

Curriculum Vitae

Jeanne M. Harris

Address

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Professional Experience

2021 – present	<u>Chair</u> , Plant Biology, University of Vermont
2023 – 2024	<u>Interim Director</u> , Proctor Maple Research Center, University of Vermont
2019 – present	<u>Professor</u> , Plant Biology, University of Vermont
2006 – 2019	<u>Associate Professor</u> , Plant Biology, University of Vermont
2000 – 2006	<u>Assistant Professor</u> , Department of Botany and Agricultural Biochemistry, University of Vermont
1996-2000	<u>Research Associate</u> , Department of Biological Sciences, Stanford University and Howard Hughes Medical Institute; Laboratory of Dr. Sharon Long.
1986 – 1988	<u>Research Technician</u> – Whitehead Institute, Cambridge, MA; Laboratory of Dr. Keith Mostov

Education

Ph.D., Cell Biology	Department of Biochemistry and Biophysics, University of California, San Francisco. Advisor: Dr. Cynthia Kenyon, 1996
B.A., Biology	Swarthmore College, Swarthmore, PA, 1986

Awards

Joseph E. Carrigan Award for Excellence in Teaching and Undergraduate Education, 2007, awarded by the College of Agriculture and Life Science, University of Vermont.

Nominated for the Kroepsch-Maurice Excellence in Teaching award, 2018, University of Vermont.

Grant Support

Current Support

USDA-Hatch

PI: Jeanne M. Harris	10/1/19 – 9/30/2024	\$75,000
Title: Characterization of the role of the NPF1B gene in plant root nutritional symbioses.		

NE SARE – Graduate student research grant to Sandra Nnadi

PI: Jeanne M. Harris 8/1/22 – 10/31/2024 \$14,938

Title: EFFECT OF MYCORRHIZAL FUNGI ON BLUEBERRY FRUIT ANTHOCYANIN CONTENT

North American Maple Syrup Council

PI: Jeanne M. Harris 7/1/23 – 6/30/2026 \$34,950

Title: Long-term impacts of tapping and sap collection on tree growth and health

Note: Took over from Abby van den Berg, initial PI

Pending

Previous Support

Fulbright Specialist 6/17/23 – 7/6/23

PI: Juan Carlos Caicedo Cepeda

Location: Universidad de Santander, Bucaramanga, Colombia

Title: Plant Symbiosis: Understanding signaling as determinant factor for sustainable agriculture

Section: Commission for Educational Exchange Between the United States of America and Colombia

Funding covered airfare, stipend, hotel and living costs

NSF Award # 1754280 3/1/18 – 12/31/21 \$ 199,528

No-cost extension to 3/31/23

PI: Alison Brody, coPIs: Jeanne M. Harris, Taylor Ricketts

Title: Linking above and belowground interactions in highbush blueberry.

UVM USDA-ARS Center for Food Systems Research

PI: Deb Neher, CoPIs: Jeanne M. Harris, and others \$75,000

Food Systems Metrics and Data Integration grants 6/25/2020 – 1/15/2021

Title: Resilient Soils for Resilient Farms: Soil Health for Small and Medium-Sized farms

USDA-Hatch VT-H02104

PI: Jeanne M. Harris 10/1/14 – 9/30/2019 \$75,000

Title: Characterization of the effect of salt stress on nodulation.

College of Arts and Sciences (UVM) – Seed Grant

PI: Alison Brody, coPIs: Jeanne M. Harris, Taylor Ricketts, Ben Waterman

4/1/15 – 3/31/2016 \$9,500

Title: Linking below- and above-ground interactions in highbush blueberry.

VT-AES Postdoctoral Scientist Support

PI: Jeanne M. Harris 8/1/12 – 9/30/2014 \$88,000

Title: Regulation of Absciscic Acid Distribution in plant roots by genetic and environmental factors.

USDA-Hatch VT-H01809

PI: Jeanne M. Harris 10/1/11 – 9/30/2014 \$45,000

Title: Characterization of the role of the *Medicago truncatula* GIRAFFE gene in oxidative stress.

National Science Foundation Grant #: IOS-0920096

PI: Jeanne M. Harris 7/15/2009 – 6/30/12 \$400,000

Title: Characterization of a LATD-dependent ABA signaling pathway.

USDA-Hatch

PI: Jeanne M. Harris 10/1/08 – 9/30/2011 \$45,000

Title: A nodule regulatory network involving light, ethylene and jasmonic acid.

National Science Foundation Grant #: IOB-0615822

PI: Jeanne M. Harris 7/15/06 – 6/30/09 \$390,000

Title: Regulation of root and nodule meristems by the LATD gene and the hormone Absciscic Acid in the model legume, *Medicago truncatula*.

REU supplement, summer 2008 to support one undergraduate: \$5,850

USDA-Hatch Grant #: VT-H01202

PI: Jeanne M. Harris 10/1/05 – 9/30/08 \$58,500

Title: Role of Jasmonic Acid signaling during formation of nitrogen-fixing root nodules.

USDA-CSREES Grant #: 2007-01520

PI: Jeanne M. Harris 7/15/07 – 5/30/08 \$33,900

USDA Research Career Enhancement Award (Sabbatical Award)

Title: Characterization of the effect of light signaling on the formation of nitrogen-fixing nodules in *Medicago truncatula* and *Pisum sativum*.

Vermont EPSCOR

PI: Jeanne M. Harris 5/1/06 – 4/30/07 \$2,000

2006 UVM Pilot Research Award

Title: Hormonal and genetic characterization of MtASR expression

National Science Foundation Grant #: IBN-0212992

PI: Jeanne M. Harris 8/1/02 – 7/31/05 \$359,951

(extension through 7/31/06)

Title: A genetic and molecular approach to investigating the relationship between root and nodule development in the model legume, *Medicago truncatula*.

Vermont EPSCOR Grant #: EPS0236976

PI: Jeanne M. Harris 4/1/04 – 3/31/06 \$35,000 plus fringe

Teaching Post Doctoral Award for Dr. Vinitha Cardoza

Title: Gene expression during Jasmonic acid inhibition of nitrogen-fixing legume nodulation in *Medicago truncatula*

USDA-Hatch Grant #: VT-BO-00804 \$60,000
PI: Jeanne M. Harris 10/1/01 – 9/30/04 (No-cost extension through 9/05)
Title: A molecular approach to the visualization of lateral root development in the model legume, *Medicago truncatula*.

Vermont Genetics Network
June 2-7, 2002 \$1,000
Travel to the First International Conference on Legume Genetics and Genomics, Minneapolis-St. Paul, MN

Vermont Genetics Network
7/1/02 – 6/30/03 \$22,000
Graduate Assistantship for Liang Yan
Title: Molecular mapping of the *LAT1* gene of *Medicago truncatula*.

Professional Organizations

Member, International Society for Plant-Microbe Interactions, since 2001
Member, American Society for Plant Biology, since 2003

Publications

Book Chapters

Tinaz, Berke and **Harris, Jeanne M.** (2024) Absciscic Acid in Root Growth and Development; Chapter 14 in *Plant Roots: The Hidden Half* 5th edition, edited by Tom Beeckman and Amram Eshel, CRC Press, Boca Raton.

Harris, Jeanne M. and Zhang, Chang (2020) "Modulation of Root Elongation by Absciscic acid and *LATERAL ROOT ORGAN DEFECTIVE/NUMEROUS INFECTIONS AND POLYPHENOLICS* via Reactive Oxygen Species" in *The Model legume Medicago truncatula*, 2 volumes, edited by Frans Debruijn, Wiley, 2020, p. 136-143.

