. Strain-level diversity impacts cheese rind microbiome assembly and function. *mSystems* 5: e00149-20
- Williams, K, F Lee<sup>§</sup>, J Bischof, K Miller, **BE Wolfe**, M Levin. 2020. Regulation of axial and head patterning during planarian regeneration by commensal bacteria. *Mechanisms of Development* 163: 103614
- Bodinaku, IA<sup>\*</sup>, J Shaffer<sup>\*</sup>, AB Connors, JL Steenwyk, MN Biango-Daniels<sup>§</sup>, EK Kastman, A Rokas, A Robbat, **BE Wolfe**. 2019. Rapid phenotypic and metabolomic domestication of wild *Penicillium* molds on cheese. *mBio* e02445-19
- Cosetta, CM,<sup>#</sup> **BE Wolfe**. 2019. Causes and consequences of biotic interactions within microbiomes. *Current Opinion in Microbiology* 50: 35-41
- Cosetta, CM,<sup>#</sup> **BE Wolfe**. 2019. Deconstructing and reconstructing cheese rind microbiomes. *Current Protocols in Microbiology* 56: e95
- Miller, EA<sup>#</sup>, PJ Kearns<sup>§</sup>, BA Niccum<sup>§</sup>, J O'Mara Schwartz<sup>\*</sup>, A Ornstein<sup>\*</sup>, EK Kastman, **BE Wolfe**. 2019. Establishment limitation constrains the abundance of lactic acid bacteria in the Napa cabbage phyllosphere. *Applied and Environmental Microbiology* 85: e00269-19
- Lee, FJ<sup>§</sup>, KB Williams, M Levin, **BE Wolfe**. 2018. The bacterial metabolite indole inhibits regeneration of the planarian flatworm *Dugesia japonica*. *iScience* 10: 135-148
- Kamelamela, N<sup>#</sup>, M Zalesne<sup>\*</sup>, J Morimoto, A Robbat, **BE Wolfe**. 2018. Indigo- and indirubin-producing strains of *Proteus* and *Psychrobacter* are associated with purple rind defect in a surface-ripened cheese. *Food Microbiology* 76: 543-552
- Cleary, JL, S Kolachina, **BE Wolfe**, LM Sanchez. 2018. Coproporphyrin III produced by the bacterium *Glutamicibacter arilaitensis* binds zinc and is upregulated by fungi in cheese rinds. *mSystems* 4: e00036-18
- Zhang, Y<sup>\*</sup>, EK Kastman, JS Guasto, **BE Wolfe**. 2018. Fungal networks shape dynamics of bacterial dispersal and community assembly in cheese rind microbiomes. *Nature Communications* 9: 336
- Wolfe, BE**. 2018. Using cultivated communities to dissect microbiome assembly: challenges, limitations and the path ahead. *mSystems* 3: e00161-17
- Schaeffer, R, C Wilson, L Radville, E Whitney, M Barrett, S Roitman, E Miller<sup>#</sup>, **BE Wolfe**, C Thornber, C Orians, E Preisser. 2017. Individual and non-additive effects of exotic sap-feeders on root functional and mycorrhizal traits of a shared conifer host. *Functional Ecology* 31: 2024-2033
- Fu, X, SG Harshman, X Shen, DB Haytowitz, JP Karl, **BE Wolfe**, SL Booth. 2017. Multiple vitamin K forms exist in dairy foods. *Current Developments in Nutrition* 1: e000638
- Morokuma, J, FR Durant, KB Williams, JM Finkelstein, DJ Blackiston, T Clements, DW Reed, M Roberts, M Jain, K Kimel, SA Trauger, **BE Wolfe**, M Levin. 2017. Planarian regeneration in space: persistent anatomical, behavioral, and bacteriological changes induced by space travel. *Regeneration* 4: 85-102
- Bonham KS, **BE Wolfe**, RJ Dutton. 2017. Extensive horizontal gene transfer in cheese-associated bacteria. *eLife*. 6: e22144
- Kastman EK, N Kamelamela, JW Norville<sup>\*</sup>, CM Cosetta<sup>#</sup>, RJ Dutton, **BE Wolfe**. 2016. Biotic interactions shape the ecological distributions of *Staphylococcus* species. *mBio* 7: e01157-16
- Bokulich, N, JR Rideout, W Mercurio, A Shiffer, **BE Wolfe**, C Maurice, R Dutton, P Turnbaugh, R Knight, JG Caporaso. 2016. Mockrobiota: a public resource for microbiome bioinformatics benchmarking. *mSystems* 1: e00062-16
- Wolfe, BE**, RJ Dutton. 2015. Fermented foods as experimentally tractable microbial ecosystems. *Cell* 161: 49-55

