

## Lalita M. Calabria, Ph.D.

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### Education

- 2008 Ph.D., Plant Biology, The University of Texas at Austin (UT-Austin), Austin, Texas. Dissertation: Isolation and characterization of triterpene saponins from *Silphium* and the chemosystematic and biological significance of saponins in the Asteraceae. Advisor: Dr. Tom J. Mabry
- 2002 B.S. Emphasis in Plant Biology and Ecology, The Evergreen State College, Olympia, WA

### Teaching and Research Interests

Plant biology, bryology, lichenology, plant taxonomy, phytochemistry, plant ecology, biodiversity and conservation studies, floristics, natural history

### Experience

- 2010-present Adjunct Faculty, The Evergreen State College Olympia, WA. Courses taught: **16-credit, interdisciplinary programs:** *Plant Taxonomy* (Spring 2010), *Invasive Species: Plants and Patterns* (Fall 2010), *The Fungal Kingdom* (Fall 2011, Fall-Winter 2012-2013, Fall 2016), *Bryophyte Taxonomy and Ecology* (Winter 2013, Fall 2015) *Plant Ecology and Physiology* (Winter 2016), *Plants in Motion* (Spring 2016), **8 credit programs:** *Plants: Nature's Chemical Factories* (Spring 2012), *Botany: Plants and People* (Fall 2014), *Plant Biology* (Spring and Summer 2011) and **4, 6 credit courses:** *General Biology* (Summer 2013), *Plant Biology* (Summer 2012, 2013, 2015, 2016)
- 2014-present Lab Instructor, Washington State Department of Transportation (WSDOT) Summer Wetland Monitoring Internship Program
- 2010-present Curator of Bryophytes and Lichens, The Evergreen Herbarium
- 2005-present Guest Lecturer for various programs at the Evergreen State College-
- Plant chemistry research at UT-Austin
  - Biochemical studies on triterpene saponins of *Silphium* L. (Asteraceae)
  - Chemosystematic studies of the Asteraceae
  - Bryophytes of the Pacific Northwest
  - Pacific Northwest lichen diversity
- 2012-2013 National Academies Education Fellow in Life Sciences

- 2010 Public Engagement with Science Lecture Series: Bryophyte Biology and Ecology, National Science Foundation (NSF) Research Ambassador Program: ([www.researchambassador.com](http://www.researchambassador.com))
- 2010 Guest Lecture: Bryophyte ecology and conservation, New Market Skills Center Vocational High School, Tumwater, WA
- 2008 Postdoctoral Researcher, UT-Austin, Principal Investigator (P.I.): Dr. Tom Mabry
- 2007 Graduate Research Assistant: Phytochemical studies of *Silphium* L. (Asteraceae), P.I.: Dr. Tom Mabry
- 2007 Science Tutor, Grades 6-8, Austin, Texas
- 2007 Visiting Scholar, University of British Columbia, Canada, Plant Biochemistry and Genomics Lab, P.I.: Dr. Joerg Bohlmann,
- 2006 Visiting Scholar, Institute for Soil Science and Plant Cultivation Pulawy, Poland. P.I.: Dr. Wieslaw Oleszek
- 2003-2007 Graduate Teaching Assistant, UT-Austin; Courses taught:
- BIO 301M- Ecology, Evolution and Society (Fall 2003, 2004 and 2005)
  - BIO 351- Economic Botany (Spring 2006)
  - BIO 325- Genetics (Fall 2006)
  - BIO 328- Plant Physiology (Spring 2003, 2004, 2005, 2007)
- 2003 Research Assistant, Lichen herbarium curation, Western U.S. Sierra Institute for Collaborative Education and National Park Service, Forest Health Monitoring Program, Corvallis, OR
- 2003 Research Assistant, Lichen taxonomy and chemistry, USDA-Forest Service, Siuslaw National Forest, Corvallis, OR, P.I. Dr. Linda Geiser
- 2002-2003 Research Assistant, Natural product chemistry, Department of Botany and Plant Pathology, Oregon State University, P.I.: Dr. Donald Armstrong Corvallis, OR
- 2002-2003 Research Assistant, Chemotaxonomy of *Hypogymnia* from China, Department of Botany and Plant Pathology, Oregon State University, Corvallis, OR. P.I.: Bruce McCune
- 2002 Field Botanist, Hamer Environmental, Mt. Baker-Snoqualmie National Forest, WA
- 2002 Instructor, Natural History and Botany, Bainbridge Graduate Institute, Summer Academic Retreat, Cortes Island, B.C., Canada

2002	Undergraduate Lab Aid, Basic Botany, The Evergreen State College, Olympia, WA
2001-2002	Undergraduate Lab Aid, General Chemistry, The Evergreen State College, Olympia, WA
2000	Botany Tutor, Key Student Services, The Evergreen State College

