

Nichole A. Ginnan, Ph.D.

Curriculum vitae

W-207 Millennium Science Complex, University Park, PA 16802
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RESEARCH INTERESTS

- Microbiome sciences
- Host-microbiome interactions
- Microbial “legacy effects” or memory
- Microbial adaptation to global change
- Microbial taxa and metabolite mapping
- Meta-omics
- Comparative genomics
- Multi-Kingdom synthetic microbial communities
- Microbial ecology

EDUCATION

Doctor of Philosophy (Ph.D.) in Plant Pathology | September 2014 - June 2020

University of California, Riverside, CA

- *Research Advisor:* Dr. Caroline Roper
- *Committee members:* Dr. Caroline Roper, Dr. Jason Stajich, and Dr. Emma Aronson
 - *Dissertation title:* Pathogens, Plant Phenology, and Microbial Competition Impact the Structure and Function of the Citrus Microbiome

Bachelor of Science (B.S.) in Biology | September 2010 - January 2014

Long Island University, Brookville, NY

- *Research Advisor:* Dr. Kent Hatch
 - *Research focus:* Amphibian Ecology

EXPERIENCE

Research Project Manager II | November 2022–current

One Health Microbiome Center, Huck Institutes of the Life Sciences
Pennsylvania State University

Millenium Science Complex, Pollock Rd, University Park, PA 16802

- Supervisor: Dr. Seth Bordenstein
- Duties:
 - Design, manage (personnel, equipment, materials, schedule, etc.), and foster large-scale research projects related to understanding how microbial communities impact individual organisms and ecosystem health.
 - Integrate microbiome sciences and One Health approaches to underline the connectedness of natural, agricultural, and built environments, ultimately improving global health for individuals to ecosystems.
 - Co-supervise a laboratory technologist.
 - Manage the Center budget, financial projections, and expense reporting.
 - Identify gaps in research and develop resources and collaborations to fill those gaps.
 - Plan and coordinate workshops, networking events, seminars, and symposiums.
 - Develop and manage internal and external industry and academic partnerships.
 - Shape the Center’s research trajectory and identify funding sources.
 - Write Center-level grant proposals, press releases, editorials, and reports.

Adjunct Researcher | November 2022 - current
Department of Ecology and Evolutionary Biology
University of Kansas
1450 Jayhawk Blvd, Lawrence, KS 66045

- Supervisor: Dr. Maggie Wagner
- Duties:
 - Analyze microbiome sequencing, quantitative plant trait, and soil ionome data to identify underlying microbial taxa and functions contributing to prairie soil drought legacy, which increases microbiome and plant resilience to future water-stress, with implications for wildlife habitat conservation and agriculture..
 - Lead a bacterial comparative genomics study to understand bacterial local adaptation to water-stress in short and tall grass prairies, and how those adaptations impact plant-microbe interactions, to potentially promote plant drought tolerance.

Postdoctoral Scholar | September 2020 - October 2022
Department of Ecology and Evolutionary Biology
University of Kansas
1450 Jayhawk Blvd, Lawrence, KS 66045

- Supervisor: Dr. Maggie Wagner
- Duties:
 - Curated a >900 maize- and native prairie grass-associated bacterial culture collection for reductionist experiments.
 - Interrogated full-complexity soil microbiomes using manipulative experiments, metagenomics, metatranscriptomics, and advanced plant trait measurements (root architecture, xylem vessel area, water use efficiency etc.). This included experimental evolution or conditioning of microbial communities to track microbiome ecological and evolutionary changes induced by different abiotic and biotic treatments.
 - Sampled and analyzed prairie soil microbiomes, structure, and nutrients to understand the effects of water-stress in a natural field environment.

Interim Postdoctoral Scholar | July 2020 - September 2020
Department of Microbiology and Plant Pathology
University of California - Riverside
900 University Ave, Riverside, CA 92521

- Supervisor: Dr. M. Caroline Roper
- Duties:
 - Tested synthetic microbial community interactions within the gnotobiotic plant system developed in graduate school.
 - Predicted and validated that microbial siderophore production and resource composition explained microbial niche selection or community assembly in a four-member synthetic microbial community using microbial functional genomics.