Peer-reviewed Publications

★ indicates undergraduate students

Chakraborty, Sanhita and **Harris, Jeanne Marie** (2022) At the crossroads of salinity and rhizobium-legume symbiosis. *Molecular Plant-Microbe Interactions*
<https://doi.org/10.1094/MPMI-09-21-0231-FI>

Neher, Deb, **Harris, Jeanne Marie**, Horner, Catherine E., Scarborough, Matthew J., Badireddy, Appala Raju, Faulkner, Joshua W., White, Alissa, C., Darby, Heather,

- Farley, J.C. and Bishop von Wettberg, Eric J. (2022) Resilient Soils for Resilient Farms: An Integrative Approach to Assess, Promote and Value Soil Health for Small- and Medium-Size Farms. *Phytobiomes* <https://doi.org/10.1094/PBIOMES-10-21-0060-P>
- Chakraborty, Sanhita, Heather E. Driscoll, Heather E., Abrahante, Juan E., Fan Zhang, Fan Fisher, Robert F., **Harris, Jeanne Marie** (2021) Salt stress enhances early symbiotic gene expression in *Medicago truncatula* and induces a stress-specific set of rhizobium-responsive genes. *Molecular Plant-Microbe Interactions* <https://doi.org/10.1094/MPMI-01-21-0019-R>
- Harris, Jeanne Marie**, Jones, Kathryn M., Wang, Dong, Zuccaro, Alga. (2021) Focus on Top10 MPMI question #1: How do plants engage with beneficial microorganisms while at the same time restricting pathogens? *Molecular Plant-Microbe Interactions*, MPMI Vol. 33, No. 12, 2020, pp. 1354–1365. <https://doi.org/10.1094/MPMI-08-20-0229-CR>
- Harris, Jeanne Marie**, Balint-Kurti, Peter, Bede, Jacqueline C., Day, Brad, Gold, Scott, Goss, Erica M., Grenville-Briggs, Laura J., Jones, Kathryn M., Wang Aiming, Wang, Yuanchao, Mitra, Raka M., Sohn, Kee Hoon and Alvarez, Maria Elena (2020). What are the Top 10 Unanswered Questions in Molecular Plant-Microbe Interactions? *Molecular Plant-Microbe Interactions* 33(11): <https://doi.org/10.1094/MPMI-08-20-0229-CR>
- Harris, Jeanne Marie**, Pawlowski, Katharina and Ulrike Mathesius (2020). Editorial: Evolution of Signaling in Plant Symbioses. *Frontiers in Plant Sciences* 11:456. DOI: 10.3389/fpls.2020.00456
- Brody, Alison, Waterman, Benjamin, Ricketts, Taylor H., Degraassi, Allyson L., González, Jonathan B., **Harris, Jeanne M.**, Richardson, Leif L. (2019). Genotype-specific effects of ericoid mycorrhizae on floral traits and reproduction in *Vaccinium corymbosum*. *American Journal of Botany* 106 (11): 1412-1422. <https://doi.org/10.1002/ajb2.1372>
- Keller, C., Maeda, J., Jayaraman, D., Chakraborty, C., Sussman, M. R., **Harris, J.M.**, Ane, J-M., and L. Li (2018). Comparison of Vacuum MALDI and AP-MALDI Platforms for the Mass Spectrometry Imaging of Metabolites Involved in Salt Stress in *Medicago truncatula*. *Frontiers in Plant Science* 9: 1238. <https://doi.org/10.3389/fpls.2018.01238>
- Harris, Jeanne M.** and Ondzighi-Assoume, Christine A. (2017). Environmental Nitrate Signals Through Abscissic Acid in the Root Tip. *Plant Signaling and Behavior* 12: 1, e1273303. <http://dx.doi.org/10.1080/15592324.2016.1273303>
- Ondzighi-Assoume, C., Chakraborty, S. and **Jeanne Marie Harris** (2016). Environmental Nitrate Stimulates Root Tip Abscissic Acid Accumulation via Release from Inactive Stores. *Plant Cell* 28(3):729-45. <http://dx.doi.org/10.1105/tpc.15.00946> (accompanied by an “In Brief”, and Highlighted Author Profile of Christine Ondzighi-Assoume, written by Jennifer Lockhart doi:10.1105/tpc.16.00132)

- Harris, Jeanne Marie.** (2015). Absciscic Acid: Hidden Architect of Root System Structure. *Plants*, 4:548-572; <https://doi.org/10.3390/plants4030548>
- Zhang, Chang, Bousquet, Amanda[★] and **Jeanne Marie Harris.** (2014) Absciscic acid and LATD/NIP modulate root elongation via reactive oxygen species in *Medicago truncatula*. *Plant Physiology*, 166(2):644-658. doi: <http://dx.doi.org/10.1104/pp.114.248542>.
- Léran, S. Varala, K., Boyer, J.C., Chiurazzi, M., Crawford, N., Daniel-Vedele, F., David, L., Dickstein, R., Fernandez, E., Forde, B., Gassmann, W., Geiger, D., Gojon, A., Gong, J. M., Halkier, B.A., **Harris, J. M.**, Hedrich, R., Limami, A.M., Rentsch, D., Seo, M., Tsay, Y.F., Zhang, M., Coruzzi, G., Lacombe, B. (2014). A unified nomenclature of NITRATE TRANSPORTER 1/PEPTIDE TRANSPORTER family members in plants. *Trends in Plant Sciences*, 19(1): 5-9.
- Harris, Jeanne Marie*** and Dickstein, Rebecca*. (2010). Review: Control of root architecture and nodulation by the *LATD/NIP* transporter. ^{*}Joint corresponding authors. *Plant Signaling and Behavior*, 5(11): 1386 – 1390.
- Yendrek, C. [†], Yi-Ching Lee[†], Viktoriya Morris[†], Yan Liang, Catalina I. Pislariu, Graham Burkart[★], Matthew H. Meckfessel, Mohammad Salehin, Hilary Kessler[★], Heath Wessler, Melanie Lloyd[★], Heather Lutton, Alice Teillet, D. Janine Sherrier, Etienne-Pascal Journet, **Harris, J. M*** and R. Dickstein*. (2010). A putative transporter is essential for integrating nutrient and hormone signaling with lateral root growth and nodule development in *Medicago truncatula*. [†]Co-first authors ^{*}Joint corresponding authors. *The Plant Journal*, 62(1): 100-112. (Cover photo of journal accompanies article.)
- Ding, Y., Kalo, P., Yendrek, C., Sun, J., Liang, Y., Marsh, J., **Harris, J. M.** and Oldroyd, G. E. D. (2008). Absciscic acid coordinates Nod factor and cytokinin signaling during the regulation of nodulation. *The Plant Cell*, 20: 2681-2695.
- Liang, Yan, Mitchell, David M. and **Jeanne M. Harris.** (2007). Absciscic Acid rescues the root meristem defects of the *Medicago truncatula latd* mutant. *Developmental Biology*, 304 (1): 297-307
- Jongho Sun, Vinitha Cardoza, David M. Mitchell, Lydia Bright, Giles Oldroyd and **Jeanne M. Harris.** (2006). Crosstalk between Jasmonic acid, ethylene and Nod factor signaling allows integration of diverse inputs for regulation of nodulation. *The Plant Journal*, 46: 961-970.
- Liang, Y. and **J. M. Harris.** (2005). Response of root branching to Absciscic Acid is correlated with nodule formation both in legumes and non-legumes. *American Journal of Botany*, 92: 1675-1683.

- Bright, L. J., Liang, Y., Mitchell, D. M. and **J. M. Harris**. (2005). The *LATD* gene of *Medicago truncatula* is required both for nodule and root development. *Molecular Plant-Microbe Interactions* 18(6): 521-532.
- Harris, J. M.**, Wais, R. J. and S. R. Long. (2003). Rhizobium-induced calcium spiking in *Lotus japonicus*. *Molecular Plant-Microbe Interactions* 16(4): 335-341.
<https://doi.org/10.1094/MPMI.2003.16.4.335>
- Harris, J. M.** (2002). Commentary: Shedding light on an underground problem. *PNAS*. 99:14616-14618.
- Frugoli, J. and **J. M. Harris** (2001). *Medicago truncatula* on the move! *The Plant Cell* 13: 458-463. <https://doi.org/10.1105/tpc.13.3.458>
- Whangbo, J., **Harris, J. M.**, and C. J. Kenyon. (2000). Multiple Levels of Regulation Specify the Polarity of an Asymmetric Cell Division in *C. elegans*. *Development* 127(21): 4587-4598.
- Hunter, C., **Harris, J. M.**, Maloof, J. N., and C. J. Kenyon. (1999). Hox gene expression in a single *Caenorhabditis elegans* cell is regulated by a caudal homolog and intercellular signals that inhibit Wnt signaling. *Development*, 126(4): 805-814.
- Maloof, J. [†], Whangbo, J. [†], **Harris, J.M.**, Jongeward, G., and C. Kenyon (1999). A Wnt Signaling Pathway Controls Hox Gene Expression and Neuroblast Migration in *C. elegans*. *Development*, 126(1):37-49. [†]Co-first authors.
- Kenyon, C., Austin, J., Costa, M., Cowing, D. W., **Harris, J. M.**, Honigberg, L., Hunter, C. P., Maloof, J. N., Muller-Immergluck, M. M., Salser, S. J., Waring, D. A., Wang, B. B. and Wrischnik, L. A. (1997). The dance of the Hox genes: patterning the anteroposterior body axis of *C. elegans*. *Cold Spring Harbor Symp. Quant. Biol.* 62:293-305.
- Harris, J.M.**, Honigberg, L.A., Robinson, N.T., and C. J. Kenyon (1996). Neuronal Cell Migration in *C. elegans*: Regulation of Hox Gene Expression and Cell Position. *Development* 122: 3117-3131. <http://dev.biologists.org/content/122/10/3117.long>
- Breitfeld P.P., **Harris J.M.** and K.E. Mostov (1989). Postendocytotic sorting of the ligand for the polymeric immunoglobulin receptor in Madin-Darby canine kidney cells. *Journal of Cell Biology* 109(2):475-86.
- Breitfeld P.P., Casanova J.E., **Harris J.M.**, Simister N.E. and K.E. Mostov (1989). Expression and analysis of the polymeric immunoglobulin receptor in Madin-Darby canine kidney cells using retroviral vectors. *Methods in Cell Biology* 32:329-37.
- Breitfeld P.P., **Harris J.M.** and K.E. Mostov (1988). Cell biology of the IgA receptor in polarized epithelia. *Monographs in Allergy* 24:66-70.