- Karl, JP, X Fu, X Wang, Y Zhao, J Shen, C Zhang, **BE Wolfe**, E Saltzman, L Zhao, SL Booth. 2015. Fecal menaquinone profiles of overweight adults are associated with gut microbiota composition during a gut microbiota-targeted dietary intervention. *The American Journal of Clinical Nutrition* 102: 84-93
- Wolfe, BE**, JE Button, M Santarelli, RJ Dutton. 2014. Cheese rind communities provide tractable systems for *in situ* and *in vitro* studies of microbial diversity. *Cell* 158: 422-433
- Hess, J, I Skrede, **BE Wolfe**, K LaButti, RA Ohm, IV Grigoriev, A Pringle. 2014. Transposable element dynamics among asymbiotic and ectomycorrhizal *Amanita* fungi. *Genome Biology and Evolution* 6: 1564-1578
- Lawrence, DA, CF Maurice, RN Carmody, DB Gootenberg, JE Button, **BE Wolfe**, AV Ling, S Devlin, M Fischbach, SB Biddinger, RJ Dutton, PJ Turnbaugh. 2014. Diet rapidly and reproducibly alters the human gut microbiome. *Nature* 505: 559-563
- Cheng-Chih H, MS ElNaggar, Y Peng, J Fang, LM Sanchez, SJ Mascuch, KA Møller, EK Alazzez, J Pikula, RA Quinn, Y Zeng, **BE Wolfe**, RJ Dutton, L Gerwick, L Zhang, X Liu, M Mansson, and Pieter C. Dorrestein. 2013. Real-time metabolomics on living microorganisms using ambient electrospray ionization flow-probe. *Analytical Chemistry* 85: 7014-7018
- Wolfe, BE**, RE Tulloss, A Pringle. 2012. The irreversible loss of a decomposition pathway marks the single origin of an ectomycorrhizal symbiosis. *PLoS One* 7(7): e39597
- Wolfe, BE**, M. Kuo, A Pringle. 2012. *Amanita thiersii* is saprotrophic and expanding its range in the United States. *Mycologia* 104: 22-33
- Wolfe, BE**, A Pringle. 2012. Geographically structured host specificity is caused by the range expansions and host shifts of a symbiotic fungus. *The ISME Journal* 6: 745-755
- Wolfe, BE**, F Richard, HB Cross, A Pringle. 2010. Distribution and abundance of the introduced ectomycorrhizal fungus *Amanita phalloides* in North America. *New Phytologist* 185: 803-816
- Vellinga, EC, **BE Wolfe**, A Pringle. 2009. Global patterns of ectomycorrhizal introductions. *New Phytologist* 181: 960-973
- Rodgers, VL, **BE Wolfe**, L Werden, AC Finzi. 2008. The invasive species *Alliaria petiolata* (garlic mustard) increases soil nutrient availability in northern hardwood-conifer forests. *Oecologia* 157: 459-471
- Peterson, CN, S Day, **BE Wolfe**, AM Ellison, R Kolter, A Pringle. 2008. A keystone predator controls bacterial diversity in the pitcher plant (*Sarracenia purpurea*) microecosystem. *Environmental Microbiology* 10: 2257-2266
- Wolfe, BE**, VL Rodgers, KA Stinson A Pringle. 2008. The invasive plant *Alliaria petiolata* (garlic mustard) inhibits ectomycorrhizal fungi in its introduced range. *Journal of Ecology* 96: 777-783
- Wolfe, BE**, MC Rillig, DL Mummey, JN Klironomos. 2007. Small-scale spatial heterogeneity of arbuscular mycorrhizal fungi in a calcareous fen. *Mycorrhiza* 17: 175-183
- Wolfe, BE**, PA Weishampel, JN Klironomos. 2006. Arbuscular mycorrhizal fungi and water table affect wetland plant community composition. *Journal of Ecology* 94: 905-914
- Stinson, KA, SA Campbell, JR Powell, **BE Wolfe**, RM Callaway, GC Thelen, SG Hallett, D Prati, JN Klironomos. 2006. Invasive plant suppresses the growth of native tree seedlings by disrupting belowground mutualisms. *PLoS Biology* 4: 727-731
- Wolfe, BE**, JN Klironomos. 2005. Breaking new ground: soil communities and exotic plant invasion. *BioScience* 55: 477-487
- Wolfe, BE**, BC Husband, JN Klironomos. 2005. Effects of a belowground mutualism on an aboveground mutualism. *Ecology Letters* 8: 218-223
- Klironomos JN, MF Allen, MC Rillig, J Piotrowski, S Makvandi-Nejad, **BE Wolfe**, JR Powell. 2005. Abrupt rise in atmospheric CO<sub>2</sub> overestimates community response in a model plant-soil system. *Nature* 433: 621-624