Graduate Student Researcher | September 2014 - June 2020
Department of Microbiology and Plant Pathology
University of California - Riverside
900 University Ave, Riverside, CA 92521

- Supervisor: Dr. M. Caroline Roper
- Duties:
 - Curated a citrus-associated bacterial and fungal culture collection with over 300 isolates.
 - Helped develop an *in vitro* pipeline for screening microbial isolates for pathogen-inhibitory secondary metabolite production.
 - Developed a gnotobiotic (microbe-free) citrus plantlet growth system for reductionist experiments. Tested synthetic microbial community interactions using this system.
 - Tested methods for delivering nanoparticles into the plant vascular system.
 - Completed bacterial metabolic modeling using whole genomes to predict bacterial interactions *in silico*.
 - Developed microbial ecology disease model for Citrus Huanglongbing disease using multi-year field sampling and targeted gene sequencing to taxonomic identification. This successfully identified putative disease facilitators and antagonists.
 - Discovered microbial taxa that have turnover and dispersal events in sync with plant phenological events.

Research Assistant | June 2012 - January 2014

Department of Biology

Long Island University - Post Campus

720 Northern Blvd, Brookville, NY 11548

- Supervisor: Dr. Kent Hatch
- Duties:
 - Tested the effects of common ecological research practices (toe clipping for mark-recapture, stomach flushing, etc.) on amphibian (frog, toad, salamander) health and survival, with potential impacts on research protocols and regulations.
 - Explored literature on interactions among amphibian hosts, pathogenic chytrid fungus, and native amphibian skin microbes that could enhance disease tolerance.

FELLOWSHIPS

- | | |
|---------|--|
| 2019–20 | <p>University of California President's Dissertation Year Fellowship
 UC Office of the President; \$22,570 stipend, tuition and fees for 1 year, and \$1,000 in travel funds. This is a highly-competitive merit-based award given to two graduate students each year from across all graduate programs at UC Riverside.</p> |
| 2016–19 | <p>National Science Foundation Graduate Research Fellowship
 National Science Foundation; \$172,000 stipend, tuition, and fees for 3 years. This program funds graduate students who are anticipated to become experts in their field and contribute to the goal of increasing diversity in science and engineering fields.</p> |
| 2014–15 | <p>Dean's Distinguished Fellowship
 University of California - Riverside; stipend, tuition, & fees for 5 yrs (declined last 3</p> |

years). This fellowship is awarded to a limited number of outstanding graduate applicants each year.

GRANTS: SUBMITTED & IN PREPARATION

Title: T32: Biotechnological and Integrative Opportunities in Microbiome Sciences (BIOMS)

Funding agency: National Institutes of Health (NIH), NIGMS

Amount requested: \$2,956,485

Role: Program Director/Principal Investigator (PD/co-PI) (first/lead author of the grant)

Others involved: Seth Bordenstein (PD/PI) and Jasna Kovac (PD/co-PI)

Date submitted: January 2024

Title: BII-HEIRS: Holobiont elements influencing response to stress

Funding agency: National Science Foundation (NSF), Biology Integration Institute Program

Amount requested: \$15,000,000

Role: Senior Personnel ([first author on the grant and co-advising plant-related research with Drs. Crandell and Dini-Andreote](#))

Others involved: Seth Bordenstein (PI), Sharifa Crandell (co-I), Francisco Dini-Andreote (co-I), Tim Miyrashiro (co-I), Vishal Singh (co-I).

Target submission: February 2025

GRANTS: AWARDED

Title: Mining Bacterial Genomes for Genetic Factors Involved in Microbial Drought Adaptation and Microbially-mediated Drought Tolerance in Plants

Funding agency: Seed Grant Program, Center for Genomics Research, University of Kansas

Amount funded: \$9,000

Role: Principal Investigator (PI)

Others involved: Maggie Wagner (co-PI)

Date awarded: December 2021

AWARDS & SMALL GRANTS

2024	Staff Excellence Award, University Staff Advisory Council, Penn State Univ. (\$500) <ul style="list-style-type: none"> • For embodying the University Values of integrity, respect, responsibility, discovery, excellence, and community.
2020	Charles W. Coggins, Jr. Endowed Scholarship, UC Riverside (\$10,000) <ul style="list-style-type: none"> • For research excellence and benefit to the agricultural industry.
2019	Peter/Pamela Tsao Graduate Student Scholarship, UC Riverside (\$1,000) <ul style="list-style-type: none"> • For excellence in soil-borne disease research.
2019	Earle C. Anthony Travel Grant, UC Riverside (\$1,500)
2019	Edmond C. Calavan Memorial Scholarship Award (\$1,000) <ul style="list-style-type: none"> • For research excellence in the field of plant pathology.
2018	Charles W. Coggins, Jr. Endowed Scholarship, UC Riverside (\$4,642) <ul style="list-style-type: none"> • For research excellence and benefit to the agricultural industry.
2018	Am. Phytopathological Society Moller Student Travel Award (\$500)
2018	Am. Phytopathological Society Mathre Education Endowment (\$1,000)