Mostov K.E., Breitfeld P. and **J.M. Harris** (1987). An anchor-minus form of the polymeric immunoglobulin receptor is secreted predominantly apically in Madin-Darby canine kidney cells. *Journal of Cell Biology* 105(5):2031-6.

Invited seminars and lectures

The Interaction of MtLATD/NIP, Nitrate, and Absciscic Acid in the Regulation of Meristem Function in Roots and Symbiotic Nodules. International Plant and Animal Genome Conference, San Diego, January 2024

Complex Interplay between Salt Stress and the Rhizobium-Legume Symbiosis. International Conference of Korean Society for Molecular and Cellular Biology, Jeju Island, South Korea, November 2021 - virtual

Questions vs Answers? The Quest for the Top 10 Unanswered Questions in Molecular Plant-Microbe Interactions. Department of Biology, University of Vermont, September, 2021.

The Quest for the Top 10 Unanswered Questions in Molecular Plant-Microbe Interactions. "What's New in MPMI!" Virtual Seminar Series hosted by the *MPMI* Journal, December, 2020.

The Quest for the Top 10 Unanswered Questions in Molecular Plant-Microbe Interactions. Department of Plant Biology, University of Vermont, October, 2020.

Evolution of the LATD/NIP meristem function in roots and nodules. Dept. of Plant Pathology, Zhejiang Agricultural University, Hangzhou, China, October, 2019.

Evolution of the LATD/NIP meristem function in roots and nodules. International Congress on Nitrogen Fixation, Wuhan, China, October, 2019.

The Top 10 Unanswered Questions in MPMI. Chinese Plant Virology and Plant Pathology meeting, Guangzhou, China, October 2019

Evolution of the LATD/NIP meristem function in roots and nodules. IS-MPMI Congress, Glasgow, Scotland, July 2019

Development of Symbiotic Root Nodules: Environment and Evolution. Plant Biology Marvin Seminar, UVM, October, 2018

The evolutionary history of the NPF1 family: a story of duplications, losses and the evolution of nodulation. New England Workshop on Symbiosis, MIT, October, 2018

Modulation of symbiotic signaling between nitrogen-fixing Rhizobia and their legume hosts by moderate salt stress. ASPB National Meeting, Montreal, Canada, July, 2018.

Modulation of symbiotic signaling between nitrogen-fixing Rhizobia and their legume hosts by moderate salt stress. 24th North American Symbiotic Nitrogen Fixation Conference, Winnipeg, Canada, May, 2018.

Environmental regulation of a plant-microbe symbiosis – the effect of salt stress. Biology Department, SUNY New Paltz, October, 2017.

Nitrate regulates Phytohormone accumulation by controlling the expression of a deconjugating enzyme. Dept. of Biochemistry, UVM, November, 2016.

Environmental Regulation of the Rhizobium-legume symbiosis. Dept. of Plant Pathology, Zhejiang University, China, September 2016.

Nitrate signaling via Absciscic Acid release from inactive conjugates in Arabidopsis root tips. International Plant Growth Substance Association meeting, Toronto, Canada, June 2016. Abstract selected for a talk.

An evo-devo approach to studying the meristem function of the LATD/NIP gene. New England Medicago-Sinorhizobium workshop, MIT, June, 2015.

A colorful conundrum: how different colors of light regulate a symbiotic interaction belowground. Connecticut College, November, 2014.

Nitrate Induces Absciscic Acid Accumulation in Arabidopsis Root Tips by Regulating Expression of an ABA-GE Deconjugating Enzyme. Plant Molecular Biology Gordon Conference, Holderness, NH, July 2014. Abstract selected for a talk.

Environmental Nitrate Stimulates Root Tip Absciscic Acid Accumulation via Release from Inactive Stores. Plant Biology Program, University of Massachusetts, Amherst, July, 2014

Evolution of Nodulation. Symposium honoring Cynthia Kenyon, UCSF, San Francisco, CA, February, 2014

A colorful conundrum: how different colors of light regulate a symbiotic interaction belowground. Plant Biology Department, UVM, February 2014.

The LATD/NIP nitrate transporter is an important signaling node, regulating ABA responses, root elongation and reactive oxygen species. Agriculture and Agri-Food Canada, Southern Crop Protection and Food Research Centre, London, Ontario, January 2014.

Absciscic acid and LATD/NIP modulate root elongation via reactive oxygen species in *Medicago truncatula*. The Medicago Resources and Legume Research Workshop, Noble Foundation, Ardmore, OK, December 2013.

A colorful conundrum: how different colors of light regulate a symbiotic interaction belowground. Department of Natural Sciences. Castleton State University, October 2013.

Shedding light on an underground problem: Light regulation of symbiotic nodule development. North American Symbiotic Nitrogen Fixation Conference, Minneapolis, MN, July 2013.

Shedding light on an underground problem: Light regulation of nitrogen-fixing nodules. Herbarium Seminar, Harvard University, Cambridge, MA, October 2012.

Shedding light on an underground problem: Light regulation of nitrogen-fixing nodules. Department of Genetics & Biochemistry, Clemson University, Clemson, SC, January 2012.

Shedding light on an underground problem: Light regulation of nitrogen-fixing nodules. Dept. of Molecular and Cell Biology, University of Connecticut, Storrs, CT, November 2011.

The LATD/NIP transporter: Regulation of cell expansion and cell division via an Absciscic Acid/ROS signaling pathway. IFR40 INRA, Toulouse, France, May 2011.

The LATD/NIP transporter: Regulation of nodulation and root architecture via ROS and Cell Shape. Department of Biological Sciences, University of Wisconsin at Milwaukee, Milwaukee, Wisconsin, March 2011.

The LATD/NIP transporter regulates Reactive Oxygen Species and Cell Shape. North American Symbiotic Nitrogen Fixation Conference, Columbia, MO, June 2010.

Underground Architecture: coordinating root development with symbiotic nodule formation in legumes. Department of Biochemistry and Cell Biology, SUNY, Stony Brook, November, 2009.

Altered ABA transport in the *Medicago truncatula latd* mutant. Model Legume Meeting, Asilomar, California, July, 2009. Abstract selected for talk.

Altered ABA transport in the *Medicago truncatula latd* mutant. International Conference on Nitrogen Fixation, Bozeman, MT. June, 2009. Abstract selected for talk.

Underground Architecture: coordinating root development with symbiotic nodule formation in legumes. Department of Microbiology and Molecular Genetics, University of Vermont, April, 2009

Underground Architecture: Absciscic Acid control of root and nodule meristems in legumes. BASF Plant Science, Research Triangle, NC, October, 2008.

The regulation of legume nodulation by light. Plant Biology Dept., University of Vermont, September, 2008.

Underground Architecture: Absciscic Acid control of root and nodule meristems in legumes. Australian National University, Canberra, October 2007.

Absciscic Acid rescues the root meristem defect of *M. truncatula latd* mutants. ASPB National Meeting, Chicago, IL. July, 2007. Abstract selected for talk.

Underground Architecture: Signal networks modulating root branching and nodule formation in *Medicago truncatula*. Plant Biology Program, University of Massachusetts Amherst, March, 2007.

Underground Architecture: Signal networks modulating root branching and nodule formation in *Medicago truncatula*. Biology Dept., University of North Texas, November, 2006.

An altered response of root architecture to Absciscic Acid is associated with nodulation in both legumes and non-legumes. FASEB Meeting: Mechanisms in Plant Development, Saxtons River, VT. August, 2006. Abstract selected for talk.

Signaling networks that regulate root architecture and nodule formation. Biochemistry Dept., University of Vermont Medical School, March, 2006.

Signaling networks that regulate root architecture and nodule formation. Marvin Lecture series, Botany Dept., University of Vermont, November, 2005.

Rescue of the *Medicago truncatula* root meristem mutant, *latd*, by Absciscic Acid. Plant Science Symposium: Meristem 2005, Iowa State University, June 2005. Abstract selected for talk.

The role of Absciscic Acid in root architecture and legume nodule formation: an evolutionary perspective. Biology Department, Dartmouth College, March, 2005.

The role of Absciscic Acid in root architecture and legume nodule formation: an evolutionary perspective. Department of Natural Resource Sciences, McGill University, October, 2004.

Evolution and Development of the Rhizobium-legume symbiosis. Biology Dept., University of Pittsburgh, March, 2004.

Evolution and Development of the Rhizobium-legume symbiosis. Marvin Lecture series, Botany Dept., University of Vermont, November, 2003.

