

## Deborah A. Neher

Dept. of Plant and Soil Science  
College of Agriculture and Life Sciences  
University of Vermont  
Burlington, VT 05405-0082

Email: [deborah.neher@uvm.edu](mailto:deborah.neher@uvm.edu)  
Twitter: @SoilSuccess  
Web: <http://go.uvm.edu/wwwuvmedudneher>  
ORCID: 0000-0002-9647-8783

### Education

PhD, University of California, Davis, Plant Pathology (1990)  
MS, University of Illinois, Urbana-Champaign, Plant Biology (1986)  
BS, McPherson College, Environmental Science (1984), summa cum laude

### Appointments

Professor, University of Vermont (2008-present)  
Department Chair of Plant and Soil Science, University of Vermont (2004-2018)  
Associate Professor, University of Vermont (2004-2008)  
Associate Professor, University of Toledo (2002-2004)  
Assistant Professor, University of Toledo (1996-2002)  
Graduate Faculty Affiliate, Bowling Green State University (1997-2004)  
Visiting Assistant Professor, North Carolina State University (1993-1996)  
Postdoctoral Research Associate, North Carolina State University (1990-1993)  
Naturalist-Ecologist Fellow, University of Michigan Biological Station (1985)

### Advisory Boards

Soil Health Research and Extension Center, University of Vermont, Executive Committee, (2022-present)  
The Land Institute, Salina, Kansas, Board of Directors, Member and Science Committee Chair (2019-present)  
CalRecycle Community Composting for Green Spaces Grant Program, Training Program Advisory Board (2020-2021)  
Soil Health Institute, Measurements, Standards & Assessment Team, Morrisville, NC (2017-2019)  
Highfields Center for Composting, Advisory Board for Research and Education, Chair (2011-2013)  
H. John Heinz III Center for Science, Economics and the Environment, Washington, D.C. *State of the Nation's Ecosystems* project, Farmlands Work Group (2000 – 2008)  
U.S. EPA Scientific Advisory Board Expert Panel for the review of EPA's 2007 Report on the Environment, 2007  
U.S. EPA FIFRA Scientific Advisory Panel, Corn Rootworm Plant-incorporated Protectant Non-target Insect and Insect Resistance Management Issues, 2002  
ESA Ecosystem Services Communication Project, Advisory Board (2000-2001)  
ESA Representative, Henry A. Wallace Institute for Alternative Agriculture Board of Directors (1996-1998); and advisor for the policy report, Soil Quality from the Ground Up: How environmental health starts with soil health (1998)

### Select honors and awards

Nationally ranked #429 of Best Scientists in the field of Plant Science and Agronomy and #1333 of Best Scientists in the field of Ecology and Evolution (2023), <https://research.com/u/deborah-a-neher>  
UVM Gund Institute of the Environment, Faculty Fellow, 2023-present; Faculty Affiliate, 2018-2023.

Faces of GIAR: Deborah Neher, Sigma Xi Honorary Scientific Society, 2022,  
<https://www.sigmaxi.org/news/article/2022/05/06/faces-of-giar-deborah-neher>  
Semi-Finalist, FoodShot Global GroundBreaker Prize, Innovating Soil 3.0. (2019, 2020)  
Soil Ecology Society, Service Award (2017)  
Deborah A. Neher Career Award, Ecological Society of America (2015)  
HW Vogelmann Award for Excellence in Research & Scholarship, College of Agriculture and Life Sciences, University of Vermont (2009)  
Jastro-Shields Graduate Research Scholarship, UC Davis (1988, 1989)  
Naturalist-Ecologist Fellowship, University of Michigan Biological Station (1985)  
State of Kansas Scholar (1980-1984)

## **Program building and administrative experience**

### **Academic**

**Department Chair of Plant and Soil Science, University of Vermont (2004-2018)**

Interdisciplinary program housed 15-18 faculty in tenure-track, extension, and lecturer positions.

- *Fiscal responsibility* for Agriculture and Environmental Testing Laboratory, Master Gardener, and Horticulture Research and Education Center
- *National searches* that yielded hire of six tenure-track faculty, i.e., international agroecology, landscape design, specialty crop entomologist, ecological soil management, and crop genetics
- Culture change, curriculum realignment, and strategic recruitment that tripled numbers of undergraduate and graduate majors
- Special assignments
  - Six years of intensive planning and orchestrating departmental move to James M. Jeffords Plant Science building in 2010
  - Restructuring the Agriculture and Environmental Testing Laboratory for fiduciary solvency and better customer service
  - Co-founder of the BS, MS, and PhD programs in Food Systems
  - Advisor for environmental science major and summer farm apprenticeships

**Assistant and Associate Professor of Biology and Environmental Science, University of Toledo (1996-2004)**

- Hired into the biology department which split during my pre-tenure years leaving the remaining molecular biology contingent to inherit the departmental name. We ecologists joined geology to create a new department of Environmental Science.
- Co-lead curriculum development within the department and on College and Arts and Science Council navigating interdepartmental tensions regarding instruction and the central role of ecology in biology accreditation.
- Executive Committee member for the Plant and Environmental Science Research Center, serving on six faculty hires (chairing two), and coordinating pest management in the new greenhouse.

### **Professional Societies**

Ecological Society of America: Founder of two sections, one in Soil Ecology (1993) and another in Agroecology (2000) serving as inaugural section chair for both. Served as governing board representative to the American Institute for Biological Sciences workshop, "Research in Support of Sustainable Agriculture"; National Research Council-Board of Agriculture workshop, "Agriculture's Role in K-12 Education: A Forum on the National Science Education Standards"; and Council on Agricultural Science and Technology (1994-1996)

Organization of Nematologists for Tropical Americas: Vice President and Scientific Program Chair, Vice President, and President (2016-2019), Listserv

US Composting Council: member (2022-present)

Society of Nematologists: Executive Board member, Ecology Committee officer (2002-2005)  
Soil Ecology Society: Secretary (1996-1997)  
American Phytopathological Society: Epidemiology Committee Chair (1995-1996)  
Sigma Xi, University of Toledo Chapter: President-Elect (2003-2004)

### Editorial Boards

Ecological Applications, Subject Editor for soil ecology, biological indicators, (2017-present)  
Agroecology and Sustainable Food Systems, Associate Editor (2009-present)  
Journal of Nematology, Ecology Editor (2001-2004), Associate Editor (1999-2000)  
Plant Disease, Associate Editor (1994-1996)  
Ad hoc reviewer for 30+ journals (<https://publons.com/researcher/19617/deborah-neher/>)

### Research funding (Total Grant Funding 1992-present: \$13.3 million)

#### Current

Soil Builders 201 – education for action: Using compost to prevent erosion and improve water quality in the Lake Champlain Basin, \$489,800, 1/1/24-12/31/25. (Key Personnel, Collaborator)  
Sustainability starts with soil, ARS-UVM Food Systems Research Center Sustainability Metrics, \$599,983, co-I (7/1/23-6/30/26)  
Companion cropping *Stropharia* mushrooms with hemp for nutrient recovery and economic return, USDA NIFA A1601 Small and Medium-Sized Farms SEED, \$298,228, NIFA 2023-67024-40294, PI (5/1/23-7/14/25)  
Hemp fiber: Building farmer capacity to meet the opportunities and challenges of a new market, USDA NIFA A1701 Critical Agriculture Research and Extension, \$299,913, Key Personnel (3/1/23-2/28/26)  
Soil Builders 201 – education for action: Using compost to prevent erosion and improve water quality in the Lake Champlain Basin, \$489,800, 1/1/24-1/31/25. (Key Personnel, Collaborator)  
Clivus Multrum Compost Toilet Liquid Fertilizer Study, Resource Institute for Low Entropy Systems, \$102,698, PI (10/1/22-8/31/24)  
Organic amendments to suppress disease in organic vegetable and dairy systems, Vermont Agricultural Experiment Station Competitive Hatch H02601MS, \$89,998, PI (10/1/19-9/30/24)