2017	European Molecular Biology Organization Travel Grant (450 €)
2016	Noble Foundation Best Poster Award, APS annual meeting (\$250)
2016	Audience Choice Award - Best Talk, UC Riverside GradSlam (\$2,000)
2015	Am. Phytopathological Soc. Don/Judy Mathre Educational Award (\$500)
2015–19	Graduate Student Assoc. Travel Grant, UC Riverside (\$300–\$600 yearly)
2015–19	Klotz Memorial Travel Award, UC Riverside (\$500–750 yearly)
2013	Frontier Award in Scientific Research, Long Island University

PERSPECTIVE PUBLICATION (* equal contribution; # corresponding author)

1. **Ginnan NA#** and Bordenstein SR. (2023). It is Time to Authenticate the Microbiome Sciences with accredited educational programs and departments. *PLOS Biology*. 7:21(12):e3002420. DOI: 10.1371/journal.pbio.3002420.

PEER-REVIEWED PUBLICATIONS (* equal contribution)

1. Campos Freitas Vieira F, Blacutt A, Drozd C, Viravathana P, **Ginnan NA**, Roper MC. (2024). Thirteen draft genome assemblies of *Bacillus* spp. derived from the citrus microbiome. *accepted - Microbiology Resource Announcements*.
2. Aksenov AA, Blacutt A, **Ginnan NA**, Rolshausen PE, Melnik AV, Lotfi A, Gentry EC, Ramasamy M, Zuniga C, Zengler K, Mandadi K, Dorrestein PC, Roper MC. (2024). Spatial chemistry of citrus reveals molecules bactericidal to *Candidatus Liberibacter asiaticus*. *accepted - Scientific Reports*. DOI: <https://doi.org/10.1101/2024.04.12.589303>.
3. Kurbessoian T, Heimlich-Villalta G, **Ginnan NA**, Campos Freitas Vieira F, Rolshausen P, Roper MC, Stajich J. (2023). Genome sequence and assembly of 18 *Fusarium* isolates from Florida citrus under high Huanglongbing disease pressure and California citrus under low Huanglongbing disease pressure. *Microbiology Resource Announcements*. DOI: 10.1128/mra.00101-23
4. Xi M, Deyett E, **Ginnan NA**, Ashworth V, Dang T, Bodaghi S, Vidalakis G, Roper C, Glassman S, Rolshausen P. (2022). Geographic location, management strategy and Huanglongbing disease affect arbuscular mycorrhizal fungal communities across US citrus orchards. *Phytobiomes*. 6:4, 342-353. DOI: PBIOMES-03-22-0014-R
5. **Ginnan NA**, De Anda NI, Campos Freitas Vieira F, Rolshausen P, Roper MC. (2022). Microbial turnover and dispersal events occur in sync with plant phenology in the perennial evergreen tree crop, *Citrus sinensis*. *mBio*. 13:3, 1-18. DOI: 10.1128/mbio.00343-22
6. O'Brien AM, **Ginnan NA**, Rebolleda-Gómez M, Wagner MR. (2021). Microbial effects on plant phenology and fitness. *American Journal of Botany*. 108:10, 1-14. DOI: 10.1002/ajb2.1743
7. **Ginnan NA**, Dang T, Bodaghi S, Ruegger P, McCollum G, England G, Vidalakis G, Borneman J, Rolshausen P, Roper MC. (2020). Disease-induced microbial shifts in citrus

indicate microbiome-derived responses to Huanglongbing across the disease severity spectrum. *Phytobiomes*. 4:375-387. DOI: PBIOMES-04-20-0027-R

- [Honorable Mention - Phytobiomes Journal Best Grad. Student Paper 2020](#)
- [Press release- HLB: The Microbiome's Role, picked up by 6 news outlets](#)