The development of the Rhizobium-legume symbiosis. – University of New Hampshire, November, 2003.

The development of the Rhizobium-legume symbiosis. – CMB retreat, University of Vermont, 2003.

The development of the Rhizobium-legume symbiosis. – Marvin Lecture series, Botany Dept., University of Vermont, 2002.

The development of the Rhizobium-legume symbiosis. – CMB retreat, University of Vermont, 2002.

Role of plant development genes during nodule formation. – Bacterial Signals and Plant Development, Sequoia National Park, California 2002.

The development of the Rhizobium-legume symbiosis. – CMB retreat, University of Vermont, 2001.

A tale of two kingdoms: the development of the rhizobium-legume symbiosis. - Biology Dept., University of Vermont, 2001.

Calcium spiking in a plant cell in response to a bacterial signal. - Ion Channel Journal Club, Dept. of Pharmacology, University of Vermont, 2000.

A tale of two kingdoms: the development of the rhizobium-legume symbiosis. University of Nebraska, 2000.

A tale of two kingdoms: the development of the rhizobium-legume symbiosis. University of Arizona, 2000.

A tale of two kingdoms: the development of the rhizobium-legume symbiosis. University of British Columbia, 2000.

A tale of two kingdoms: the development of the rhizobium-legume symbiosis. University of Vermont, 2000.

Abstracts

★ indicates undergraduate students

Julie Raiguel, Giovanna Sassi, Samantha Connolly, Berke Tinaz, Thomas Michaels, and **Jeanne M. Harris**. Organogenesis vs. Infection: Divergence of *Medicago truncatula* NPF1 Transporter Genes to Function in Different Processes of Nodule Development. The 26th North American Nitrogen Fixation Conference, Burlington, VT, June 2024.

Brailey Buntin, Annie Gilland and **Jeanne M. Harris**. The effect of Introns on LATD/NIP Gene expression in *Medicago truncatula*. The 26th North American Nitrogen Fixation Conference, Burlington, VT, June 2024.

David Green, Samantha Connolly and **Jeanne M. Harris**. Quantifying the Genetic Variation in Plants Driven by Different Soil Composition. The 26th North American Nitrogen Fixation Conference, Burlington, VT, June 2024.

Jeanne M. Harris, Berke Tinaz, Julie Raiguel, Annie Gilland, Tom Michaels and Giovanna Sassi. The Interaction of MtLATD/NIP, Nitrate, and Absciscic Acid in the Regulation of

Meristem Function in Roots and Symbiotic Nodules. International Plant and Animal Genome Conference, San Diego, January 2024

Julie Raiguel and **Jeanne M. Harris**. Divergence of Gene Function after a Duplication Event in Subfamily 1 of the NITRATE TRANSPORTER1/PEPTIDE TRANSPORTER Family of Plant Genes. American Society for Plant Biology conference, Savannah, GA, Aug. 2023.

David Green and **Jeanne M. Harris**. The Effect of Salt Stress on ABA Accumulation in the Legume *Medicago truncatula*. American Society for Plant Biology conference, Savannah, GA, Aug. 2023.

Annie Gilland and **Jeanne M. Harris**. Testing Intron function in the LATD/NIP gene of *Medicago truncatula*. American Society for Plant Biology conference, Savannah, GA, Aug. 2023.

Sandra Nnadi, Erin O'Neill, Alison Brody, and Jeanne M. Harris. The Root Fungal Microbiome: Evaluating the link with floral traits of Northern Highbush Blueberry. The International Society of Molecular Plant-Microbe Interactions Congress, Providence, RI, July, 2023

Julie Raiguel, Samantha Connolly* and **Jeanne M. Harris**. The Functional Evolution of Two NPF1 Transporters Involved in Plant Root Symbioses. North American Symbiotic Nitrogen Fixation Conference, Madison, WI, June 2022.

Sandra Nnadi, Alison Brody, Erin O'Neill and **Jeanne M. Harris**. Examining the link between the root fungal microbiome and floral traits in Northern Highbush Blueberry. ASPB conference, Portland, OR, July 2022.

Berke Tinaz, Giovanna Sassi, Zoe Portlas and **Jeanne M. Harris**. Evolution of the *LATD/NIP* root and nodule meristem function. ASPB Meeting, San Jose, CA, August 2019.

Jeanne M. Harris, Giovanna Sassi, Berke Tinaz, Samantha Connolly, Zoe Portlas. Evolution of the *LATD/NIP* meristem function in roots and nodules. International Congress of MPMI, Glasgow, UK, July 2019; abstract published in MPMI 32 (10), 236-236.

Jeanne M. Harris and Sanhita Chakraborty. Modulation of symbiotic signaling between nitrogen-fixing Rhizobia and their legume hosts by moderate salt stress. ASPB Meeting, Montreal, Canada, July, 2018., **Abstract selected for a talk.**

Samantha Connolly* and **Jeanne M. Harris**. Determining the Function of the *NPF1B* and *NPF1C* genes in root and nodule development in *Lotus japonicus*. ASPB Meeting, Montreal, Canada, July, 2018. SURF recipient

Emily Millar* and **Jeanne M. Harris**. The Interplay of Salt and Abscissic Acid on Infection and Nodulation in the *Medicago-Sinorhizobium* Symbiosis. ASPB Meeting, Montreal, Canada, July, 2018.

- Berke Tinaz, Giovanna Sassi and **Jeanne M. Harris**. Evolution of the *LATD/NIP* root and nodule meristem function. North American Symbiotic Nitrogen Fixation Conference, Winnipeg, Canada, May 2018.
- Jeanne M. Harris** and Christine Ondzighi-Assoume. Environmental Nitrate Signals Through Absciscic Acid in the Root Tip. IPG University of Missouri, Columbia, Root Biology Symposium. May 2017.
- Sanhita Chakraborty and **Jeanne M. Harris**. Understanding the interplay between salinity and the early stages of nodule development. University of Missouri, Columbia, IPG Root Biology Symposium. May 2017.
- Berke Tinaz, Giovanna Sassi and **Jeanne M. Harris**. Can the *LATD/NIP* genes from *Populus balsamifera* functionally substitute for the *Medicago truncatula* gene? University of Missouri, Columbia, IPG Root Biology Symposium. May 2017.
- Christine Ondzighi-Assoume and **Jeanne M. Harris**. Nitrate signaling via Absciscic Acid release from inactive conjugates in Arabidopsis root tips. International Plant Growth Substance Association meeting, Toronto, June 2016. **Abstract selected for a talk.**
- Giovanna Sassi and **Jeanne M. Harris**. Evolutionary history of the plant *LATD/NIP* gene family: losses, duplications, implications for root development and symbioses. Plant Molecular Biology Gordon Conference, Holderness, NH, June 2016.
- Sanhita Chakraborty and **Jeanne M. Harris**. Dissecting Salt Regulation of Nodulation. Plant Molecular Biology Gordon Conference, Holderness, NH, June 2016. **Abstract selected for a talk.**
- Giovanna Sassi and **Jeanne M. Harris**. Evolution of the NITRATE TRANSPORTER 1/PEPTIDE TRANSPORTER family (NPF) subfamily 1 in angiosperms and origins of the eudicot-specific *LATD/NIP* clade. U Mass, Amherst Plant Biology Symposium, Amherst, MA, October 2014.
- Jeanne M. Harris** and Christine Ondzighi-Assoume. Nitrate Induces Absciscic Acid Accumulation in *Arabidopsis* Root Tips by Regulating Expression of an ABA-GE Deconjugating Enzyme. Plant Molecular Biology Gordon Conference, Holderness, NH, July 2014. **Abstract selected for a talk.**
- Parna Ghosh and **Jeanne M. Harris**. Role of Heme Oxygenase in regulating expression of ROS-generating enzymes in *Medicago truncatula*. North American Symbiotic Nitrogen Fixation Conference, Minneapolis, MN, July 2013.
- Chang Zhang and **Jeanne M. Harris**. Identification of Transcription Factors functioning in root ABA signaling mediated by MtLATD/NIP by large-scale transcription factor

expression profiling. North American Symbiotic Nitrogen Fixation Conference, Minneapolis, MN, July 2013.

Sanhita Chakraborty and **Jeanne M. Harris**. Testing systemic effects of NaCl in nodulation in *Medicago truncatula*. North American Symbiotic Nitrogen Fixation Conference, Minneapolis, MN, July 2013.

Chang Zhang and **Jeanne M. Harris**. ABA-mediated regulation of root development via ROS and the nitrate transporter LATD/NIP. Plant Molecular Biology Gordon Conference, Holderness, NH, July 2012.

Jeanne M. Harris, Yucan Zhang, Rachel Sargent[★], Beck Powers[★], Meghan O'Connor[★], Melanie Lloyd[★], David Mitchell, Holly Gorton and Jim Weller. Red, Far Red and Blue light modulate legume nodulation via an abscisic acid/ethylene signaling network. Plant Molecular Biology Gordon Conference, Holderness, NH, July 2012.