#### Previous

Hatching a holistic and equitable roadmap for agroecology to address modern food system challenges. USDA-NIFA Sustainable Agroecosystems Conference, \$50,000, PI (11/1/22-10/31/23)  
System dynamics approach to inform computational models to aid in prediction of system behavior in response to changes in the food/ag system, Food Systems Research Center planning grant, \$50,000, co-PI (11/1/22-8/31/23)  
Food Systems Sustainability starts with soil, Food Systems Research Center planning grant, \$49,817, co-PI (11/1/22-8/31/23)  
Bedding strategies that promote udder health and milk quality by fostering a beneficial microbiome on organic dairy farms. Organic Research Education Initiative, \$994,898, co-PI (9/1/18-08/23/23)  
Soil Builders 101 – education for action: Using compost to prevent erosion and improve water quality in the Lake Champlain Basin, \$40,000, 7/1/20-5/31/22. (Key Personnel, Collaborator)  
Specialty composts to control fungal soilborne pathogens in vegetable crops. USDA Specialty Crops Block Grant, \$33,193, PI (1/1/21-3/31/22)  
Worm-composted dairy manure to control fungal pathogens in vegetable crops. Farmers Advocating for Organic, \$21,966, PI (4/15/20-12/31/21)

Anaerobic soil disinfestation to control soilborne pathogen *Rhizoctonia solani* in Vermont field conditions. NE-SARE Partnership, \$30,000, PI (9/1/18-12/31/21)

A microbial inoculant for the degradation and recycling of hemp waste into a nutrient-rich fertilizer. NSF 19-554 SBIR Program Phase 1 2014792, \$224,935, co-PI (7/1/20-8/31/21)

Food Systems Metrics and Data Integration Awards, UVM-ARS Center for Food Systems Research, Resilient soils for resilient farms: soil health for small- and medium-sized farms, \$75,000, Lead PI (7/1/20-6/30/21)

Casella Sustainable Materials Management Research Fund for the Recycling, Organics and Resources research group, \$70,000, co-PI (2019-2021)

Recovery of phosphorus from digested dairy manure, Vermont Phosphorus Innovation Challenge \$40,500, co-PI (2018-2019)

Designing compost for disease suppression on specialty crops, Vermont Agricultural Experiment Station Competitive Hatch, \$103,000, PI (2014-2019)

Persistence of enteric pathogens in manure-amended soils in northeast U.S. produce-growing environments, USDA-ARS Specific Cooperative Agreement, \$500,000, Lead PI (2014-2018)

Integrated bedded pack management and fly control reduce mastitis risk by promoting a beneficial teat skin microbiome, Vermont Agricultural Experiment Station Competitive Hatch, \$149,971, co-PI (2015-2018)

Research landscape tool: multi-decadal annotated soil biology bibliography, Soil Health Institute, Cooperative Agreement, \$55,440, PI (2017-2018)

Incentive Funds for Innovation on the Nexus of Food, Energy and Water, University of Vermont, \$5,000, Lead PI (2016-2017)

Regional assessment of the quality control, food safety, environmental, user perception and marketing outlets of diverting food scraps from landfills, Northeastern Experiment Station Directors Planning Grant, \$10,000, Lead-PI (2015-2016)

Plant toxicity tests, Green Mountain Power Corporation, \$4,240, PI (2013-2014)

Compost biology for improving soil quality for Vermont agriculture, Vermont Agricultural Experiment Station Competitive Hatch, \$43,023, PI (2012-2014)

Ecology of nematode-suppressive soils in Midwest soybean-cropping systems, USDA - CSREES Arthropod and Nematode Biology and Management (A) Organismal and Population Biology, co- \$449,000, co-PI (2009-2013)

Winter pasture and bedded pack management for Vermont dairy farms, USDA-NRCS Conservation Innovation, \$248,027, Lead PI (2008-2012)

Compost biology for improving soil quality for Vermont agriculture, Vermont Agricultural Experiment Station Competitive Hatch, \$24,000, PI (2009-2012)

Spatial extent of transported road materials on the ecological function of forested landscapes, University Transportation Center, DOT, \$233,585, co-PI (2008-2012)

Compost for management of plant pathogens and weed seeds, NE-SARE Partnership, \$15,000, PI (2010-2012)

Impact of compost materials on microbial community function for the management of plant pathogens and weed seeds, UG Research Mini-Grant for Patrick Dunseith, \$500, PI (2010-2011)

Training for agricultural service providers in the diagnosis, visual assessment, and management of plant-parasitic nematodes, NE-SARE Professional Development, \$116,115, co-PI (2007-2010)

Attributes of soil communities associated with suppression of plant-parasitic nematodes in New England and North Central Regions of the USA, Vermont Agricultural Experiment Station Competitive Hatch, \$34,359, PI (2006-2009)

Climate change in arid lands: Effects on soil biota and ecosystem processes, Department of Energy-Program for Ecosystems Research, \$1,371,375, co-PI (2005-2010)

Nematodes of the tropical rain forests of Costa Rica: Linking morphology and MOTUs, National Science Foundation - Biodiversity Surveys and Inventories, \$450,000, Lead PI (2007-2010)

Modeling spatial-temporal impacts of soil aggregation on total and net nitrogen mineralization by bacterivorous nematodes with contrasting life strategies, USDA-NRICGP Soil Processes, \$124,000, Lead PI (2005-2008)

Species inventory of nematodes in tropical forests of Costa Rica, National Science Foundation - Biodiversity Surveys and Inventories, \$199,999, Lead PI (2005-2006)

Impacts of hierarchical soil structure on bacterivorous nematodes, Vermont Agricultural Experiment Station Competitive Hatch, \$10,000, PI (2005-2006)

International US-UK Cooperative Research: Validation of nematode life history-based indices using biomarkers of DNA damage, National Science Foundation - International Opportunities for Science and Engineering - Western Europe, \$11,260, PI (2004-2006)

Effects of altered precipitation and temperatures on soil food webs as mediated by biological soil crusts, DOE-Program for Ecosystems Research \$74,684, co-PI (2005)

Linking nematode species-specific habitat preferences to ecosystem processes, USDA/CSREES Hatch, \$10,000, PI (2004-2005)

Quantitative effects of climate change on soil faunal-mediated decomposition, Vermont EPSCoR Equipment, \$18,537, PI (2004-2005)

Effects of Coleopteran-active Bt corn on multiple trophic levels in soil communities, USDA Biotechnology Risk Assessment Research, \$250,261, PI (2003-2006)

Effects of altered precipitation and temperatures on soil food webs as mediated by biological soil crusts, Department of Energy-Program for Ecosystems Research, \$1,186,000, co-PI (2002-2005)

Impact of coleopteran-active Bt corn on non-target soil micro-faunal communities, USDA-CSREES - Biotechnology Risk Assessment Research, \$345,964, PI (2002-2006)

Phytoremediation plant research, United States Department of Agriculture, \$254,020, co-PI (2002-2004)

Biotoxicity of heavy metals and PAHs in Lake Erie Basin soils, Lake Erie Protection Fund, \$10,000, PI (2002-2003)