### **Publications in Preparation**

- Niccum, BA<sup>§</sup>, M Dente, N Kamkari<sup>\*</sup>, Mira Guha<sup>\*</sup>, M Podniesinski<sup>\*</sup>, **BE Wolfe**. Biotic interactions impact rates and modes of evolution in the cheese rind bacterium *Staphylococcus xylosus*

Bonoan, RE, A Winter, EK Kastman, PT Starks, **BE Wolfe**. A comparison of two loci (trnL and ITS2) used to sequence bee-collected pollen

Tannous, J, CM Cosetta#, C Greco, T Rush, J Jiler\*, N Keller, **BE Wolfe**. LaeA regulates *Penicillium* secondary metabolite production and bacterial community composition in cheese rind microbiomes

### **Scholarly book chapters**

**Wolfe BE**, Dutton RJ. 2014. Towards an ecosystems approach to cheese microbiology.

In ***Cheese and Microbes***. Edited by C.W. Donnelly. ASM Press. Washing, DC. Chapter 12. Pg. 311-322

**Wolfe BE**, JL Parrent, AM Koch, BA Sikes, M Gardes, JN Klironomos. 2009. Spatial heterogeneity in mycorrhizal populations and communities: scales and mechanisms. In ***Mycorrhizas – Functional Processes and Ecological Impact***. Edited by C. Azcon-Aguilar, J.M. Barea, S. Gianinazzi, V. Gianinazzi-Pearson. Springer-Verlag. Berlin Heidelberg. Chapter 12. Pg. 167- 18

### **GRANTS:**

- 2020-2025 NSF CAREER (IOS & DEB), “Mechanisms of microbial adaptation in variable biotic environments,” (PI), **\$1,229,007**
- 2020-2022 USDA Dairy Business Innovation Center, “Sensory directed research on artisanal cheese to benefit the Local, Regional, and National Dairy Industry,” (Co-PI; PI Heather Darby, University of Vermont), **\$114,289**
- 2020-2022 NSF Biology Integration Institutes, “Integrating biological resilience across scales,” (Co-PI; PI Catherine Freudenreich; Co-PI Michael Reed), **\$200,000**
- 2017-2020 NSF MCB Systems and Synthetic Biology, “Ecological and evolutionary constraints on the design of synthetic microbiomes,” (PI), **\$700,000**
- 2017-2020 USDA AFRI Plant-Biotic Interactions Program, “Linking patterns with processes in phyllosphere microbiome assembly,” (PI), **\$387,783**
- 2016-2020 Paul G. Allen Family Foundation, “Reading and writing the morphogenetic code,” (Co-PI; PI Michael Levin), **\$543,752** to Wolfe Lab
- 2016-2017 Tufts Collaborates, “Symbiotic transport mechanisms in microbial communities,” (PI; w/ Co-PI Jeff Guasto, Mechanical Engineering, Tufts University), **\$48,000**

### **AWARDS and HONORS:**

National Science Foundation CAREER Award, 2019

Eileen Fox Aptman and Lowell Aptman Assistant Professorship, Tufts University, 2018 - 2020

Bernstein Faculty Fellow, Tufts University, 2016-2017

### **TEACHING and MENTORING EXPERIENCE:**

**Tufts University (F = Fall, S = Spring, Su = Summer)**

2022 (S): *Microbiology Lecture* (Bio 106), Tufts University, Department of Biology

2022 (S): *Microbiology Lab* (Bio 107), Tufts University, Department of Biology

2022 (S): STS Reading Lab: Life (STS 10), Tufts University, Science, Technology & Society Program

2021 (F): *Microbiome Research Lab* (Bio 55), Tufts University, Department of Biology

2021 (F): STS Reading Lab: Models (STS 10), Tufts University, Science, Technology & Society Program

2020 (F): *Microbiome Research Lab* (Bio 55), Tufts University, Department of Biology

2020 (S): *Microbiology Lecture* (Bio 106), Tufts University, Department of Biology

2020 (S): *Microbiology Lab* (Bio 107), Tufts University, Department of Biology

2020 (S): *Grad. Sem. in Evol. Ecol.* (Bio 244), Tufts University, Department of Biology

2019 (F): Microbiome Research Lab (Bio 55), Tufts University, Department of Biology

2019 (S): *Microbiology w/ Lab* (Bio 106), Tufts University, Department of Biology

2018 (F): *Microbiology of Food* (Bio 196-05), Tufts University, Department of Biology

2018 (S): *Microbiology w/ Lab* (Bio 106), Tufts University, Department of Biology  
2016 (F): *Food Systems* (ENV 009), Tufts University, Environmental Studies Program  
2016 (S): *Microbiology w/ Lab* (Bio 106), Tufts University, Department of Biology  
2015 (F): *Microbiology of Food* (Bio 196-05), Tufts University, Department of Biology  
2015 (S): *Microbiology w/ Lab* (Bio 106), Tufts University, Department of Biology  
2014 (S): *Microbiology of Food*, Boston University, Gastronomy Program