Parna Ghosh and **Jeanne M. Harris**. Role of Heme Oxygenase in LATD/NIP-regulated ROS homeostasis in *Medicago truncatula*. ASPB Meeting, Austin, TX, July 2012.

Christine Ondzighi-Assoume and **Jeanne M. Harris**. The LATD/NIP Transporter is Required for Normal ABA Localization at the Root Tip as well as for Cell Wall Formation. ASPB Meeting, Austin, TX, July 2012. **Abstract selected for talk.**

Chang Zhang and **Jeanne M. Harris**. ABA-mediated regulation of root meristem and cell expansion via ROS and the LATD/NIP, a nitrate transporter. ASPB Meeting, Minneapolis, Minnesota, August 2011. **Abstract selected for talk.**

Jeanne M. Harris and Chang Zhang. The LATD/NIP transporter and Absciscic Acid regulate cell elongation and Reactive Oxygen Species accumulation in growing roots. Model Legume Meeting, Saint-Maxime, France, May 2011.

Jeanne M. Harris, Yucan Zhang, Rachel Sargent[★], David Mitchell, Ellen Slade[★] and Jim Weller. Far Red light inhibits legume nodule formation via ethylene signaling. FASEB Plant Development Meeting, Saxton's River, VT, August 2010.

Yucan Zhang, Rachel Sargent[★], David Mitchell, Alison Fisher, Jim Weller and **Jeanne M. Harris**. Far-red light inhibits nodulation of *Medicago truncatula* through ethylene signaling. ASPB Meeting, Montreal, Canada, July 2010.

Chang Zhang and **Jeanne M. Harris**. Absciscic Acid and Reactive Oxygen Species signaling in the *latd* mutant of *Medicago truncatula*. ASPB Meeting, Montreal, Canada, July 2010.

Craig R. Yendrek, Rebecca Dickstein and **Jeanne M. Harris**. Altered ABA transport in the *Medicago truncatula latd* mutant. Model Legume Meeting, Asilomar, California, July, 2009. **Abstract selected for talk.**

- Yucan Zhang, Rachel Sargent[★], David Mitchell, Alison Fisher, Jim Weller and **Jeanne Harris**. Far-red light inhibits nodulation of *Medicago truncatula* by stimulating ethylene production. Model Legume Meeting, Asilomar, California, July, 2009.
- Chang Zhang and **Jeanne Harris**. Role of Reactive Oxygen Species in the *latd* mutant. Model Legume Meeting, Asilomar, California, July, 2009.
- Craig R. Yendrek, Rebecca Dickstein and **Jeanne M. Harris**. Altered ABA transport in the *Medicago truncatula latd* mutant. International Conference on Nitrogen Fixation, Bozeman, MT. June, 2009. **Abstract selected for talk.**
- Craig R. Yendrek¹, Yan Liang¹, Yi-Ching Lee², Viktoriya Morris², Catalina I. Pislariu², Graham Burkhardt^{1★}, Heath Wessler², Matthew H. Meckfessel², Rebecca Dickstein² and **Jeanne M. Harris¹**. The *LATD/NIP* locus of *Medicago truncatula* is a putative component of nutrient signaling that is responsible for root meristem function and lateral root elongation. International Congress on Legume Genetics and Genomics IV, Puerto Vallarta, Mexico. December, 2008. **Abstract selected for talk.**
- Craig Yendrek, Yiliang Ding, Peter Kalo, Jongho Sun, Yan Liang, John F. Marsh, and Giles E. D. Oldroyd and **Jeanne M. Harris**. Dissecting the roles of ABA, JA and ethylene in early Nod factor signaling events in *Medicago truncatula*. FASEB Meeting: Mechanisms in Plant Development, Saxtons River, VT. August, 2008.
- Giovanna Sassi, Graham Burkhardt[★] and **Jeanne M. Harris**. Phenotypic and genetic characterization of *Medicago truncatula* abscisic acid-insensitive mutants. FASEB Meeting: Mechanisms in Plant Development, Saxtons River, VT. August, 2008.
- Jeanne M. Harris**, and Yan Liang. Absciscic Acid rescues the root meristem defect of *M. truncatula latd* mutants. ASPB National Meeting, Chicago, IL. July, 2007. **Abstract selected for talk.**
- Melanie Lloyd[★], and **Jeanne M. Harris**. The characterization of *eve*, a novel *Medicago truncatula* mutant affecting both nodulation and root and shoot architecture. ASPB National Meeting, Chicago, IL. July, 2007. SURF recipient
- Jeanne M. Harris**, and Yan Liang. An altered response of root architecture to Absciscic Acid is associated with nodulation in both legumes and non-legumes. FASEB Meeting: Mechanisms in Plant Development, Saxtons River, VT. August, 2006. **Abstract selected for talk.**
- Yan Liang and **Jeanne M. Harris**. Absciscic Acid Rescues the root meristem defects of the *Medicago truncatula latd* mutant. FASEB Meeting: Mechanisms in Plant Development, Saxtons River, VT. August, 2006.

- Jeanne M. Harris** and Yan Liang. Absciscic Acid Rescues the root meristem defects of the *Medicago truncatula latd* mutant. Missouri Plant Biochemistry Symposium: Plant Roots: From Genes to Form & Function, University of Missouri. May, 2006
- Jeanne M. Harris**, Yan Liang and Lydia Bright. Rescue of the *Medicago truncatula* root meristem mutant, *latd*, by Absciscic Acid. Plant Science Symposium: Meristem 2005, Iowa State University. June, 2005 **Abstract selected for talk.**
- Jeanne M. Harris** and Yan Liang. Increased responsiveness of root branching to ABA is correlated with nodule formation both in legumes and non-legumes. Model Legume Congress, Asilomar, CA. June, 2005
- Lydia Bright and **Jeanne M. Harris**. *LATD*: a gene required for both nodule and root development. Model Legume Congress, Asilomar, CA. June, 2005
- Vinitha Cardoza, David Mitchell and **Jeanne M. Harris**. Effect of jasmonic acid (JA) on nodulation of *Medicago truncatula* by *Sinorhizobium meliloti*. Model Legume Congress, Asilomar, CA. June, 2005
- Yan Liang and **Jeanne M. Harris**. Characterization of the role of the *LATD* gene in Absciscic acid signaling in *Medicago truncatula*. Model Legume Congress, Asilomar, CA. June, 2005
- Jeanne M. Harris**, Yan Liang and Lydia Bright. The *Medicago truncatula LATD* gene has a dual function in nodule formation and root development. FASEB Meeting: Plant Developmental Biology, Saxtons River, VT. Aug., 2004
- Yan Liang and **Jeanne M. Harris**. *LATD*: a gene required both for nodulation and root development. American Society for Plant Biology – Annual Meeting, Orlando, FL. July, 2004
- Vinitha Cardoza, David Mitchell and **Jeanne M. Harris**. Effect of jasmonic acid (JA) on nodulation of *Medicago truncatula* by *Sinorhizobium meliloti*. American Society for Plant Biology – Annual Meeting, Orlando, FL. July, 2004
- David Mitchell, Yan Liang, Rachel Sargent[★], Michelle Crowder and **Jeanne Harris**. Genes required both for normal plant development and formation of legume root nodules. Second International Conference on Legume Genetics and Genomics, Dijon, France. June, 2004
- David Mitchell, Yan Liang, Michelle Crowder, Jennifer Pfeiffer[★] and **Jeanne M. Harris**. Genes required both for normal plant development and formation of legume root nodules. American Society for Plant Biology – Annual Meeting, Honolulu, HI. July, 2003

Harris, J. M. *LAT1*: a gene required both for nodulation and root development. First International Conference on Legume Genetics and Genomics. Minneapolis, MN. June, 2002

Jeanne Harris, Rebecca Wais and Sharon Long. Nod factor-induced calcium spiking is a conserved response of the determinate nodulator, *Lotus japonicus*, to its rhizobial partner, *M. loti*. - International MPMI meeting, Madison, WI. July, 2001

Teaching

Undergraduate Courses:

Putting Down Roots in Plant Biology (First Year seminar) (PBIO 095): 2022
cotaught with Cathy Paris, 2023-2024 cotaught with Laura Hill

Communicating our Science in the 21st Century (PBIO 295/PBIO 395)

Plant Physiology (with lab) (PBIO104): 2002- 2007, 2009-2015, 2017-2022
(cotaught with T. Vogelmann 2003, 2004)

Undergraduate Research (PBIO197/PBIO297): many students, 2003-present

Primary literature seminar (PBIO 3990) for upper-level undergraduates.
Different topics each year

- **Development underground: Regulation of Root Architecture** 2025

Mixed Undergraduate/Graduate Courses:

Primary literature seminar (PBIO295). Different topics each year

- **The making of the Holobiont**, cotaught with Matt Wargo, MMG, 2018
- **Plant Symbioses: Evolution of Signaling**, 2011, 2017, 2019
- **Environmental, Hormonal and Genetic control of Plant Architecture**, 2010, 2015
- **Symbioses**, 2014
- **Plant Developmental Genetics** 2009, 2012
- **Molecular Plant-Microbe Interactions**, 2006 co-taught with Terry Delaney
- **Jasmonic Acid: Synthesis and Signaling**, 2003
- **Molecular models of symbiosis and pathogenesis in plants**. 2001 co-taught with Mary Tierney

Graduate-only Courses

Primary literature seminar (PBIO 5990). Different topics each year

- **Development underground: Regulation of Root Architecture** 2024

Guest Lectures:

Plant Nutrient Acquisition – Microbes, Root Architecture and Food Systems, Food Systems First Year Seminar, UVM 2021

Plant Nutrient Acquisition – Microbes, Root Architecture and Bioinformatics, University of Victoria, Bioinformatics class 2021

Plant Nutrient Acquisition via Microbes: Potential for Bioengineering and Sustainable Agriculture, Industrial and Environmental Biotechnology, Tennessee State University, 2020

The LATD gene – a process of discovery
BCOR 21 – Accelerated Biology (2016)

Genetically Modified Organisms
PBIO6/BOT6 – The Green World (2004-2014, 2016)
PBIO4 – Introduction to Botany (2011, 2014-2016)

Plant Symbioses
MMG320 – Graduate course: Cellular Microbiology (2013, 2015, 2017, 2019, 2021); 2 lectures in 2017 and 2019

Symbiosis
CLBI302 – Graduate course: Cell and Molecular Biology (2010; 2 lectures) (2011 and 2012; 3 lectures/Discussions)

Genetics of Nodulation:
BOT132 - Principles of Genetics (2002, 2006)

Plant Biotechnology for BMED281 – Molecular Applications (2002, 2004, 2005, 2006)

Plant Genetics for Graduate course: MMG312 – Eukaryote Molecular Genetics (2003, 2005)

Rhizobium-legume symbiosis:
PBIO104/BOT104 - Plant Physiology (2001)
MMG220 – Environmental Microbiology (2001, 2003)

Principles of Genetics: three lectures, for Genetics, BCOR101 (2001)

- The chromosome theory of heredity
- Interacting genes, Part 1
- Interacting genes, Part 2

Postdoctoral Associates

Christine Ondzighi-Assoume: 2011-2014, Currently an Assistant Professor at Tennessee State University.

Craig Yendrek: 2006-2009, Completed a second postdoc with Lisa Ainsworth at USDA-ARS, Urbana, IL. Currently a scientist at Scotts Miracle Gro.

Vinitha Cardoza: 2004-2006, Currently a Scientist at BASF, North Carolina.

Visiting Scientists

Dr. Maitrayee DasGupta, University of Calcutta, March-June, 2011, on a Senior Fulbright Fellowship.

Technicians

Lydia Bright: 2000-2005, Currently an Assistant Professor at SUNY New Paltz.

David Mitchell: 2001-2003. Was a middle/high school science teacher at the Colegio Americano de Quito. Currently a HS science teacher in Vermont

Graduate Students

Current:

Emma Danza, Microbiology, Accelerated Masters: Fall 2024-present

David Green, Plant Biology, Ph.D.: Spring 2023 - present

Julie Raiguel, Plant Biology, Ph.D.: Fall 2019 - present

Sandra Nnadi, Plant Biology, Ph.D.: 2019 – present. Received a USDA-ARS Food Systems Ph.D. stipend Fellowship for Fall 2022/Spring 2023.

Former:

Berke Tinaz, Plant Biology, Ph.D.: 2017 – 2022. Currently a Senior Scientist at SMI Systems.

Giovanna Sassi, Plant Biology, Ph.D.: Summer 2007- May 2009; Jan 2010-May 2010; August 2013 – November, 2013; April 2014-June 2019. Currently a postdoc with Eric Bishop von Wettberg at UVM

Sanhita Chakraborty, Plant Biology, Ph.D.: 2013 – 2018. Currently a postdoc at Texas A&M, previously a postdoc with Dr. Jean-Michel Ané at U. Wisconsin-Madison.

Parna Ghosh, Cell and Molecular Biology, MS: 2011-2014. Worked as a Research Technician at the Noble Foundation (Ardmore, OK) with Dr. Rujin Chen, now in a Ph.D. program at the University of Oklahoma.

Chang Zhang, Plant Biology, Ph.D.: 2008-2014. Completed a postdoc with Dr. Stephen Keller, UVM. Currently a Senior Technical Account Manager at Genscript

Yucan Zhang, Plant Biology, Ph.D.: 2008-2013. Concurrently received an M.S. in Computer Science, 2014. Currently a programmer at Amazon.com

Yan Liang, Botany, Ph.D.: 2002-2007. Currently Associate Professor and Director of Graduate Studies at Zheijiang University, China

Undergraduate students

Current:

Matt Rogers, Plant Biology: Spring 2023 – Present

Emma Danza, Molecular Genetics Major, Plant Biology minor: Spring 2024 – Present (also an Accelerated Masters student in Microbiology)

Former:

Asmodi (Brailey) Buntin, Molecular Genetics Major, Plant Biology minor: Fall 2022 – Spring 2024. Currently a graduate student in a Molecular Genetics MS program at UVM.

Mia Randolph, Plant Biology: Summer 2023 – May 2024

Makenzie Detch, Health Sciences: Spring 2020 – Spring 2023. Currently an Emergency Room technician at UVM Medical Center

Annie Gilland, Biological Sciences: Fall 2021 – Spring 2023. Received an ASPB SURF award for research, Summer 2022. Received the Plant Biology Superior Performance in Research award, April 2022 and April 2023, Distinguished Undergraduate Research award, May 2023

Tom Michaels, Plant Biology: Fall 2021 – Spring 2023. Received the Lewis Ralph Jones Award, May 2023. Distinguished Undergraduate Research award, May 2023. Was a Research Technician at plant biotech company Galy.CO. Currently a technician with the US Forest Service

David Green, Plant Biology: Spring 2021 – Spring 2022. Received a UVM SURF award for research, Summer 2021. Currently a Ph.D. student at UVM in Plant Biology in my lab

Owen Moore, Plant Biology: Fall 2020 – Spring 2021

James Sheehan, Biomedical Engineering: Spring 2020 – Fall 2020

Catherine Cazayoux, Plant Biology: Fall 2019

Matthew Gorstein, Plant Biology (double major Ecological Agriculture): Spring 2019 – Spring 2020. Received a UVM SURF award for research, Summer 2019.

Murray Friedberg, Environmental Science: Spring 2019

Erin White, Plant Biology: Spring 2019

Katie Bardsley, Plant Biology: Fall 2018 – Spring 2019.

Erin O'Neill, Plant Biology: Fall 2017- Dec. 2018. Received the Plant Biology Superior Performance in Research award, April 2019. Received a M.S. in Biology from UVM under Dr. Alison Brody.

Samantha Connolly, Plant Biology (minor, Computer Science): Spring 2016- Dec. 2018. Received an ASPB SURF award (national award) for her research Summer 2017. Received the Plant Biology Al Gershoy Memorial Scholarship, April 2018 and the Lewis Ralph Jones Award in April 2019. Received an M.S. in Computer Science from UVM, Dec. 2019. Employed as a software engineer for over 3 years. Currently a Lecturer at UVM in the Computer Science Department.

Emily Millar, double major: Biochemistry and Plant Biology (minor, Soil Science): Spring 2017 – Spring 2018. Received a UVM FUSE award for her research Summer 2017. Distinguished Undergraduate Research award, May 2018. Received the Plant Biology Superior Performance in Research award, April 2018. Worked a Research Technician with Dr. Philipp Simon at the USDA-ARS Vegetable Crops Research Facility in Madison, Wisconsin, Received her Masters degree in Plant Breeding and Genetics from the University of Madison, WI in May 2021. Currently apprenticed to an herbalist.

Lauren Kerwien, Plant Biology: Summer 2015 – Spring 2017. Distinguished Undergraduate Research. Was a technician at the University of Pittsburgh, currently a PhD student at Virginia Tech.

Emma Denman, Environmental Studies: Fall 2014 – Spring 2017. Received a UVM FUSE award for her research Spring 2017. Currently Project Coordinator, Sound Transit, Seattle.

Katie Webster, Plant Biology: Fall 2013 – Spring 2015. Served as Curator of the U Mass Amherst Plant Cell Culture Library for 2 years. Currently a Ph.D. student in Plant Biology at U Mass Amherst.

Matt Clayton, Medical Technology: Fall 2012 - December 2013. Received Fall mini-grant, Fall 2013. Currently a Medical Technologist at Gifford Medical Center.