Investigation of Wolf Creek Bacteria Impact on Maumee Bay State Park Beach, Ohio Department of Natural Resources - Ohio Coastal Management, \$21,760, co-PI (2001-2002)

Impact of atmospheric CO<sub>2</sub> enrichment on rhizosphere function, USDA Terrestrial Ecosystem Program, \$298,000, co-PI (1998-2001)

Biotechnology for phytoremediation of heavy metal contaminated soils in Ohio, Ohio Plant Biotechnology Consortium, \$40,000, Lead PI (2000-2001)

Plant and Microbe Functional Genomics Facilities (OSU, UT, OU), Ohio Board of Regents Hayes Investment Fund, \$1,229,000, co-PI (1999)

Microbiotic soil crusts of the Oak Openings, Lucas County, Ohio. Ohio Biological Survey, \$500, PI (1999-2000)

Soil Collembola from Hocking County, Ohio. Ohio Biological Survey, \$500, PI (1999-2000)

Soil Collembola in Northwestern Ohio, Ohio Biological Survey, \$500, PI (1998)

Interaction of pore size distribution, soil fauna, and C and N mineralization, USDA-NRI CGP, \$218,800, co-PI (1996-1999)

Soil invertebrates as bioindicators of ecosystem stress, U.S. Environmental Protection Agency, \$288,479, Lead PI (1993-1996)

Assessing the health of agroecosystems in the United States, USDA-ARS Specific Cooperative Agreement, \$1,112,408, Lead PI (1993-1997)

### Peer-Reviewed Publications (*n* = 127)

h-index = 48, i10-index = 92, total citations = 8226

\*graduate student, \*\*undergraduate student, †postdoctoral scholar, §invited book chapter

## 2024

Neher DA<sup>§</sup>, Darby BJ (in press) General community indices that can be used for analysis of nematode assemblages. Chapter 3 In: Nematodes as Environmental Indicators: from Theory to Practice, Edited by Kakouli-Duarte T, du Preez G, CABI Press.

Neher DA, Brown, AR\*, Andrews TD, Weicht TR 2024. Anaerobic soil disinfestation and vermicompost to manage bottom rot in organic lettuce. Plant Disease <https://doi.org/10.1094/PDIS-12-23-2569-RE>

## 2023

Olson NE\*, Neher DA, Holden VI (2023) On-farm conversion of *Cannabis sativa* waste biomass into an organic fertilizer by microbial digestion. Compost Science and Utilization <https://doi.org/10.1080/1065657X.2023.2296947>

Neher DA, Weicht TR, Olson N\*, Andrews TD, Brodie C\*\* (2023) *Rhizoctonia solani* AG1-IB, AG1-IC, and AG4-HGII cause bottom rot of field lettuce in Vermont. Plant Disease <https://doi.org/10.1094/PDIS-04-23-0777-PDN>

Gibson KS\*, Neher DA, Johnson NC, Parmenter R, Antoninka A (2023) Heavy logging machinery impacts soil physical properties more than nematode communities. Forests 14:1205. <https://doi.org/10.3390/f14061205>.

Kinnebrew E\*, Izzo V, Neher DA, Ricketts TH, Wallin KF, Galford GL (2023) Contrasting responses of aboveground and belowground arthropod communities to agricultural tarping. Agriculture Ecosystems and Environment 353:108542. <https://doi.org/10.1016/j.agee.2023.108542>

Porterfield KK\*, Hobson SA\*, Neher DA, Niles MT, Roy ED (2023) Microplastics in composts and digestates derived from food waste: A review. Journal of Environmental Quality 52:225-240. <https://doi.org/10.1002/jeq2.20450> [most read article for journal in 2023]

Neher DA<sup>§</sup> (2023) Moving up within the food web: Protozoa and nematodes. Chapter 16, Pages 157-168 In: Biological Approaches to Regenerative and Resilient Soil Systems, Second edition. Edited by Uphoff N, Thies J, CRC Press. [doi.org/10.1201/9781003093718-18](https://doi.org/10.1201/9781003093718-18)

Kinnebrew E\*<sup>§</sup>, Palawat K, Neher DA, Galford GL (2023) Detritivores' contributions to carbon cycling: Implications for ecosystem services and agricultural benefits. Chapter 17, Pages 169-179 In: Biological Approaches to Regenerative and Resilient Soil Systems, Second edition. Edited by Uphoff N, Thies J, CRC Press. [doi.org/10.1201/9781003093718-19](https://doi.org/10.1201/9781003093718-19)

Neher DA, Powers TO (2023) Nematodes. Encyclopedia of Soils in the Environment 11: 105-111. Oxford: Elsevier. [doi.org/10.1016/B978-0-12-822974-3.00038-0](https://doi.org/10.1016/B978-0-12-822974-3.00038-0)

## 2022

Neher DA, Andrews TD\*, Weicht TR, Hurd A\*\*, Barlow JW (2022) Organic farm bedded pack system microbiomes: A case study with comparisons to similar and different bedded packs. Dairy 3:587-607. [doi.org/10.3390/dairy3030042](https://doi.org/10.3390/dairy3030042)

Neher DA, Harris JM, Horner CE\*, Scarborough MJ, Badireddy AR, Faulkner JW, White AC\*, Darby H, Farley JC, Bishop-von Wettberg EJ (2022) Resilient soils for resilient farms: An integrative approach to assess, promote and value soil health for small- and medium-size farms. Phytobiomes [doi.org/10.1094/PBIOMES-10-21-0060-P](https://doi.org/10.1094/PBIOMES-10-21-0060-P) [Editor's Pick]

Kinnebrew E\*, Neher DA, Ricketts TH, Wallin KF, Darby H, Ziegler SE, Alger SA, Galford GL (2022) Cultivated milkweed hosts high diversity of surface-active and soil-dwelling arthropods in a New England case study. Agriculture, Ecosystems and Environment 325: 107749. [doi.org/10.1016/j.agee.2021.107749](https://doi.org/10.1016/j.agee.2021.107749)

Limoges MA\*, Neher DA, Weicht TR, Millner PD, Sharma M, Donnelly C (2022) Differential survival of generic *E. coli* and *Listeria* spp. in northeastern U.S. soils amended with dairy manure compost, poultry litter compost, and heat-treated poultry pellets and fate in raw edible radish crops. *Journal of Food Protection* 85: 1708-1715. doi.org/10.4315/JFP-21-261.

## 2021

Neher DA<sup>§</sup>, Hoitink HA (2021) Compost use for plant disease suppression. Chapter 17 (Pages 847-878) in: Rynk, R. (editor) *The Composting Handbook*, Second Edition, Elsevier. doi.org/10.1016/B978-0-323-85602-7.00015-7

Neher DA (2021) Biological indicators and compost for managing plant disease. *Acta Horticulturae* 1317: 33-46. doi.org/10.17660/ActaHortic.2021.1317.5

Readyhough T\*, Neher DA, Andrews T (2021) Organic amendments alter soil hydrology and belowground microbiome of tomato (*Solanum lycopersicum*). *Microorganisms* 9: 1561. doi.org/10.3390/microorganisms9081561

Unc A, Altdorff D, Abakumov E, Adl S, Baldursson S, Bechtold M, Cattani D, Firbank L, Grand S, Guðjónsdóttir S, Kallenbach C, Kedir A, Li P, McKenzie D, Misra D, Nagano H, Neher DA, Niemi J, Oelbermann M, Overgård Lehmann J, Parsons D, Quideau S, Sharkhuu A, Smreczak B, Sorvali J, Vallotton J, Whalen J, Young EH, Zhang M, Borchart N (alphabetical order). Expansion of agriculture in northern cold-climate regions: A cross-sectoral perspective on opportunities and challenges. *Frontiers in Sustainable Food Systems* 5: 663448. doi.org/10.3389/fsufs.2021.663448

Andrews T, Jeffrey C\*, Gilker R, Neher DA, Barlow JW (2021) Survey design and implementation quantifying winter housing and bedding types used on Vermont organic dairy farms. *Journal of Dairy Science* 104: 8326-8337. doi.org/10.3168/jds.2020-19832.