8. Blacutt A, **Ginnan NA**, Dang T, Bodaghi S, Vidalakis G, Ruegger P, Peacock B, Viravathana P, Campos-Vieira F., Drozd, C, Jablonska B., Borneman J, McCollum G, Cordoza J, Meloch J, Berry V, Salazar L, Maloney K, Rolshausen P, Roper, MC. (2020). Development of an in vitro pipeline to screen and select citrus-associated microbiota with potential anti-*Candidatus Liberibacter asiaticus* properties. *Applied and Environmental Microbiology*. 86:8. DOI: 10.1128/AEM.02883-19
9. Su Y, Ashworth V, Geitner N, Wiesner M, **Ginnan NA**, Rolshausen P, Roper C, Jassby D. (2020). Delivery, fate, and transport of silver nanoparticles in citrus trees. *ACS Nano*. 14:3, 2966-2981. DOI: 10.1021/acsnano.9b07733
10. Pedroncelli L, Carter-House D, **Ginnan NA**, Andrews H, Drozd C, DiSalvo B. (2019). The consequences of drought on plant pathology. *Journal of Science Policy and Governance*. 15:1.
11. **Ginnan NA***, Dang T*, Bodaghi S, Ruegger P, Peacock B, McCollum G, England G, Roper MC, Rolshausen P, Borneman J. (2018). Bacterial and fungal next generation sequencing datasets and metadata from citrus infected with *Candidatus Liberibacter asiaticus*. *Phytobiomes*. 2:2, 64-70.
12. **Ginnan NA**, Lawrence JR, Russell M, Eggett DL, and Hatch KA. (2014). Toe clipping does not affect the survival of leopard frogs (*Rana pipiens*). *Copeia*. 2014:4, 650-653.

PREPRINTS, SUBMITTED, & IN PREPARATION MANUSCRIPTS

(* equal contribution; # corresponding author)

1. **Ginnan NA***, Custódio V*, Gopaulchan D*, Ford N, Salas-González I, Jones D, Wells D, Moreno Â, Castrillo G, Wagner MR. Persistent legacy effects on soil metagenomes facilitate plant adaptive responses to drought. [BioRxiv preprint: https://doi.org/10.1101/2024.08.26.609769](https://doi.org/10.1101/2024.08.26.609769)
2. **Ginnan NA#**, Crandall S, Imchen M, Dini-Andreote F, Miyashiro TI, Sign V, Ganda E, Bordenstein SR. Unifying the Microbiome Sciences with a One Health Framework. [Under review at Nature Microbiology](#).
3. The Holobiont Biology Network [Seth R. Bordenstein, Thomas P. Gilbert, **Nichole A. Ginnan**, Antonino Malacrino, Maria Elena Martino, Simon Bahrndorff, Sunil Mundra, Michael D. Martin, Kevin R. Theis, Sarah M. Hird, Alejandro Caro-Quintero, Thomas J. Sharpton, Kevin D. Kohl, Christopher J. Barnes, Raphael Eisenhofer, Ostaizka Aizpurua, Sandra B. Andersen, Jaelle C. Brealey, Christina L. Noer, Mónica Medina, Morten T. Limborg, Antton Alberdi]. Holobionts: Weaving a Disciplinary Matrix into the Tapestry of Life. [Under revisions at Science](#).

4. Rodriguez C, Sanderson B, Tso F, Wagner MR, **Ginnan NA#**. Geographic and genetic patterns of local adaptation to osmotic and drought stress in *Luteibacter* species. *In preparation*.
5. De Anda NI*, **Ginnan NA***, Roper MC. Microbe-microbe interactions drive physical niche selection within a gnotobiotic *Citrus sinensis* system. *In preparation*.
6. Garrell A, Swift J, **Ginnan NA**, Tso F, Pal G, Tang C, Hahnke R, Kleiner M, Wagner MR. Representative collection of maize root-associated microbes. *In preparation*.