Alex Miller, Plant Biology: Fall 2010 to Fall 2011 (including summer) and Fall 2012 to Spring 2013. Received her Medical Degree from UVM. Residency in Emergency Medicine at U. Michigan

Beck Powers, Biological Sciences: Summer 2011 to Spring 2013. Received Sproston undergraduate Research Award 4/2012, UVM Undergraduate Research Summer Internship, Summer 2012 and Fall mini-grant, Fall 2012. Worked as a technician at UVM in Plant Biology. Received a Masters in Plant Biology at UVM, Summer 2017. Employed as a research technician at UVM. Then an APHL Covid Laboratory Associate at the Vermont Dept of Health. Currently a PhD student at U Mass, Amherst.

Jen Gonzalez, Plant Biology: Summer 2012. McNair Summer Scholar, Summer 2012. Received a M.S. in Biology from UVM. Ph.D. program from Cornell University. Was an Assistant Professor at Nazareth College. Currently a Postdoc at Dartmouth

Amanda Bousquet, Plant Biology: Fall 2008 to May 2012. Received Sproston undergraduate Research Award 4/2011, Award for Superior Performance in Plant Biology, 4/2012. Ph.D. student in the U Mass Amherst Plant Biology Program from 2012-2014. Currently working outside of science.

Claire LaFontaine, Biological Sciences, August 2011 to May 2012.

Ellen Slade, Microbiology: Fall 2009 to Fall 2011

Derrick Deming, Plant Biology: Fall 2009 to May 2011. Received R.L. Jones award 4/2010, Superior Performance in Plant Biology Award 4/2011. Ph.D. in Molecular and Cellular Biology from U Mass, Amherst, 2017. Currently a Scientist at Agios Pharmaceuticals.

Hilary Kessler, Plant Biology: Spring 2008-Spring 2009. Supported by an NSF REU, Summer, 2008; HELiX minigrant, Fall, 2008. Received an M.S. in Plant Pathology from Penn State. Currently Research Associate and Lab Manager at the University of Massachusetts Medical School.

Melanie Lloyd, Environmental Sciences: Fall 2005-Spring 2008. Supported by an American Society of Plant Biologists SURF fellowship, Summer 2006 and a HELiX grant, Fall 2007. Received Sproston undergraduate Research Award 4/2008 Worked in my lab as a technician, July-December 2009. Received a Ph.D. from the University of Otago, New Zealand. Completed a postdoc at UVM in the Biology department, now a HS science teacher.

Heather Lutton, Biological Sciences: Spring – Fall 2007 (including summer). M.D. from UVM, 2014, residency at Duke University. Currently member of the National Health Service Corps, Modesto, CA.

Graham Burkhart, Botany: Fall 2005 – December 2006. Worked in my lab as a technician January–August, 2007. Received a Ph.D. in Plant Biology from U Mass, Amherst. Currently a postdoc at Washington University in St. Louis, MO.

Rachel Sargent, Biology: 2004 – Jan. 2006

Supported by a HELiX grant for undergraduate research, Summer 2004; conducted Honors Research (Arts & Sciences). obtained a Masters in Museum Studies. Has worked at the Montshire Science Museum and the Fairbanks museum. Currently a Freelance nature writer and illustrator.

Callie Lawson, High School senior (home schooled): Spring-Summer 2005. Attended Dartmouth for college.

Stacy Jorgensen, Plant and Soil Sciences: 2002-2005

Supported by an NSF REU fellowship Summer 2003. Received a M.S. from UVM in Plant Biology. Currently a Ph.D. student at the University of Arizona.

Meghan O'Connor, Wildlife Biology: 2002-2005. Currently runs a native plant nursery and high school environmental outreach program in San Francisco.

Rob O'Brien, Biological Sciences: 2003- 2004.

Supported by a HELiX grant for undergraduate research, Summer 2003, conducted Honors Research (CALS), received his Ph.D. from UC- San Diego with Steve Briggs. Now a postdoc at the Buck Institute (Novata, CA) with Lisa Ellerby.

Jennifer Pfeiffer, Botany: Summer, 2003.

David Mitchell, Plant and Soil Sciences: 2001. Carried out a research project after graduation, subsequently a technician in my lab 2001-2003, see above. Currently teaching high school science at an International School, in Quito, Ecuador.

Graduate student committees

Current:

Ashley Lantigua, PBIO Ph.D.	in progress
Niloofer, Nikravesch PSS, Ph.D.	in progress
Bailey Kretzler, PSS, Ph.D.	in progress
Masoumeh Khodaverde, PBIO, Ph.D.	in progress
Rachel Wilson, PBIO, Ph.D.	in progress
Regina Visconti, CMB, Ph.D.	in progress
Baxter Worthing, PBIO, Ph.D.	in progress
Julie Raiguel, PBIO, M.S.	in progress
Frances Male, CMB, Ph.D.	in progress
Sandra Nnadi, PBIO, Ph.D.	in progress
Connor Lewis, PBIO, Ph.D.	in progress

Completed:

Xu Zhang, Botany, Ph.D., 2004
Eddie Suvarnapunya, MMG, Ph.D., 2004
Daniel Zurawski, CMB, Ph.D., 2004
Sandra Menasha, PSS, M.S., 2005
Karen Hills, PSS, M.S., 2006
Yan Liang, Botany, Ph.D., 2007
Josh Hallman, Forestry, M.S. 2007
Manisha Patel, Botany, M.S. 2007
Mindy Farris, MMG, Ph.D. 2007
Craig Broderon, Botany, Ph.D., 2008
Amalthiya Prasad, MMG, Ph.D., 2008
Zhen Li, Botany, MS, 2010
Jamie Carter, MMG, Ph.D., 2011
Monique McHenry, Plant Biology, Ph.D., 2012
Stacy Jorgensen, Plant Biology, M.S., 2012
John Midkiff, MMG, M.S., 2012
Emily Larson, CMB, Ph.D., 2013
Anahi Odell, MMG, Ph.D., 2013
Todd Cramer, MMG, M.S., 2013
Yucan Zhang, Plant Biology, Ph.D., 2013
Jon Gonzalez, Biology, M.S. 2014
Parna Ghosh, CMB, M.S. 2014
Chang Zhang, Plant Biology, Ph.D., 2014
Prince Zogli, Plant Biology, Ph.D., 2015
Meghan McKeown, Plant Biology, Ph.D., 2016
Jenna Foderaro, MMG, Ph.D., 2016
Beck Powers, Plant Biology, M.S., 2017
Thomas Taber, Pharmacology, M.S., 2017
Suryatapa Jha, Plant Biology, Ph.D. 2018
Sanhita Chakraborty, Plant Biology, Ph.D. 2018
Giovanna Sassi, Plant Biology, Ph.D. 2019
Karl Fetter, Plant Biology, Ph.D. 2019
Christina Stonoha Arther, U Mass Amherst, PBIO, Ph.D. 2020
Eddie Marques, PSS, Ph.D. ,2020
Erin O'Neill, BIO, M.S., 2020
Taylor Readyhough, PSS, M.S. 2021
Zoe Portlas, PBIO, M.S. 2022
Laney Williams, Biology, M.S. 2022
Matt Grasso, Plant Biology, Ph.D. 2022
Berke Tinaz, Plant Biology, Ph.D. 2022
Amy DeCola, Env Engineering, M.S., 2022
Panagiota Stamatopoulou Env Engineering, Ph.D., 2024

Andy Burt, PSS, M.S. (Withdrew from program)
Charlie Johnson, CMB, Ph.D. (Withdrew from program)
Vivekanand Sharma, Plant Biology, Ph.D. (Withdrew from program)
Paul Cronin, PBIO, Ph.D. (Withdrew from program)

Service

Service beyond the University

Journal Editor

Editor-in-Chief, *Molecular Plant-Microbe Interactions (MPMI)* Jan 2019 – Dec 2022 (4-year term)

- **Built a diverse and effective editorial board** with full gender parity, racial diversity, geographic diversity, representing a wide range of scientific fields, and with scientists at different career stages.
- Successfully envisioned and transitioned the journal from a publication model to **Gold Open Access** (OA as of Jan. 2021)
- **Initiated a campaign to identify the Top10 unanswered questions in our field** (#Top10MPMI). Engaged hundreds of participants in a crowd-sourced effort, which led to a highly successful series of reviews, each focusing on a different question, written by top scientists in the field, followed by free seminars by the authors. <https://apsjournals.apsnet.org/top10mpmi>
- **Started a free Virtual Seminar Series: What's New in MPMI!** Started June 2020, with the explicit goal of increasing inclusion. Individual seminars now attract over 100 live participants drawn from 20-40 countries and with hundreds of subsequent recording views.
- Streamlined the submission process
- Initiated the **Assistant Features Editor** position in Summer 2020 and recruited 3 excellent postdocs to volunteer with the journal, focusing on science communication and engagement with the broader community.
- Started a partnership with the Interactions online newsletter of the IS-MPMI society to **highlight first authors**.
- Initiated an **MPMI podcast "MicroGreens"** with Raka Mitra (Carleton College) as host and producer. Started June 2019, took a break in 2020 due to Covid disruptions, restarting Summer 2021.