**Prior to Tufts University**

2013 (Su): *Feast and Famine: The Microbiology of Food*, Harvard Summer School  
2012 (Su): Director, Harvard Microbial Sciences Initiative Undergraduate Fellowship Program  
2012 (Su): *Feast and Famine: The Microbiology of Food*, Harvard Summer School  
2012 (Su): Director, Harvard Microbial Sciences Initiative Undergraduate Fellowship Program

**Postdoctoral Scholars:**

Emily Putnam – 2020 to present  
Frederick Lee – 2016-2019 (now Senior Scientist, Seres Therapeutics)  
Brittany Niccum – 2016-2017 (now Commercial Product Manager, Beckman Coulter Life Sciences)  
Megan Biango-Daniels – 2018-2020 (now Director of Food Science R&D at Mori)  
Patrick Kearns – 2018-2019 (now Assistant Professor, Fisher College)

**Graduate Research Advising:**

Kasturi Lele – Fall 2021 to present  
Nicolas Louw – Fall 2021 to present  
Ruby Ye – Summer 2019 to present  
Esther Miller – Spring 2015 to Spring 2020  
Elizabeth Landis – Fall 2015 to Spring 2021  
Casey Cosetta – Fall 2015 to Spring 2020  
Gabriela Garcia – Fall 2016 rotation  
Adam Eichenwald – Fall 2018 rotation

**Undergraduate Research Mentoring** (in collaboration with grad students and post-docs):

Nafisa Munawarah – Spring 2022 to present  
Jill Albertson – Spring 2022 to present  
Fazila Nasimi – Spring 2022 to present  
Alejandro Viveros – Spring 2022 to present  
Dillon Arrigan – Fall 2021 to present  
Chris Tomo – Fall 2021 to present  
Nina Freeman – Spring 2021 to present  
Brian Felter – Spring 2021  
Robert May – Spring 2020 to present  
Caroline Ding – Fall 2020  
Yoyo Zhou – Fall 2020 to present  
Neal Chan – Spring 2020 to present (Tufts Summer Scholar)  
Anna Morreale – Fall 2019 to Spring 2020  
Alexa Ornstein – Fall 2017 to Spring 2019  
Shravya Sakunala – Spring 2017 to Spring 2019 (Senior Honors Thesis)  
Mira Guha – Summer 2017 to Spring 2019 (Carpenter Internship)  
Matthew Podniesinski – Fall 2018 to Spring 2019 (Tufts Summer Scholar)  
Eleanor Shi – Spring 2019  
Allen Xue – Spring 2019 to present  
Robert Nardella – Spring 2019 to Fall 2019  
Daman Singh – Spring 2019 to Fall 2019  
Adelaide Fierti – Spring 2019  
Charles Bunnell – Spring 2019 to Fall 2019  
Jacob Jiler – Spring 2018 to Fall 2018  
Otilia Popa – Fall 2017 to Summer 2018  
Alan Chen – Fall 2017 to Spring 2018  
Paolo Scalla – Fall 2017  
An Nguyen – Summer 2017  
Kinsey Drake – Spring 2017

Nick Kamkari – Spring 2017 to Fall 2019  
Jonah Schwartz – Fall 2016 to Fall 2018  
Lucas Brown – Fall 2016  
Kate Williams – Summer to Fall 2016  
Jason Shaffer – Spring 2016 to Summer 2017  
Robert Sucsy – Spring 2016  
Liam Easton-Calabria – Fall 2016  
Claire Walter – Spring 2015, Spring 2016  
Michael Zalesne – Spring 2015  
Tom Ollerhead – Spring 2015  
Rachel Odillia – Summer 2015  
Ezra Schwartz – Fall 2015  
Claire Forgan – Fall 2015  
Josh Norville – Spring 2015  
Ina Bodinaku – Fall 2014 to Summer 2016 (Tufts Summer Scholar)  
Kaite Zhang - Fall 2014 to Summer 2016 (Carpenter Internship)