## 2020

Neher DA, Limoges MA\*, Weicht TR, Sharma M, Miller PD, Donnelly C (2020) Bacterial community dynamics distinguish poultry compost from dairy compost and unamended soils planted with spinach. *Microorganisms* 8(10): 1601. doi.org/10.3390/microorganisms8101601

Porterfield KK\*, Joblin, Neher DA, Curtis M, Dvorak S, Rizzo DM, Faulkner JW, Roy ED (2020) Upcycling phosphorus recovered from anaerobically digested dairy manure to support production for vegetables and flowers. *Sustainability* 12: 1139. doi.org/10.3390/su12031139

O'Brien BJ\*, Neher DA, Roy ED (2020) Nutrient and pathogen suppression properties of anaerobic digestates from dairy manure and food waste feedstocks. *Waste and Biomass Valorization* 11(12), 6565-6573. doi.org/10.1007/s12649-019-00906-4

## 2019

Neher DA, Barbercheck ME (2019) Soil microarthropods and soil health: Intersection of decomposition and pest suppression. *Insects* 10(12): 414. doi.org/10.3390/insects10120414

Andrews T\*, Neher DA, Weicht TR, Barlow JW (2019) Mammary microbiome of lactating organic dairy cows varies by time, tissue site, and infection status. *PLoS ONE* 14(11): e0225001. doi.org/10.1371/journal.pone.0225001

Hu W, Kidane E, Neher DA, Chen S (2019) Field and greenhouse evaluations of soil suppressiveness to *Heterodera glycines* in the Midwest corn-soybean production systems. *Journal of Nematology* 51: e2019-32. doi.org/10.21307/jofnem-2019-032

Neher DA, Nishanthan T\*, Grabau ZJ, Chen SY (2019) Crop rotation and tillage affect nematode communities more than biocides in monoculture soybean. *Applied Soil Ecology* 140: 89-97. doi.org/10.1016/j.apsoil.2019.03.016

Neher DA, Cutler AJ\*, Weicht TR, Sharma M, Millner PD (2019) Composts of poultry litter or dairy manure differentially affect survival of enteric bacteria in fields with spinach. *Journal of Applied Microbiology* 126: 1910-1922. doi.org/10.1111/jam.14268

Shah MK, Bradshaw R, Nyarko E, Millner PD, Neher DA, Weicht TR, Bergholz TM, Sharma M (2019) Survival and growth of wild-type and rpoS-deficient *Salmonella* Newport strains in soil extracts amended with heat-treated poultry pellets. *Journal of Food Protection* 82: 501-506. doi.org/10.4315/0362-028X.JFP-18-465

## 2018

Neher DA, Weicht TR (2018) A plate competition assay as a quick preliminary assessment of disease suppression. *Journal of Visualized Experiments* e58767. doi.org/10.3791/58767

Conrad Z, Niles M, Neher DA, Roy ED, Tichenor NE, Jahns L (2018) Relationship between diet quality, food waste, and environmental sustainability. *PLoS ONE* 13(4): e0195405. doi.org/10.1371/journal.pone.0195405

Steel H, Moens T, Vandecasteele B, Hendrickx F, De Neve S, Neher DA, Bert W (2018) Factors influencing the nematode community during composting and nematode-based criteria for compost maturity. *Ecological Indicators* 85: 409-421. doi.org/10.1016/j.ecolind.2017.10.039

Zhang P, Neher DA, Li B, Wu J (2018) The impacts of above- and belowground plant input on soil microbiota: invasive *Spartina alterniflora* vs. native *Phragmites australis*. *Ecosystems* 21(3): 469-481. doi.org/10.1007/s10021-017-0162-8

## 2017

Neher DA, Fang L\*, Weicht TR (2017) Ecoenzymes as indicators of compost to suppress *Rhizoctonia solani*. *Compost Science and Utilization* 25(4): 251-261. doi.org/10.1080/1065657X.2017.1300548

Porter D, Broxton D, Bass A, Neher DA, Weicht TR, Longmire P, Spilde M, Domingue R\*\* (2017) Role of case hardening in the preservation of the cavates and petroglyphs of Bandelier. *MRS Advances* 2(37-38): 1969-2005. doi.org/10.1557/adv.2017.277

Neher DA, Williams KM\*, Lovell ST (2017) Environmental indicators reflective of road design in a forested landscape. *Ecosphere* 8(3): e01734. doi.org/10.1002/ecs2.1734

Bakelaar JE\*, Neher DA, Gilker R (2016) Minimal soil impact by cold season pasture management in Vermont. *Canadian Journal of Soil Science* 97(2): 215-225. doi.org/10.1139/cjss-2014-0005

## 2016

Porter D, Broxton D, Bass A, Neher DA (2016) The role of biofilms and lichens in the preservation of archaeological features in the Bandelier tuff, Bandelier National Monument. *Annual Digital Journal on Research in Conservation and Cultural Heritage* 5: 12-31.

Shao Y, Wang X, Zhao J, Wu J, Zhang W, Neher DA, Li Y, Lou Y, Fu S (2016) Subordinate plants sustain the complexity and stability of soil micro-food web in a subtropical natural forest ecosystem. *Journal of Applied Ecology* 53: 130-139. doi.org/10.1111/1365-2664.12538

Darby BJ<sup>§</sup>, Neher DA (2016) Microfauna within biological soil crusts. Pages 139-157 in *Biological Soil Crusts: An Organizing Principle in Drylands*, *Ecological Studies* 226, Edited by Weber B, Büdel B, Belnap J, Springer.

## 2015

Li Y, Yang G, Neher DA, Xu C-Y, Wu J (2015) Status of soil nematode communities during natural regeneration of a subtropical forest in southwestern China. *Nematology* 17: 79-90. doi.org/10.1163/15685411-00002853

Neher DA, Weicht TR, Dunseith P\*\* (2015) Compost for management of weed seeds, pathogen, and early blight on brassicas in organic farmer fields. *Agroecology and Sustainable Food Systems* 39: 3-18. doi.org/10.1080/21683565.2014.884516

## 2014

Wang F, Li J, Wang X, Zhang W, Zou B, Neher DA, Li Z (2014) Nitrogen and phosphorus addition impact soil N<sub>2</sub>O emission in a secondary tropical forest of South China. *Scientific Reports* 4: 5615. doi.org/10.1038/srep05615

Neher DA, Muthumbi AWN<sup>+</sup>, Dively GP (2014) Impact of coleopteran-active Bt corn on non-target nematode communities in soil and decomposing corn roots. *Soil Biology and Biochemistry* 76: 127-135. doi.org/10.1016/j.soilbio.2014.05.019

Wang F, Liu J, Zou B, Neher DA, Zhu W, Li Z (2014) Species-dependent responses of soil microbial properties to fresh leaf inputs in a subtropical forest soil in South China. *Journal of Plant Ecology* 7: 86-96. doi.org/10.1093/jpe/rtt016

Zhao J\*, Neher DA (2014) Soil energy pathways of different ecosystems using nematode trophic group analysis: a meta-analysis. *Nematology* 16: 379-385. doi.org/10.1163/15685411-00002771

## 2013

Neher DA, Weicht TR, Bates ST, Leff JW, Fierer N (2013) Changes in bacterial and fungal communities across compost recipes, preparation methods, and composting times. *PLoS ONE* 8(11): e79512. doi.org/10.1371/journal.pone.0079512

Neher DA, Weicht TR (2013) Nematode genera in forest soil respond differentially to elevated CO<sub>2</sub>. *Journal of Nematology* 45: 214-222. PMCID: PMC3792839, PMID: 24115786

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## 2010

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Francl L, Neher DA (editors) (1997) Exercises in Plant Disease Epidemiology. American Phytopathological Society Press, St. Paul, Minnesota.