Senior Editor, *PhytoFrontiers*; August 2020 – present

Senior Editor, *Molecular Plant-Microbe Interactions*; January 2013 to December 2018

Guest Associate Editor, *Frontiers in Plant Science*, Plant Evolution and Development Special Issue "Plant Symbioses: Evolution of Signaling".

Review Editor, *Frontiers in Plant Science*, Plant Evolution and Development Open Access Journal; January 2011-present.

Outreach - Journal Editor

Panelist: Panel discussion on “Best practices for sharing our science” webinar, as part of the 12th US-Japan Seminar on Plant-Pathogen Interactions, Cornell University. 9/30/2021

Panelist: Panel discussion on “How to publish research results and increase its visibility” / “Conversatorio: Como Publicar los Resultados de Investigación e Incrementar su Visibilidad. Universidad de Santander, Colombia; 6/2/21 Virtual discussion, 187 participants.

Scientific Boards

Member, International Society of Molecular Plant-Microbe Interactions, Board of Directors, Jan 2019 – Dec 2022

Member, American Phytopathological Society Publication Board, Jan 2018 – Dec 2022

Member, American Phytopathological Society Publication Task Force, 2019

Virtual Engagement platforms

Co-founder of IS-MPMI Connect, an interactive platform to build a stronger community for members and supporters of the International Society for Molecular Plant-Microbe Interactions (IS-MPMI)

<https://www.ismpmiconnect.com/> started Fall 2020

Conferences/Virtual Seminar Series Leadership

Chair and Local Organizer, 26th North American Symbiotic Nitrogen Fixation Conference (NASNFC), June 3-6, 2024, hosted at UVM.

Organizer and host of “**What’s new in MPMI!**”, a free virtual seminar series featuring recent authors of MPMI papers, biweekly 6/10/2020 – 9/29/20, monthly, 10/27/20 – present. Each event now draws live participants from over 30 countries. <https://apsjournals.apsnet.org/virtualseminars>

Moderator, IS-MPMI Virtual Translational Workshops, 12/2/20 and 2/10/21

Co-Organizer of the annual New England Workshop on Symbiosis. Hosted it at UVM in 2013, 2016 and 2019.

Co-chair, Plenary Session on Root Nodule Development, 21st International Congress on Nitrogen Fixation, Wuhan, China; October 2019

Co-chair, Concurrent Session, Emerging Topics in MPMI, IS-MPMI Congress, Glasgow, UK, July 2019

Chair, Session, 24th North American Symbiotic Nitrogen Fixation Conference, Winnipeg, Canada; May 2018.

Member, Steering Committee; 24th North American Symbiotic Nitrogen Fixation Conference, Winnipeg, Canada; May 2018.

Chair, Development Session; Model Legume Congress, Sainte-Maxime, France; May 2011.

Member, Program Committee; *Medicago truncatula* Model Legume Congress, Asilomar, California; July, 2009.

Member, Program Committee; 16th International Congress on Nitrogen Fixation, Big Sky, Montana; June, 2009.

Chair, Development Session; 4th International Conference on Legume Genetics and Genomics, Puerto Vallarta, Mexico. December, 2008.

Panelist: Reverse Site Visit for EPSCoR RII Track-1 project. NSF, April, 2016

Outside Reviewer of Academic programs

Vermont State College Biology programs, September, 2017

UC-Davis Plant Biology undergraduate program, February 2015. Sole outside examiner for UC-Davis Plant Biology undergraduate major. On-site review.

Grant Review Panels

Panel Member, USDA: Understanding Plant-Associated Microbes Panel; Plant Growth and Development Panel

Panel Member, NSF: Symbiosis, Defense and Self-Recognition Panel; Plant and Microbial Development Panel; Graduate Research Fellowships, Genetics and Cell Biology

Manuscript/Grant/Thesis/Book Review

Manuscript Review: Plant Cell, Science, Nature Plants, Planta, Functional Biology, Plant Molecular Biology, Plant Physiology, Symbiosis, BMC Plant Biology, Journal of Experimental Botany, Frontiers in Plant Science, Plant Signaling and Behavior, New Phytologist, PLOS ONE, Trends in Plant Sciences, Journal of Integrative Plant Biology

Ad hoc grant reviewer: NSF, USDA, NSERC (Canada)

External reviewer for graduate theses / dissertations: Australian National University, University of Tasmania, Australia, Tshwane University of Technology, South Africa

Chapter Review: Soil and Plant Nutrition Chapter for *Biology*, 8th Edition, by Campbell and Reese.

External reviewer for research grants for University funding from: Clemson University, University of Wisconsin, Milwaukee, Jeffress Trust (Virginia), U Mass Amherst

External reviewer for faculty dossiers for Tenure and Promotion from several US research universities

Mentoring Activities and Outreach

Mentor High School students in research projects for Science fair; South Burlington High School, 2017.

Mentor Middle School students in Student Spaceflight Experiments Program; Winfield Middle School, Winfield, Alabama, 2017. Team selected to represent their school district at the Smithsonian competition.

Interviewed on VPR for the story "Now there's a label, but what's a GMO?" June 24, 2016 by Kathleen Masterson

Initiated and supervised inquiry-based science projects in local elementary and middle school classrooms.

Spoke on GMO's before Vermont Ag and Forest Product Development Board (Feb. 2013)

Panel Member, Food Systems panel on GMOs at UVM, April 2012

Research Mentor through the Vermont Genetics Network to junior faculty members in Vermont. Previous: two (Norwich University and Castleton State College). Current: Two faculty members at Castleton University.

Panel Member, Career workshop: Participated in Career Workshop aimed at early-career scientists (National ASPB Meeting, 2003, sponsored by Women in Plant Biology.)

***Medicago truncatula* community activities**

Participated in an *M. truncatula* community genetic screen at the John Innes Institute for Plant Biology, Norwich, England. Sept. 2003

Service at the University of Vermont

University of Vermont:

Member, CALS Staff and Teamwork Excellence Award Committee, 2021

Member, Committee to Review Dean of the Graduate College, 2021

Reviewer, Vermont Genetics Network pilot grant proposals, Spring, 2016

Participant, Mock study section at VGN Grant Writing Workshop, Nov. 2015

Member, Pew and Searle Scholar preproposal review committee, July, 2013

Member, Research Advisory Board: 2008-2009

Reviewer, EPSCOR Graduate Research Assistantship Applications: 2004

College of Agriculture and Life Sciences (CALS):

Chair, Nutrition and Food Science Chair Search, Fall 2023

Member, CALS Curriculum Committee Fall 2023

Member, CALS Alumni Award Selection Committee, Spring 2018

Member, Food Systems Advisory Committee: Fall 2016- present

Member, Search Committee, Crop Geneticist, PSS Dept.: 2017

Member, PSS Chair Review Committee: Fall 2015

Member, Academic Awards Committee: 2015-2018 (elected position)

Member, Greenhouse Faculty Advisory Committee: 2000- 2015

Member, Faculty Standards Committee: 2006-2009 (elected position); 2013-2014

Panel Member, Food System Spire Panel on GMO labeling, April 2012

Participated in College annual reception for the State Legislature, Feb 2012

Member, College Alumni Awards committee: 2010.

Member, Plant Biology Chair Review Committee: Spring, 2006

Member, CALS Studies Committee: 2001- 2004 (elected position)

Plant Biology Department:

Organizer, Plant Biology Diversity, Equity and Inclusion committee, Fall 2020- Spring 2021

Co-organizer; Plant Biology Undergraduate events: 2013 - present

Member, Plant Biology Assessment committee 2017-2018

Interim Chair, Plant Biology: Spring 2016
Co-organizer; Plant Biology Graduate Student Teaching Assistant Professional
Development: 2015 - 2019
Organizer, Department seminar series (Marvin seminar): Jan. 2010 – March 2019,
Fall 2023
Chair, Search Committee for Plant Evo-Devo Assistant Professor, 2010-2011
Member, Graduate student admissions committee: 2008- 2009
Member, Graduate student affairs committee: 2006, 2010
Member, Graduate student education/ admissions committee: 2001-2005
Member, Search Committee, Plant Molecular Biologist: 2002
Member, Search Committee, Community Ecologist: 2001
Member, Undergraduate Curriculum Committee: 2000

Designed and created brochure promoting the Plant Biology Ph.D. program. 1/
2003; updated 1/2004, 9/2004.

Cell and Molecular Biology Program:

Member, Recruitment committee, Cell and Molecular Biology Graduate Program:
2006-2009 (on sabbatical for 2007-2008)
Member, Education committee, Cell and Molecular Biology Graduate Program:
2003-2006