INVITED TALKS

2024	Applied Hologenomics Conference Copenhagen, Denmark
2023	Corporate Council, American Society for Microbiology Houston, TX
2023	Penn State University, Microbiome Center Seminar State College, PA
2022	Phytobiome Conference Denver, CO
2022	Oregon State University, Botany and Plant Pathology Seminar Corvallis, OR
2021	Kansas Microbiomes of Aquatics, Plants, and Soils symposium Virtual
2020	McGill University Plant Sciences seminar Montreal, Quebec, Canada
2020	University of California Davis MMI seminar Davis, CA
2019	USDA NIFA grant advisory meeting Riverside, CA
2019	International Research Conference on HLB (IRCHLB) Riverside, CA
2019	UCR Microbiome Initiative Symposium Riverside, CA
2016	GradSlam Finals Riverside, CA
2015	GradSlam Semi-finals Riverside, CA
2013	LIU Faculty Research Seminar Brookville, NY

PRESENTATIONS

Talks

2022	Genetics of Maize-Microbe interactions research network Virtual
2020	Genetics Seminar, Univ. of Kansas Lawrence, KS
2019	UCR Plant Pathology seminar Riverside, CA.
2017	UCR Plant Pathology seminar Riverside, CA
2016	UCR Plant Pathology Seminar Riverside, CA

Posters

2021	Nature Conferences: Harnessing the plant microbiome Davis, CA
2019	Congress of Molecular Plant-Microbe Interactions Glasgow, Scotland
2018	International Conference of Plant Pathology Boston, MA
2018	Citrus Day Riverside, CA
2017	EMBO Plant Microbiota Practical Course Cologne, Germany
2017	Citrus Day Riverside, CA
2016	Phytobiomes: From Microbes to Plant Ecosystems Santa Fe, NM
2016	American Phytopathological Society Annual Meeting Tampa, FL
2015	American Phytopathological Society Annual Meeting Pasadena, CA
2015	Phytobiomes: New Paradigm for Crop Improvement Washington, DC

2013 National Meeting of Ichthyologists and Herpetologists | Albuquerque, NM
 2013 William Paterson University Scientific Research Symposium | Wayne, NJ
 2013 Long Island University Research Symposium | Brookville, NY

TEACHING & MENTORING

Workshops:

2024 (Fall) **Co-Chair and presenter**, Kickstart workshop: introduction to microbiome data analysis (5-days), Penn State University
 2023 (Fall) **Co-Chair and presenter**, Kickstart workshop: introduction to microbiome data analysis (3-days), Penn State University

Seminar Organizer:

2024 (Fall) Microbiome Center Seminar Series (MBIOM 550), Penn State University
 2024 (Spring) Microbiome Center Seminar Series (MBIOM 550), Penn State University
 2023 (Fall) Microbiome Center Seminar Series (MBIOM 550), Penn State University
 2023 (Spring) Microbiome Center Seminar Series (MBIOM 550), Penn State University

Teaching assistant

2016 Introduction to Microbiology Laboratory (MCBL121L), UC Riverside
 • *Received an Outstanding Teaching Assistant Award from the Graduate Division*

Guest lectures

2024 Current events in Biotechnology (MCIBD 571; Graduate Level), Penn State University
 2024 Environmental Microbiology (SOILS 512; Graduate level), Penn State University
 2023 Current events in Biotechnology (MCIBD 571; Graduate Level), Penn State University
 2022 Introduction to Honors Research (BIOL 499; Undergraduate level), Univ. of Kansas
 2018 Plant Virology and Bacteriology (PLPA 203; Graduate level), UC Riverside
 2016 Arlington High School Biology Class, Riverside, CA

Undergraduate research mentor

1. Carmen Rodriguez Univ. of Kansas	2021–2024
2. Natalie Ford Univ. of Kansas	2021–2022
3. Hannah Reid (REU student) Univ. of Kansas	2021
4. Felicity Tso (transition into full-time technician) Univ. of Kansas	2020–2022
5. Matthew Guevara UC Riverside	2019–2020
6. Rohan Subramanian UC Riverside	2019
7. Norma Itzel De Anda UC Riverside	2018–2020
8. Tim Smith UC Riverside	2018–2020
9. Yona Mizrahi UC Riverside	2017
10. Hannah Way UC Riverside	2016–2019
11. Anisah Kabbara UC Riverside	2016–2017
12. Chi Lok Leung UC Riverside	2015–2016

Mentoring Programs

2017 **Graduate Peer Mentor**, Grad. Success/Grad. Division, UC Riverside
 • *Mentored incoming graduate students participating in the 3-month summer “GradEdge/Jump Start” program, which provides*

underrepresented STEM graduate students a “jump start” on professional/academic development.