#### **Graduate Thesis Committees:**

Shonglin Gaekwad (PhD, iDOC program, Tufts) – Spring 2022 to present  
Rana Said (PhD, Chemical and Biological Engineering, Tufts) – Spring 2022 to present  
Sanda Dedrick (PhD, Boston College) – Spring 2021  
Brendan Carson (PhD, Tufts, Biology) – Fall 2020 to present  
Adam Eichenwald (PhD, Tufts, Biology) – Fall 2018 to present  
Taylor Stewart (PhD, Tufts, Biology) – Fall 2017 – Fall 2019  
Jacob Golan (PhD, University of Wisconsin-Madison) – Fall 2016 to Spring 2020  
Samantha Dyckman (PhD, Boston College) – Spring 2019 to present  
Yue Yu (PhD, Tufts, Biology), Fall 2016 – present  
Josef Bober (PhD, Tufts, Engineering) – Spring 2015 to Spring 2019  
Brett Irwin (MSc, Tufts, Engineering) – Fall 2018 to Spring 2019  
Rachael Bonoan (PhD, Tufts, Biology) – Spring 2016 – Spring 2018  
Robert Burns (PhD, Tufts, Biology) – Fall 2014 to Spring 2016  
Reagan Bandy (PhD, Boston University) – Spring 2017 to Spring 2019  
Laia Mogas Soldevila (PhD, Tufts, Interdisciplinary Doctorate) – Spring 2017 to Spring 2020  
Logan Higgins (PhD, MIT- External Defense Committee Member) – Spring 2017

#### **Undergraduate Honors Thesis Committees:**

Mia Chung, Spring 2022  
Michael Dente, Spring 2020  
Edward Midthun, Spring 2019  
Jenna Wick, Spring 2015  
Brittany Ruhland, Spring 2015

### **UNIVERSITY SERVICE:**

#### **Department Activities:**

- Biology Facilities Committee (Spring 2022 – present)
- Biochemist Biology Search Committee (Fall 2021 – Spring 2022)
- Graduate Admissions Committee (Spring 2015 – Spring 2016; Fall 2021-present)
- Bio 13 Lecturer Search Committee (Spring 2019)
- Computational Biology Search Committee (Fall 2019-Spring 2020)

#### **University Activities:**

##### ***Long-term***

- Science, Technology, and Society Program, Interim Co-Director (Summer 2021 – present)
- Health Professions Recommendation Committee (Summer 2021 – present)
- Academic Awards Committee (Summer 2021 – present)
- Science, Technology, and Society Program Executive Committee (Fall 2016 – present)
- Environmental Studies Program Executive Committee (Fall 2015 – Spring 2020)

### **Short-term**

- “Liberal Arts at Tufts – Natural Science & Math” Panel, Tufts Orientation Session, August 18<sup>th</sup>, 2021
- “Future of Scholarship at Tufts” Panel, Arts & Sciences Board of Advisors Meeting, September 28, 2018
- Tufts Alumni and Pride on the Hill, “Fermented Food lecture, March 8<sup>th</sup>, 2018
- Tufts Collaborates! Proposal Reviewer, Spring 2017 and Spring 2018
- Tufts Talks lecturer, November 2016 (NYC) and March 2017 (Boston)  
<https://www.youtube.com/watch?v=h3Uisxf8yng>
- Tufts STS Program, “The Modern History of Microbes,” panelist, February 4<sup>th</sup>, 2016
- Interviewed Experimental College Spring 2016 Lecturers, November 11<sup>th</sup>, 2015
- Biology Representative at Marathon of Majors, October 22<sup>nd</sup>, 2015
- Faculty Lecturer for Parents and Family Weekend, October 17<sup>th</sup>, 2015
- Co-hosted Art-Science Mashup with Liz Canter Tufts Art Gallery, September 29<sup>th</sup>, 2015
- New Faculty Orientation panelist, September 3<sup>rd</sup>, 2015
- Tufts oSTEM panelist, September 29<sup>th</sup>, 2014

### **PROFESSIONAL SERVICE:**

**Editorial Board:** *mSystems*, *Environmental Microbiology*, *Applied and Environmental Microbiology*, *Microbiology Spectrum*, and *Fungal Ecology* (Deputy Editor)

**Peer reviewer for following journals and university publishers:** *Applied and Environmental Microbiology*, *Annals of Microbiology*, *Biological Invasions*, *Ecology*, *Ecology Letters*, *Ecological Entomology*, *eLife*, *FEMS Microbiology Ecology*, *FEMS Microbiology Reviews*, *Fungal Ecology*, *Journal of Bacteriology*, *mBio*, *Microbial Ecology*, *mSystems*, *mSphere*, *Mycorrhiza*, *Nature Communications*, *Nature Reviews Microbiology*, *New Phytologist*, *Pedobiologia*, *Plant & Soil*, *PLoS One*, *PLoS Biology*, University of California Press

**Panel reviewer:** National Science Foundation (NSF) Division of Biological Infrastructure; NSF Integrated and Organismic Systems; NSF Understanding the Rules of Life

**Ad hoc reviewer:** National Science Foundation, Division of Environmental Biology, Population and Community Ecology Cluster; NSF Integrated and Organismic Systems; NSF EPSCoR; NSF CAREER; United States Department of Agriculture National Institute of Food and Agriculture; Gordon and Betty Moore Foundation; Research Grants Council of Hong Kong; Estonian Research Council.