- Book review by Šindelár, L. 1997. *Biologia Plantarum* 40(4): 498.
- Co-authored six chapters: Application of life tables to infection-chain components, Statistical comparison of epidemics, Multiple-point models of yield loss, Analysis of disease progress curves using nonlinear regression, Analysis of disease progress curves using linear models, Determining sample size.

#### 1996

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Campbell CL<sup>§</sup>, Neher DA (1996) Challenges, opportunities, and obligations in root disease epidemiology and management. Pages 20-49 In Principles and Practice of Managing Soilborne Plant Pathogens. Edited by Hall R, American Phytopathological Society Press, St. Paul, Minnesota.

#### 1995

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Campbell CL<sup>§</sup>, Heck WW, Neher DA, Munster MJ, Hoag DL (1995) Biophysical measurement of the sustainability of temperate agriculture. Pages 251-273 in Defining and Measuring Sustainability: the Biogeophysical Foundations. Edited by Munasinghe M, Shearer W, The World Bank, Washington DC.

#### 1994

Neher DA, Campbell CL (1994) Nematode communities and microbial biomass in soils with annual and perennial crops. *Applied Soil Ecology* 1: 17-28.

Campbell CL<sup>§</sup>, Neher DA (1994) Estimating severity and incidence of root diseases. Pages 117-147 in Epidemiology and Management of Root Diseases. Edited by Campbell CL, Benson DM, Springer-Verlag, New York.

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#### 1993

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Heck WW<sup>6</sup>, Campbell CL, Neher DA, Munster MJ (1993) An agroecosystem monitoring and assessment program for sustainable agriculture. Pages 1-25 in: Integrated Farming Systems Research Methods. University of Guelph, Crop Science Department, Guelph, Ontario, Canada

## 1992

Neher D (1992) Ecological sustainability in agricultural systems: Definition and measurement. *Journal of Sustainable Agriculture* 2: 51-61. doi: 10.1300/J064v02n03\_05 [also published as Pages 51-61 in *Integrating Sustainable Agriculture, Ecology, and Environmental Policy*, Edited by Olson RK, Food Products Press, New York]

Neher DA, Campbell CL (1992) Underestimation of disease progress rates with the logistic, monomolecular, and Gompertz models when maximum disease intensity is less than 100 percent. *Phytopathology* 82: 811-814.

Neher DA, Wilkinson HT, Augspurger CK (1992) Epidemic progress of damping-off epidemics in *Glycine* populations of even-age and mixed-age structures. *Canadian Journal of Botany* 70: 1032-1038.

Neher D, Duniway JM (1992) Dispersal of *Phytophthora parasitica* in tomato fields by furrow irrigation. *Plant Disease* 76: 582-586.

## 1991

Neher DA, Duniway JM (1991) Relationship between amount of *Phytophthora parasitica* added to field soil and the development of root rot in processing tomatoes. *Phytopathology* 81: 1124-1129.

Van Bruggen AHC, Neher DA, Weicht TR (1991) Teaching computer-based diagnosis of plant diseases. *Plant Disease* 75: 320-322.

## 1990

Goodwin PH, English JT, Neher DA, Duniway JM, Kirkpatrick BC (1990) Detection of *Phytophthora parasitica* from host tissue with a species-specific DNA probe. *Phytopathology* 80: 277-281.

## 1987

Neher DA, Augspurger CK, Wilkinson HT (1987) Influence of age structure of plant populations on damping-off epidemics. *Oecologia* 74: 419-424.

## Research featured in popular press

### 2024

- Neher, D., Macmillan, C., and Brownie, W. Understanding the microbiome and soil health. *Wine Business Monthly* (in press)
- Off The Radar Podcast - The Dirty Truth Behind Composting. Interviewed by National Weather Desk Meteorologist, Emily Gracey Miller, aired 24 January, <https://link.chtbl.com/OffTheRadarPodcast>; <https://site.uvm.edu/cals-news/deb-neher-podcast-all-about-composting/>

### 2023

- Compost conversation with the Vermont Ecological Sanitation Coalition, Panelist, webinar hosted by the Compost Association of Vermont (live 26 October) <https://www.compostingvermont.org/compost-conversations/vermont-eco-sanitation-coalition>
- Wilcox, M. 28 August 2023. These Manure Digesters Incorporate Food Scraps. Does That Make Them Better? *Civil Eats*, <https://civileats.com/2023/08/28/these-manure-digesters-incorporate-food-scraps-does-that-make-them-better/>

- [Undergraduate Research](#), Across the Fence (aired May 3, WCAX-TV, Channel 3)
- Compost as a tool for plant disease suppression, IPM webinar, Seattle Public Utilities (live 2/14/23)
- [Undergraduate Research](#), Across the Fence (aired February 5, WCAX-TV, Channel 3)

## 2022

- [Soil Steaming: Research by UVM Extension in Support of Vermont's Commercial Vegetable Growers](#), Across the Fence (aired November 1, WCAX-TV, Channel 3)
- Sustainable Winegrowing Podcasts, Interviewed by Craig Macmillan
  - [151: The Role of the Soil Microbiome in Soil Health](#) (live on 6 October 2022)
  - [152: The Role of Nematodes in Soil Health](#) (live 20 October 2022)
- [Microplastics Measurement, Related Legislation in Vermont](#) Biocycle (2/22/22)

## 2021

- McCallum, K. Market to farm: A new food waste disposal method raises fears that microplastics will taint fields. Seven Days (11/24/21) <https://www.sevendaysvt.com/vermont/market-to-farm-a-new-food-waste-disposal-method-raises-fears-that-microplastics-will-taint-fields/Content?oid=34317978>
- Connecting our underground livestock to aboveground success. Keynote conversation with Nicole Masters, 25th Annual Vermont Grazing and Livestock Conference (1/15/21) <https://youtu.be/iymzpgZ8o2s>

## 2020

- The soil symphony. Interview by Leah Kelleher, <https://open.spotify.com/episode/1FMVZTGyHljRii7Ydy5GFM> (8/20/20)

## 2018

Americans waste food, especially healthy eaters from [doi.org/10.1371/journal.pone.0195405](https://doi.org/10.1371/journal.pone.0195405)

- **CBS News**, Americans waste nearly a pound of food each day (4/18/18)
- **Newsweek**, Americans waste 150,000 tons of food every day—that's a pound per person (5/13/18)
- **Washington Post**, The staggering environmental footprint of all the food that we just throw in the trash. Story appeared in at least 20 other sites via the Washington Post newswire (4/18/18)
- **USA Today**, Americans waste an astounding amount of food — and healthy eaters are the worst. Story also appeared in at least 40 other outlets via the USA Today Network (4/19/18)
- **Fox News**, Healthy people waste the most food, Story appeared on websites of at least 30 Fox affiliates (4/20/18)
- **Mother Jones**, A new study shows the stunning amount of food people toss in the garbage every day (4/2018)
- **Food & Win**, Here's how much food you're wasting everyday (4/19/18)
- **Voice of America**, Americans waste a lot of food (4/24/18)
- **IFL Science**, This is how much food the average American wastes every single day (4/2018)
- **Daily Mail**, Americans waste 150,000 tons of food per day (4/4/18)

## 2016

Coker C (2016) University of Vermont faculty members convened a group to identify research needs related to mandatory food scraps diversion policies in New England. *BioCycle* 57: 66-67.