- **Mentees:**
 1. Yair Sanchez Juarez (Mechanical Engineering)
 2. Aidan Shands (Plant Pathology)
 3. Pablo Unzueta (Chemistry)
 4. Daniel White (Chemical and Environmental Engineering)

2015–16 **High School Mentor**, Association for Women in Science, UC Riverside

- Mentored high school students from rural areas through the Mecca Program

2012–13 **International Student Mentor**, Conversations Helping and Teaching Students (CHATS), Long Island University

SPECIALIZED TRAINING

2021–22 Maize Genetics Industry Mentor Program (6 mo.), *Mentor: Chris Kafer, BASF*

2021 Population Genetics Discussion Group (12 weeks), University of Kansas

2021 Software carpentry workshop, University of Kansas

2020 Microbial ‘Omics Online Seminar Series (6 weeks), Univ. of Chicago

2018 Statistical modeling in R for Biologists, UC Riverside

2018 Science to Policy communications workshop, UC Riverside

2017 Plant Microbiota practical course, Max Planck Institute, Cologne, Germany

- 2-week course on experimental/computational techniques. Led by Paul Schulze-Lefert, Stephane Hacquard, and Ruben Garrido-Oter. *Competitive application process, received EMBO travel grant*

2016 PMA/EMA-qPCR for quantifying bacterial cells in hosts, Lake Alfred, FL

- Led by Nian Wang.

2015 Programming in R workshop, UC Riverside

INTERNAL LEADERSHIP & SERVICE

Penn State University, University Park, PA

2023– **Curriculum committee member**, Dual Title PhD in Microbiome Sciences program

2023– **Exec committee member**, Dual Title PhD in Microbiome Sciences program

2023–24 **Co-chair**, One Health Microbiome Symposium organizing committee

2022– **Member**, Center for Root and Rhizosphere Biology

University of Kansas, Lawrence, KS

2021–22 **Co-organizer**, Center for Genomics Symposium organizing committee

University of California, Riverside, CA

2017–18 **Graduate Rep.**, Dean of Students Search Committee

2017–18 **Vice President of Academic Affairs**, Graduate Student Association

- *Paid elected position*: Represented and advocated for >3,200 graduate students. Managed a team of seven academic affairs officers. Oversaw the status, funding, and activities of 56 departmental graduate student

- organizations, an event/conference funding program, and an outreach funding program.
- 2016–19 **Co-founder & Communications Coordinator**, Outreach Committee, Plant Pathology Graduate Student Association
- 2015–18 **Graduate Rep.**, Faculty Academic Senate’s Graduate Council
- 2015–17 **Conference Travel Grant Coordinator**, Graduate Student Association
- *Paid appointed position: Directed the conference travel grant program (budget ≈\$250,000) by organizing, reviewing, and awarding hundreds of awards to individuals.*
- 2015–17 **Vice Chair**, Highlander Union Board of Governors
- 2014–16 **Graduate Rep.**, Global Food Initiative, Food Security Committee
- 2014–15 **Graduate Rep.**, Faculty Academic Senate’s Extension Committee
- 2014–15 **Academic Affairs Officer**, Graduate Student Association
- *Paid appointed position: Served as a liaison between the College of Natural and Agricultural Sciences and graduate student association.*
- 2014–20 **Member**, Plant Pathology Graduate Student Association

PROFESSIONAL AFFILIATIONS & SERVICE

Manuscript review

International Society of Microbial Ecology (ISME) Journal; Plant Pathology Journal (x2); Phytobiomes Journal (x2); New Phytologist; Journal of Ecology; FEMS Microbiology Ecology (x2); Plant, Cell & Environment; FEMS Microbiology Letters (x2); Canadian Journal of Microbiology (x2).

Grant review

2019 American Phytopathological Society travel grants (5 applications)

Moderator

2022 IS-MPMI Early career showcase (2-day virtual event)

Membership

- 2024– **Controlled Environment Agriculture Working Group member**, International Phytobiomes Alliance
- 2024– **Microbiome Working Group member**, International Phytobiomes Alliance
- 2023– **Coordinating Committee member**, International Phytobiomes Alliance
- 2023– **Member**, American Society of Microbiology (ASM)
- 2023– **Member**, One Health Task Force, Commonwealth of Pennsylvania
- 2020– **Member**, Genetics of Maize-Microbe interactions research network
- 2020– **Member**, International Society of Microbial Ecology (ISME)
- 2019– **Member**, International Society for Molecular Plant-Microbe Interactions
- 2017–20 **Member**, UC Riverside Microbiome Initiative
- 2015– **Member**, American Phytopathological Society (APS)
- *Participated on Graduate student committee, Bacteriology committee, and Early career professionals committee.*