**Advisory Boards:** The Fermentation Association (2019-present)

**Conference Planning/Organizing:** American Society for Microbiology (ASM) Ecology, Evolution, and Biodiversity Programming Committee for ASM Microbe (2020-2022); NSF Microbiome Workshop Planning Committee (Fall 2019); The Fermentation Association FERMENT 2021.

**Conference Abstract Reviewer:** American Society for Microbiology Microbe 2019

**Other Professional Service Committees:** Mycological Society of America Research Awards Committee (2020 – present)

### **INVITED TALKS:**

- **31<sup>st</sup> Fungal Genetics Conference**, Genetics Society of America, “When and How do Fungi Impact the Evolution of Bacteria?” March 18<sup>th</sup>, 2022
- **Levy Center for Integrated Management of Antimicrobial Resistance**, Tufts University, “Are Fermented Foods an Unrecognized Reservoir of Antimicrobial Resistance?” February 24<sup>th</sup>, 2022
- **Southern Illinois University**, Department of Biology, “Delicious Rot: Ecology and Evolution of Fermented Food Microbiomes,” January 24<sup>th</sup>, 2022
- **The Fermentation Association – FERMENT 2021**, “Measuring and Monitoring Fermented Food Microbiomes,” November 9<sup>th</sup>, 2021
- **The Fermentation Association – FERMENT 2021**, “Managing Microbiomes for Flavor and Texture (Panel),” November 8<sup>th</sup>, 2021
- **The Fermentation Association**, “Measuring and Monitoring Fermented Food Microbiomes,” June 16, 2021  
<https://www.youtube.com/watch?v=8y-vJ8hhMso>

- **Boston Bacterial Meeting**, “Food Microbiology, Brewing, and Bacteria Art (Breakout Panel),” June 10, 2021
- **The Fermentation Association**, “Advances in Yeast (Webinar),” June 1, 2021  
<https://www.youtube.com/watch?v=ws3YALcX7Qg>
- **Vermont Cheese Council**, “Managing Cheese Rind Microbes,” February 23, 2021
- **University of Missouri – St. Louis, Biology Department**, “Delicious Rot: ecology and evolution of fermented food microbiomes,” November 10, 2020
- **Max Plank Institute for Plant Breeding Research**, “Using fermented foods to identify mechanisms of microbiome assembly,” November 11, 2020
- **ETH Zurich – Institute of Food, Nutrition, and Health**, “Using fermented foods to identify mechanisms of microbiome assembly,” September 29, 2020
- **Science, Technology, and Society Program at Tufts University**, “Making Model Microbiomes,” February 28, 2020
- **University of New Hampshire, Natural Resources and Earth Systems Science Program**, “Linking patterns with processes in microbial community assembly,” October 30, 2019
- **Cornell University, Department of Microbiology**, “Managing Microbiomes: Lessons From Fermented Foods,” October 14<sup>th</sup>, 2019
- **Conference on Physiology of Yeasts and Filamentous Fungi**, “Ecology and evolution of fungi in fermented foods,” June 27, 2019 (keynote)
- **University of Minnesota, Biotechnology Institute**, “Delicious rot: using fermented foods to dissect microbiome diversity,” May 16, 2019
- **The Banbury Center of Cold Spring Harbor Laboratory, The Plant Microbiota**, “Linking Patterns with Processes in the Napa cabbage phyllosphere,” April 15, 2019
- **University of Wisconsin-Madison, Microbiology Doctoral Training Program**, “Delicious rot: using fermented foods to dissect microbiome diversity,” April 5, 2019
- **Ohio State University, Department of Microbiology**, “Delicious rot: using fermented foods to dissect microbiome diversity,” April 3, 2019
- **Penn State University, Penn State Microbiome Center**, “Using planarian worms to identify roles of the microbiome in regeneration,” March 29, 2019
- **Penn State University, Food Science Department**, “Diversity and Dynamics of Fermented Food Microbiomes: Implications for Safety and Quality,” March 28, 2019
- **Indiana University, Ecology, Evolution, and Behavior Program**, “Delicious rot: using fermented foods to dissect microbiome diversity,” November 30, 2018
- **UMass-Amherst, OEB Graduate Program**, “Delicious rot: using fermented foods to dissect microbiome diversity,” October 19, 2018
- **Harvard Microbial Sciences Initiative**, “Using fermented foods to dissect microbiome diversity,” October 11, 2018
- **Gordon Research Conference – Cellular and Molecular Fungal Biology**, “Evolution of Fungi in Fermented Foods,” June 20, 2018
- **New York University, Center for Genomics and Systems Biology**, “Ecological and evolutionary consequences of biotic interactions within microbiomes,” June 1, 2018
- **Broad Institute**, “Dissecting microbiome diversity using synthetic communities,” May 18, 2018
- **Vanderbilt University, Biological Sciences Department**, “Delicious rot: using fermented foods to dissect microbiome diversity,” April 12, 2018
- **Cornell University, Department of Food Science**, “Diversity and Dynamics of Fermented Food Microbiomes: Implications for Safety and Quality,” August 22, 2017
- **American Dairy Science Association, Annual Meeting**, “Diversity and Dynamics of Surface-Ripened Cheese Microbiomes: Implications for Safety and Quality,” July 28, 2017
- **Canadian Institution for Advanced Research, Integrated Microbial Biodiversity Program Meeting**, “Linking patterns of microbiome diversity with assembly processes,” June 4, 2017
- **Northwestern University, Department of Microbiology and Immunology**, “Using Synthetic Communities to Dissect Microbiome Diversity,” March 28, 2017