## 2015

Career story in *Cultures* magazine, Vol. 2 Issue 2, American Society for Microbiology

Delaney C (2015) Hot stuff: Compost for management of plant pathogens and weeds, Northeast Sustainable Agriculture and Research and Education newsletter.

## 2014

Baird JB (2014) UVM tracks food-safety – via manure. Burlington Free Press, November.  
Wakefield JR (2014) UVM research to play important role in setting federal food safety guidelines. UVM Communications, November.  
Bodin M (2014) Compost—A hot mess, Northern Woodlands, October.  
Bodin M (2014) Compost – A hot mess to manage at times. Burlington Free Press, October.

#### **2009**

Dorschner C (2009) Space is not the final frontier, November 2009, Neher wins the UVM College of Agriculture and Life Sciences Vogelmann Research Award  
Wakefield JR (2009) Life in ‘the poor man’s rainforest’, Vermont Quarterly, Summer 2009

### **Non-peer reviewed publications**

#### **2023**

Neher DA, Anderson CR, Basche AD, Costello C, Hendrickson MK, Maxwell BD, Roman- Alcalá AM, Streit Krug A, Tracy WF, Méndez, V.E., Horner, C., and Anderzén, J.M. (2023) Proceedings - U.S.A Agroecology Summit 2023. College of Agriculture and Life Sciences Faculty Publications. 204. <https://scholarworks.uvm.edu/calsfac/204>

#### **2021**

Neher D, Horner K\*, von Wettberg EB, Scarborough M, Harris J, Darby HM, Badireddy AR, Roy ED, Farley JC, Faulkner J, White A\* (2021) Resilient soils for resilient farms: An integrative approach to assess, promote and value soil health for small- and medium-size farms. USDA Agricultural Research Service (ARS) Center. 7. <https://scholarworks.uvm.edu/arsfoodsystems/7>

#### **2019**

Neher DA (2019) Compost and plant disease suppression. *BioCycle* 60: 22-25.

#### **2012**

Gilker RE, Bakelaar JE, Canella MP, Neher DA (2012). Bedded pack in Vermont: Five stories. University of Vermont Extension Bulletin.

#### **2000**

Kirschenmann F et al. (2000) ‘Naturalize’ your farming system: A whole-farm approach to managing pests. United States Department of Agriculture, Sustainable Agriculture Network ([www.sare.org/san/htdocs/pubs/](http://www.sare.org/san/htdocs/pubs/)). (co-author)

#### **1999**

Neher, D.A. 1999. First springtail species identified in northwestern Ohio. *Natural Notes* 2(4):2.

#### **1998**

Weiser CJ et al. (1998). Agriculture’s role in K-12 education: A forum on the national science standards. National Academy Press, Washington, DC. (co-author)

#### **1996**

Neher D (1996) Plant and soil sciences forum. *Bulletin of the Ecological Society of America* 77: 221.

Neher D (1996) Agriculture’s role in K-12 education: A forum on the national science education standards. *Bulletin of the Ecological Society of America* 77: 108-109.

Campbell CL, Neher DA (1996) Agriculture’s role in K-12 education: A forum on the national science education standards. *Phytopathology News* 30: 38-39.

#### **1995**

Neher D, Powelson ML (1995) Research in support of sustainable agriculture. *Phytopathology News* 29: 11.

Neher D (1995) Research in support of sustainable agriculture. *Bulletin of the Ecological Society of America* 76: 49-50.

Hellkamp AS et al. (1995) Environmental Monitoring and Assessment Program - Agricultural Lands Pilot Field Program Report - 1993. EPA/620/R-95/004. U.S. Environmental Protection Agency, Washington, D.C. (co-author)

#### **1994**

Campbell CL et al. (1994) Environmental Monitoring and Assessment Program - Agroecosystem Pilot Field Program Report - 1992. EPA/620/R-94/014. U.S. Environmental Protection Agency, Washington, D.C. (co-author)

Campbell CL et al. (1994) Environmental Monitoring and Assessment Program - Agroecosystem Pilot Field Program Plan - 1993. EPA/620/R-3/014. U.S. Environmental Protection Agency, Washington, D.C. (co-author)

#### **1992**

Heck WW et al. (1993) Environmental Monitoring and Assessment Program (EMAP)--Agroecosystem 1992 Pilot Project Plan. EPA/620/R-93/010, U. S. Environmental Protection Agency, Washington, D.C. (co-author)

#### **1991**

Heck WW et al. (1991) Environmental Monitoring and Assessment Program Agroecosystem Monitoring and Research Strategy. EPA 600/4-91/013. U.S. Environmental Protection Agency, Washington, D.C. (co-author)

### **Abstracts and contributed papers** (1987-present)

Professional Societies: Ecological Society of America (23); Soil Ecology Society (19); Society of Nematologists (16); Organization of Nematologists of Tropical Americas (4); American Phytopathological Society (9); Soil Science Society of America (6); Other international (16), national (26), regional and state (21)

US Universities: Auburn University (1), Bowling Green State University (1), University of California--Riverside (1), Cornell University (3), Duke University (1), Elon College (1), University of Florida (4), University of Georgia (4), Green Mountain College (1), John Carroll University (1), University of Kentucky (1), University of Maryland (1), University of Massachusetts (1), Michigan State University (1), University of Nebraska (1), North Carolina State University (4), Northern Arizona University (1), Ohio State University (3); Pennsylvania State University (1), University of Pennsylvania at Indiana (1); University of Rhode Island (1), Rutgers University (1), South Dakota State University (1), Texas A & M University (1); University of Toledo (9), University of Vermont (17), University of Wisconsin Madison (1), University of Wisconsin-Oshkosh (1)

### **Teaching**

#### **Designed and Taught as Instructor in Charge**

University of Vermont

Soil Ecology (Undergraduate / Graduate)

Compost Ecology and Management (Undergraduate)

Professional Development and Career Opportunities (Undergraduate),

Professional Skills Colloquium (Graduate)

University of Toledo

Soil Ecology (Undergraduate / Graduate)

Plants and Society (Non-majors undergraduate)

General Ecology Laboratory (Undergraduate)

Fundamentals of Life Science I (Undergraduate)

Applied Biostatistics (Graduate)

North Carolina State University

Quantitative Plant Disease Epidemiology (Graduate)

#### **Guest courses**

University of Ghent (Belgium) Nematodes as Biomonitors (2014)  
Fudan University (Shanghai, People's Republic of China) Advanced Ecology Lecture Series on Global Change and Biodiversity (2012)  
Chinese Academy of Sciences, South China Botanical Gardens (Guangzhou, People's Republic of China) (2011)  
Fudan University (People's Republic of China) Institute of Biodiversity (2003)  
Institute of Applied Ecology (Shenyang, People's Republic of China) (2003)  
Michigan State University, Department of Entomology, Cropping Systems and Nematode Management (2000)  
Duke University, Belowground Ecosystems (1995, 1996)  
National Agricultural Statistics Service Training School for the Agricultural Lands Resource Group of the Environmental Monitoring and Assessment Program (1992, 1993, 1994)  
SCI-LINK Summer Institute (North Carolina State University) K-12 Teacher curriculum development (1992)  
University of California, Davis. Diagnosis and Control of Plant Diseases. Teaching assistant for undergraduate course (1988)  
University of Illinois, Champaign-Urbana. Plants, Environment and People. Laboratory instructor, Received Excellence in Teaching Awards for three semesters (1984-1986)  
McPherson College. General Chemistry. Undergraduate Teaching Assistant (1984)  
McPherson College. Remedial lectures and group tutoring for General Biology (1983)  
McPherson College. Vertebrate Physiology. Undergraduate Teaching Assistant (1982)