OUTREACH & COMMUNITY SERVICE

- 2024 **Panelist**, National Institute of Antimicrobial Resistance Research & Education (NIAMRRE) meeting, Virtual
- 2024 **Panelist**, Antimicrobial Resistance Awareness Day, State College, PA
- 2023 **Panelist**, AEPS515 course: Academic Career Panel, State College, PA
- 2023 **Exhibitor**, American Society of Microbiology Microbe Conference, Houston, TX
- 2023 **Guest Speaker**, Professional Development lunch, Penn State Microbes for Microbes Grad Student Organization, State College, PA
- 2023 **Moderator/Host**, Microbiome Expert Panel, The State Theatre, State College, PA
- 2022 **Scientific Poster Judge**, KU Molecular Biosciences Symposium, Lawrence, KS
- 2022 **Scientific Poster Judge**, KU Genomics Symposium, Lawrence, KS
- 2022 **Panelist**, Postdoc advice panel, MEE conference, Lawrence, KS
- 2021 **Guest Host**, Microbigals Podcast, "Do Plants have a Microbiome?"
- 2021, 2022 **Host**, Meet a Scientist, 6th graders, SC Central School, Sandy Creek, NY
- 2018 **Organizer & Presenter**, Plant Pathology Day
 - [100 High School Students invited to campus for a full day event about STEM careers and Plant Pathology. Organized and presented section on plant microbiomes.](#)
- 2018 **Panelist**, STEM graduate student panel for high schoolers, UC Riverside
- 2016 **Co-organizer**, The Riverside Amazing College Race, Riverside, CA
 - [Scholarship competition and higher education promotional event.](#)
- 2016 **Volunteer**, STEM Sisters, middle school outreach program, UC Riverside
- 2014–17 **City Ambassador**, Riverside Mayor's College Forum, Riverside, CA
 - [Collaborated with student leaders from all four regional colleges and the Mayor's office to improve relations between students and the city.](#)

SEMI-TECHNICAL PUBLICATIONS & OTHER SCIENTIFIC COMMUNICATIONS

1. **Ginnan NA.** (2024). Microbiome Kickstart Workshop will assist newcomers to the field. Penn State News.
2. **Ginnan NA.** (2023). New USDA grant to support graduate reproductive microbiome training program. Penn State News.
3. **Ginnan NA.** (2023). One Health Microbiome Center honors creativity and mentoring with award series. Penn State News.
4. **Ginnan NA.** (2023). One Health Microbiome Center's 2023-24 Interdisciplinary Innovation Fellows. Penn State News.
5. **Ginnan NA.** (2023). Penn State's renamed One Health Microbiome Center affirms broad expertise. Penn State News.

6. Lovelace A, Read A, **Ginnan NA**, Cox K. (2023). The 2022 Early Career Showcase: A Model for Future Virtual Symposiums. International Society for Molecular Plant-Microbe Interactions - *Interactions*.
7. **Ginnan NA**. (2023). Habitat split may impact disease risk in amphibians and other vertebrates. Penn State News.
8. **Ginnan NA** and Bordenstein S. (2023). Free film and panel discussion reveals 'invisible' crisis of the microbial world. Penn State News.
9. **Ginnan NA**. (2022-23). Trainee features. One Health Microbiome Center webpage.
 - a. Luana Bresciani - April 25, 2023
 - b. Mallorie Smith - April 11, 2023
 - c. Josue Ceron - March 28, 2023
 - d. Victoria Pearce - March 14, 2023
 - e. Tarik Acevedo - February 22, 2023
 - f. Erica Ryu - January 31, 2023
 - g. Jenn Harris - January 17, 2023
 - h. Terry Torres-Cruz - December 13, 2022
 - i. Sterling Wright - December 6, 2022
 - j. Colin Howe - November 29, 2022
 - k. Taejung Chung - November 22, 2022
10. **Ginnan NA**. (2022). 2022 Top 10 Most Popular Microbiome Center News Articles. Penn State Huck Institutes of the Life Sciences eNews.
11. Rolshausen P, Dang T, Bodaghi S, **Ginnan NA**, Ruegger P, Peacock B, Roper MC, Borneman J, McCollum G, Vidalakis G, England GK. (2018). Correlating citrus tree health with microbes. *Citrograph*. 9:4, 52-56.