- **Brown University, Pathobiology Graduate Program**, “Using Fermented Foods to Dissect Microbiome Diversity,” February 23, 2017
- **Boston University, Department of Biology**, “Delicious Rot: Using Fermented Foods to Dissect Microbiome Diversity,” February 7, 2017
- **UC Berkeley, Plant and Microbial Biology (Tsujiimoto Endowed Lecture)**, “Delicious Rot: Using Fermented Foods to Dissect Microbiome Diversity,” November 2, 2016
- **Mycological Society of America Conference**, “Ecology and Evolution of Fungi in Fermented Foods,” August 9, 2016
- **American Society for Microbiology Conference**, “Using Fermented Foods to Dissect Patterns and Processes in Microbiomes” June 18, 2016 (**plenary talk**)
- **Great Lakes Mycology Conference**, “Delicious rot: fungi in fermented foods,” April 30, 2016
- **University of Toronto, Ecology and Evolutionary Biology**, “Using fermented foods to dissect microbial diversity,” April 29, 2016
- **MIT Cross-STC**, “Fermented foods as model ecosystems,” April 21, 2016
- **Boston College, Department of Biology**, “Using fermented foods to dissect microbial diversity,” April 19, 2016
- **AgMicrobiomes Conference**, “Using model systems to discover processes and mechanisms driving microbiome diversity,” March 15, 2016
- **Tufts University Graduate Student Research Symposium**, “Using food to improve microbial literacy,” February 26, 2016
- **MIT Quantitative Ecology Meeting**, “Using fermented foods to dissect microbial diversity,” January 29, 2016
- **Bates College, Biology Department**, “Using fermented foods to dissect microbial diversity,” January 28, 2016
- **The Geisel School of Medicine at Dartmouth**, December 15, 2015
- **University of Connecticut, Department of Molecular and Cell Biology**, “Using fermented foods to dissect microbial diversity,” November 10, 2015
- **Wellesley College**, “Parallel lives of chefs and scientists,” September 21, 2015
- **American Cheese Society**, “Mushrooms and Molds,” August 1, 2015
- **Forsyth Institute**, “Using fermented foods to dissect microbial diversity,” June 25, 2015
- **University of Missouri - Columbia, Department of Biology**, “Dissecting microbial diversity using cheese rinds,” May 5, 2015
- **Harvard Microbial Sciences Initiative Symposium**, “Dissecting microbial diversity using cheese rinds,” April 18, 2015
- **Clark University, Department of Biology**, “Dissecting microbial diversity using cheese rinds,” April 1, 2015
- **Fungal Genetics Conference**, “Fungi as drivers of microbial community assembly: moving from patterns to molecular mechanisms,” March 18, 2015
- **Tufts University, Friedman School of Nutrition**, “The secret life of cheese: Using cheese rinds to dissect microbial diversity,” December 3, 2014
- **MIT, Microbial Systems Seminar**, “Dissecting microbial diversity using cheese rinds,” December 3, 2014
- **Yale Food Systems Symposium**, “Cheese rind microbiology,” November 14, 2014
- **University of Nebraska, Department of Food Science**, “Dissecting microbial diversity using cheese rinds,” November 10, 2014
- **iGEM Jamboree 2014**, “Cultured Products Showcase - Cheese,” November 1, 2014
- **Duke University, Departments of Biology and Emerging Humanities Networks**, “Subnatural cultures in and around the creamery,” September 16, 2014

## **SCIENCE OUTREACH:**

### ***Writing***

- [MicrobiaFoods.org](http://MicrobiaFoods.org) – *digesting the science of fermented foods*. I co-founded and write for this website, which provides free accessible summaries of scientific literature on the microbiology of fermented foods.