### **Previous graduate students**

Daniel A. Fiscus, MS 1996 (NC State)  
Julie Blakely, MS 1999 (Toledo)  
Fafeng Li, PhD deceased before completion (Toledo)  
Roberta Veluci, MS 2002 (Toledo)  
Brian Darby, MS 2004 (Toledo)  
C. Nicole Lawhorn, MS 2005 (Toledo)  
Brian Darby, PhD 2008 (UVM)  
Yiwen Zhao 2009 (UVM)  
Bao Yong, MS 2009 (UVM)  
David Asmussen, MS 2010 (UVM)  
Karen Lamoncha, PhD deceased before completion (UVM)  
Tharshani Nishanthan, PhD 2012 (UVM)  
Joshua Bakelaar, MS 2012 (UVM)  
Kristin M. Williams, MS 2013 (UVM)  
Lynn Fang, MS 2015 (UVM)  
Anya J. Cutler, MS 2016 (UVM)  
Tucker Andrews, MS 2018 (UVM)  
Michael LeDuc, all but thesis 2021 (UVM)  
Taylor Readyhough, MS 2021 (UVM)  
Anna R Brown, MS 2023 (UVM)

### **Current graduate students**

Noah Olson, PhD (UVM)

### **Service on graduate student committees**

Leonardo Conrado (Civil and Environmental Engineering PhD expected 2024); Jasmine Hart (Plant and Soil Science PhD expected 2024); Bailey Kretzler (Plant and Soil Science PhD expected 2024); Caitlin Jeffrey (Animal and Veterinary Sciences PhD expected 2024); Peyton Lienhart (Civil and Environmental Engineering MS 2023); Sarah Hobson (Civil and Environmental Engineering MS 2023); Kamruzzaman Khan Sakib (Civil and Environmental Engineering PhD 2023); Michelle Lacasse (UVM Animal Science DNF); Eva Kinnebrew (UVM Natural Resources PhD 2022); Kara Gibson (University of Northern Arizona, PhD 2022); Maryam Nouri Aiin (UVM Plant and Soil Science PhD 2022); Allen Wilder (UVM Plant and Soil Science MS 2020); Brendan O'Brien (UVM Natural Resources MS 2018); Samuel Gorton (UVM Natural Resources PhD-ABD); Marie Limoges (UVM Food and Nutrition Science PhD 2018); Dana Christel (UVM Plant and Soil Science MS 2016); Chenin Limback (UVM Natural Resources PhD 2016); Ryan Melnichuk (UVM Plant and Soil Science PhD 2015); Gemille Brion (UVM Food Systems MS 2015); Victor Izzo (UVM Plant and Soil Science PhD 2013); Katherine Goodall (UVM Plant and Soil Science PhD 2013); Jie Zhao (S China Botanical Garden PhD 2011); Samir Doshi (UVM Natural Resources PhD 2010); Rosemary Mosco (UVM Field Naturalist MS 2010); William J. Landesman (Rutgers University, PhD 2009); Homer Elliot (UVM Natural Resources MS 2018); Walter Auch III (UVM Plant and Soil Science PhD 2009); Aminder Kaur (UVM Plant and Soil Science PhD 2009); Manisha Patel (UVM Plant Biology MS 2007); Abigail E. Hood (UVM Ecological Planning MS 2006); Kerry McKenna (Toledo PhD 2006); Karen Hills (UVM Plant and Soil Science MS 2005); Soung-Ryoul Ryu (Toledo Ph.D. 2005); Barry E. Muller (Toledo PhD 2004); Jim LeMoine (Toledo 2004); Susan Tran (Toledo 2004); Mary Bresee (Toledo MS 2004); Siyan Ma (Toledo PhD 2003); Kevin Diego (Toledo MS 2003); Erin Moan (Toledo MS 2003); Mandy Sturgill Comes (Toledo 2003); Todd Tarrant (Toledo PhD 2002); Christian Lauber (Toledo MS 2001); Jamie Schmeling (Toledo MS 2001); Greg D. Taylor (Toledo MS 2001); Laura Burnett (Toledo MS 2000); Michael T. Homsher (Toledo PhD 2000); Kerry McKenny (Toledo MS 2000); Nancy Hatfield (Toledo PhD 1999); Michele Grigore (Toledo PhD 1998); Kathryn Nelson (Toledo MS 1997); Timothy Walters (Toledo PhD 1997)

#### **External examiner for PhD students**

Erika H. Young (Soil Science – Biology focus, Memorial University, Newfoundland, 2021)  
Nick Rose (UVM Food Systems 2020)  
Brendan O'Neill (UVM Food Systems 2019)  
Hanne Steel (University of Ghent PhD 2013)  
Sze Peng Flett (La Trobe University PhD 1991)

#### **Science Competition Judge**

The Story Exchange, Award for Women Scientists Working to Improve Soil Health, 2023

#### **Previous postdoctoral scholars**

Won Il Choi, now Korea Forest Service, 2003-2006  
Agnes Muthumbi, now University of Nairobi, 2003-2004  
Osama Anas, now Senior Scientist at BASF, North Carolina, 1994-1996

#### **Undergraduate independent research**

Rachel Elliott (UVM Honors College 2022-2023); Asa Hurd (UVM 2020); Emma C. White (UVM Honors College 2020); Charlotte A. Brodie (UVM 2020); Collin McCarthy (UVM 2018); Alexa Dahler (UVM Biological Science Honors 2018); Amy Davis (UVM Environmental Science Honors 2016); Flore Costumé (UVM 2014); Patrick Dunseith (UVM Honors College 2011); Henrietta Oakley (UVM 2006-2007); Jeff Connell (Toledo 2003); Andrew Hosken (REU Toledo 2001); Stephen Meininger (REU Toledo 2001); Kelly Ketcham (REU Toledo 2001); Catherine Buchanan (REU Toledo 2001); Fahim Malik (Toledo Honors College 2000); Mohammad Moussa (Toledo Honors College 2000); Natalie Gottschall (REU Toledo 2000); Yvette L. Phillips (Toledo 1999); Jennifer Kurek (Toledo 1997); Brian S. Marlow (Toledo 1997)

### **Undergraduate thesis examiner**

Emily Piersiak (Environmental Science 2020); Beck Morrows (Plant and Soil Science 2020); Sean Pease (Plant and Soil Science 2020)

**Undergraduate research assistants** Asa Hurd (2020); Charlotte A. Brodie (2019-2020); Emma Wright (2018-2020); Sydney Stegman (2018-2020); Olivia Shrantz (2016-2018); Russell Frisch (2015); Michael Street (2009-2010); Nicholas LeBlanc (2009-2010); Patricia Brousseau (2007-2009); Hannah Cady (2007-2009); Sarah Kearsley (2006-2007); Sarah Sterling (2006); Nick LaValley (2006); Jennifer Cooksen (2006); Alison Lauze (2005); Sara Moussa (2000-2001); Anja Sachse (1999-2000); Muhammad Ali Haider (1999-2000); Ann Steck (1999); Lona Haas (1997-1999); Vakindi Unvu (1997-1998); Charlotte I. A. Moss (1996-1997)

### **Undergraduate internships**

Ellie Green (Food Systems 2019); Greg Daniels (Environmental Science 2014); Mackenzie Hart (Environmental Science 2012); Nicholas LeBlanc (Ecological Agriculture 2009); Kate Turcott (Food Systems 2009); Patricia Brousseau (Environmental Science 2007); Kate Riley (Environmental Science 2006); Will Harrigan-Anderson (Environmental Science 2006); Amber Waery (Sustainable Landscape Horticulture 2005-2006)

### **High School Science Projects**

Emily Grunes (Croton-on-Hudson, New York), 2021

### **Select invited speaker, seminars and workshops (career total: 326)**

**2023:** Organization of Nematologists of Tropical America (symposium coordinator, Cairo, Egypt)

Agroecology Summit (organizing committee chair, Kansas City, Missouri)

**2022:** International Congress of Nematology (symposium coordinator and invited speaker, Antibes Juan-Les-Pins, France)

**2021:** University of Northern Arizona (Flagstaff), International Society for Horticultural Science (keynote speaker, Ghent, Belgium)

**2020:** University of Florida (Gainesville)

**2019:** Organization of Nematologists of Tropical America (Costa Rica), Brazilian Congress of Nematology (Caldas Novas, Goiás)

**2018:** Organization of Nematologists of Tropical America (Peru), Ecological Society of America (New Orleans, Louisiana)

**2017:** Organization of Nematologists of Tropical America (Puerto Rico)

**2016:** Our Food, Our Future: Research that Feeds Newfoundland and Labrador (plenary speaker)

**2015:** Organization of Nematologists of Tropical America (Cuba), Tri Societies (Minneapolis, Minnesota)

**2014:** Compost symposium, California Polytechnic State University (keynote speaker)

**2013:** Society of Nematologists symposium (Knoxville, Tennessee), Michigan State University (Horticulture student speaker choice)

**2012:** Plant Protection Research Institute, Stellenbosch, South Africa (keynote speaker)

International Symposium on Nematodes as Environmental Bio-indicators, University of Ghent, Ghent, Belgium (Keynote speaker)

**2011:** Organization of Nematologists of Tropical America, Coimbra, Portugal (keynote speaker)

**2009:** Ecological Society of America symposium (Albuquerque, New Mexico), Society of Nematologists symposium (Burlington, Vermont)

**2006:** Organization of Nematologists of Tropical America (Costa Rica)

**2005:** H. John Heinz III Center for Science, Economics and the Environment, Biological Community Condition Workshop (Washington DC)

**2004:** Organization of Nematologists of Tropical America (Costa Rica), Pan-American Sensors for Environmental Observatories (Argentina)

**2003:** Future Directions and Research Priorities for the USDA Biotechnology Risk Assessment Research Grants (Arlington, Virginia)

**2002:** International Congress of Nematology (Canary Islands), National Biotechnology Risk Assessment workshop (Ft. Lauderdale, Florida), Heniz Center State of the Nation's Ecosystems project report at Ecological Society of America (Tucson, Arizona)

**2001:** Ecological Society of America (Madison, Wisconsin)

**2000:** Society of Nematologists (Quebec City, Canada), Tri-societies (Minneapolis, Minnesota), Monsanto (St. Louis, Missouri)

**1999:** Ecological Society of America (Spokane, Washington)

**1998:** International Congress of Ecology (Florence, Italy), European Society of Nematology (Dundee, Scotland)

**1997:** Agriculture as a Mimic of Natural Ecosystems (Perth, Western Australia)

**1996:** Ecological Society of America (Providence, Rhode Island), American Phytopathological Society (Indianapolis, Indiana)

**1995:** Tri-Societies (St. Louis, Missouri)

**1994:** American Phytopathological Society (Albuquerque, New Mexico), Tri-Societies (Seattle, Washington)

**1993:** American Phytopathological Society (Nashville, Tennessee), Rodale Institute Research Center (Kutztown, Pennsylvania)

**1991:** U.S. Environmental Protection Agency, Arlington, Virginia

### **Symposia and workshops organized**

Agroecology Summit, Excelsior Springs, Missouri, organizing committee chair (2023)

Ecology and Free-living Nematodes, Organization of Nematologists of Tropical America, co-organizer (2022, 2023)

Sentinel Taxa symposium, Society of Nematologists (2004)

Computation of Nematode Community Indices workshop, Society of Nematologists (2004)

Nutrient Mineralization in Soil: Integration of Soil Ecology, Biogeophysics and Biogeochemistry workshop, Ecological Society of America, co-organizer (1996)

### **Professional service**

#### **International**

International Network on Soil Biodiversity (NETSOB), Working Group 1 – Measuring and Monitoring Soil Biodiversity, 2022-present

#### **State government**

Vermont Joint Committee of Natural Resources, Testimony on microplastics in soil, 2021

Vermont Ecological Sanitation Coalition, 2021 - present

#### **National Agency Review Panels**

National Science Foundation: 2010, 2011 (x2), 2012)

U.S. Department of Agriculture: 2004, 2008, 2014, 2017

U.S. Environmental Protection Agency: 2006

U.S. Department of Energy: 2004, 2006, 2010

National Institute of Environmental Health Sciences: 2003

### **Ad hoc Reviewer**

30+ peer review journals: <https://publons.com/researcher/19617/deborah-neher/>

### **Departmental service**

University of Vermont, Plant and Soil Science

Graduate Faculty, Full Member (2004-present)

Food Systems Graduate Faculty Member (2015-present)

Executive Committee, Soil Health Research and Extension Center (2022-present)

Soil Chemistry Assistant Professor Search Committee, Chair (2023-2024)

University of Toledo

Graduate Faculty, Full Member (1996-2004)

Statistical consulting with graduate students

Undergraduate Research Symposium, Organizer (1999)

Physical Facilities and Equipment Management Committee (1996-1999)

Undergraduate Affairs Committee (1998-1999)

### **College service**

University of Vermont College of Agriculture and Life Sciences

Distinguished Undergraduate Research Committee (2018-2021)

HW Vogelmann Award for Excellence in Research & Scholarship Committee (2010-present)

Nutrition and Food Science Five Year Review, chair (2015)

CALS Dean Five-Year Review, Provost-appointed member (2014)

Animal Science Chair Search Committee, chair (2008-2009)

Dean Search Committee, member (2008-2009)

### **University service**

University of Vermont

Extension Associate Director and Chair Five-Year Review, Chair (2023)

Natural Resources School Dean Five-Year Review, Provost-appointed member (2019)

President's Distinguished Senior Lecturer Award Selection Committee, member (2017)

Advisory Committee for the Associate Provost for Faculty Affairs, member (2015)

Advisory Committee for the Pre and Post Grant Award Integration, member (2010-2011)

Dairy Center for Research Excellence Advisory Board, member (2009-2010)

Campus Kitchen Program, Advisory Board, member (2008-2011)

Global Sustainability Institute, Advisory Board, member (2008-2010)

Continuing Education, Advisory Board, member (2007-2009)

President's Commission on LGBTQ Equity, member (2007-2009)

Commencement Reflections, University of Vermont (2007)

Provost Vision by Design Task Force, member (2007)

Business School Dean Five-Year Review Committee, member (2007)  
Faculty Senate, Financial and Physical Planning Committee, member (2006)  
Provost Search Committee, member (2005)  
UVM EPSCoR Advisory Board, member (2004-2013)

University of Toledo

University Women's Commission, Board Member-At-Large, member (1997-1998)