- “To the Phyllosphere and Beyond” *Lucky Peach* magazine (online)
- “Why Does the Sea Smell Like the Sea?” *Lucky Peach* magazine. Issue 12. 2014
- “Tales from the Yeast” *World of Fine Wine*. Issue 41. 2013
- “[Chefology](#)” - An online series (2013-214) on the biology of food for *Boston* magazine
- “American microbial terroir” *Lucky Peach* magazine. Issue 4. 2012

### **Public lectures, workshops, and other outreach activities**

- **King Arthur Flour Bread Talks**, “Bread: The Art and Science of Sourdough,” January 30, 2020
- **California Cheese Guild**, “Microbiology of Surface-Ripened Cheeses,” June 21, 2020
- **Berkshire Fermentation Festival**, “Microbiome Discovery Center,” September 16, 2018
- **Boston Mycological Club**, “Domestication of fungi in fermented foods,” March 25, 2018
- **Boston Museum of Science**, “Solving Microbiome Mysteries Using Fermented Foods,” May 6<sup>th</sup>, 2017
- **Rockefeller University Science Outreach Program**, “Microbial Engineers: The Science of Fermented Foods,” March 10<sup>th</sup>, 2017
- **Science Media Awards & Summit @ WGBH**, “Precision Food,” September 20, 2016
- **Boston Fermentation Festival**, Food Microbiomes Booth, August 28<sup>th</sup>, 2016
- **Gastropod Podcast Live @ the Boston Museum of Science**, May 4<sup>th</sup>, 2016
- **MIT Museum**, Bacterial Bonanza, April 7<sup>th</sup>, 2016
- **Tufts Community Day**, Food Microbiomes Booth, October 4<sup>th</sup>, 2015
- **Boston Fermentation Festival**, Food Microbiomes Booth, October 4<sup>th</sup>, 2015
- **American Cheese Society**, Scholar-in-Residence, Providence, RI, August 31<sup>st</sup> - September 1<sup>st</sup>, 2015
- **WGBH NOVA CafeSci** lecture on fermented foods, August 18<sup>th</sup> 2015
- **Tufts Culinary Society**, Scientists in the Kitchen (lecture), April 13<sup>th</sup>, 2015

### **MEDIA:**

- **Gastropod (podcast)**, “Phage Against the Machine”: <https://gastropod.com/phage-against-the-machine/>
- **Science Friday**, “Why We’re Giving Thanks to Microbes for Stinky Cheese”: <https://www.sciencefriday.com/segments/cheese-mold-microbe/>
- **Gastropod (podcast)**, “Are Insect Guts the Secret to the Most Delicious Kimchi?”: <https://gastropod.com/are-insect-guts-the-secret-to-the-most-delicious-kimchi/>
- **The New York Times**, “This fungus mutates. That’s good news if you like cheese” <https://nyti.ms/35CqpuX>
- **PRI’s The World**, “A new Camembert?” <https://www.pri.org/file/2019-10-22/new-camembert>
- **WGBH Boston**, “If Camembert is Made in Cambridge, Is It Still Camembert?” <https://www.wgbh.org/news/lifestyle/2019/11/08/if-the-camembert-is-made-in-boston-is-it-still-camembert>
- **Tufts University, Ever Wonder**, “What is a microbiome?” <https://vimeo.com/331798697>
- **National Geographic**, “This Scientist is Unlocking the Mysteries of Cheese” <https://www.nationalgeographic.com/magazine/2018/09/explore-decoder-cheese-bacteria-fungi-science/>
- **Modern Farmer**, “How Does Sourdough Get Its Unique Flavor” <https://modernfarmer.com/2018/12/how-does-sourdough-get-its-unique-flavor/>
- **NPR**, “More Than Bread: Sourdough as a Window Into the Microbiome” <http://n.pr/2vv6rPJ>
- **Netflix**, “Cooked,” Episode 4: <https://www.netflix.com/title/80022456>
- **The Fridge Light** (CBC Radio), “Yeasts”: <https://www.cbc.ca/radio/thefridgelight/one-word-yeasts-1.4249214>
- **Gastropod (podcast)**, “Kombucha Culture”: <https://gastropod.com/kombucha-culture/>
- **The Economist**, “Out of a Pickle”: <http://econ.st/1QvFXjn>
- **National Geographic** (Online): “Gene-swapping Cheese Molds are Ripe for Investigation”: <http://bit.ly/1Rif7OO>
- **Wired Magazine** (Online), “Microbiologists Hold the Secrets to Making Perfect Cheese”: <http://bit.ly/1RwM2TF>
- **The Daily Beast**, “I’ll Take my Latte with a Shot of Bacteria”: <http://thebea.st/1SCXb2T>
- **Improper Bostonian**, “Cheese Whiz”: <http://bit.ly/1eR3XCm>
- **Gastropod (podcast)**, “Say Cheese”: <https://gastropod.com/say-cheese-2/>