## **Grants and Fellowships**

2016-2017	Kutter Fund for Microbiology Research: Examination of seasonal fluctuations of N-fixation rates in moss-cyanobacterial associations of Puget Sound prairies of western Washington, USA, PI \$4984.52
2016-2017	Summer Undergraduate Research Fellowships for students: PI \$3000
2015-2017	Bureau of Land Management-Interagency Special Status/Sensitive Species Program (ISSSSP): Development of an index of ecological continuity for lichen and bryophyte (cryptogam) communities of <i>Quercus garryana</i> - dominated habitats in the Cascade Siskiyou National Monument (CSNM) PI \$25,000
2013-2014	Tula Foundation: Bryophytes and Lichens of Channel Rock Conservancy, Cortes Island, B.C. PI \$3,720
2013-2015	Washington Native Plant Society (WNPS) Research Grant: Bryophyte and lichen flora of south Puget Sound prairies, PI \$1500
2013	Center for Natural Lands Management, Fire effects on prairie bryophyte and lichen communities of glacial outwash prairies in the south Puget Sound, PI \$1050
2013	McHenry Fellowship, Academy of Natural Sciences of Philadelphia: The Marian Ropes Robertson bryophyte collection: a proposal to improve the quality and accessibility of an important historic collection of Pennsylvania bryophytes, PI \$1625
2012-2016	Sponsored Evergreen Student Foundation Activity Grants: <ul style="list-style-type: none"><li>• 2016: Katherine Scheel: Assessing the impact of volcanic disturbance on lichen and bryophyte communities on Mount St. Helens 36 years post-eruption</li><li>• 2016: Kate Petersen and Stephanie Pierce: Molecular isolation and identification of nitrogen-fixing cyanobacterial moss symbionts: molecular verification of new species on south Puget Sound prairies</li><li>• 2016: Katherine Scheel, Lisa Hintz and Stephanie Pierce: Assessing oak (<i>Quercus garryana</i>) cryptogamic community diversity along a fire gradient in the Cascade-Siskiyou National Monument of southern Oregon</li><li>• 2013: Lillian Hynson: Bryophytes of the south Puget Sound prairies</li></ul>

- 2012: David Parker: Quantifying effects of fire and scotch broom legacy on mycorrhizal fungi
- 2012-2013 Washington Native Plant Society (WNPS) Research Grant: Lichen communities of garry oak (*Quercus garryana*) in Washington State, Co-PI \$1000
- 2010-2012 Washington Native Plant Society (WNPS) Research Grant: Curation and databasing of the Evergreen Herbarium bryophyte collection, WNPS, PI \$1000
- 2010-2011 Research Ambassador: NSF-supported Research Ambassador Program:([www.researchambassador.com](http://www.researchambassador.com)), PI Dr. Nalini Nadkarni
- 2007-2008 University Co-op Continuing Fellowship for Excellence in Graduate Research, UT-Austin, \$25,000
- 2007 Eason Endowed Scholarship, UT-Austin, \$900
- 2006 Continuing Bruton Fellowship, UT-Austin, \$1,000
- 2006 MCDB Graduate Summer Fellowship, UT-Austin, \$2,500
- 2004-2006 University Co-op Undergraduate Research Awards, UT-Austin, supervised grant writing and research for 5 undergraduates who received the awards:
- Megan Pratts: Environmental factors influencing the production saponins in *Silphium*"
  - Zohra Prasla: HPLC profiling of saponins from *Silphium*
  - Donnie Chau: Isolation of triterpene saponins from *Silphium radula*
  - Dang Pham: Chemical investigations of a rare Texas native, *Silphium albiflorum*
  - Fan Sun: Structural elucidation of new triterpene saponins from *Silphium radula*
- 2002 The Evergreen Foundation Undergraduate Research Grant, The Evergreen State College: Isolation of lichen acids from Pacific Northwest native lichens, *Letharia vulpina* and *Usnea longissima*, \$250

### **Awards and Honors**

- 2008 Outstanding Dissertation Award, UT-Austin, recognizes exceptional work by doctoral students, \$5,000
- 2006 Harold Bold Teaching Award, awarded to one Graduate Teaching Assistant for excellence in teaching for the 2006 academic year, UT-Austin, \$200

## **Travel Grants**

- 2007 Plant Biology Travel Award, \$1000
- 2006 Plant Biology Graduate Student Professional Development Travel Award, UT-Austin, \$900
- 2005 Plant Biology Graduate Student Professional Development Travel Award, UT-Austin, April, \$1500
- 2004 MDCB Travel Grant, UT-Austin, \$600
- 2004 The Phytochemical Society of Europe Travel Award, International Conference on Plant Saponins, Pulawy, Poland

## **Publications** (\*denotes undergraduate co-author)

### Journal articles in press:

14. **Calabria, L.C.**, \*Petersen, K., Hamman, S. and R. Smith. *In press*. Prescribed fire decreases lichen and bryophyte biomass and alters functional group composition in Pacific Northwest prairies. *Northwest Science*.
13. \*Petersen, K., Villella V., Miller, J.E.D., **Calabria, L.M.**, Steen, T., Johnson, K., \*Brown-Clay, J, E. Chandler, \*L. Hynson, A. Ulbrich and M. Miller. *In press*. Substrate age influences species richness and succession patterns of Calicioid lichens and fungi growing on wooden buildings in the Cascade mountains of Oregon. *The Bryologist*.

### Published journal articles:

12. **Calabria, L.** 2015. Bryophytes and lichens of the south Puget Sound prairies of western Washington: a summary of two seasons of surveys. *Douglasia* Winter issue: 2-5.
11. **Calabria, L. M.**, \*Arnold, A., \*Charatz, E., \*Eide, G., \*Hynson, L. M., \*Jackmond, G., \*Nannes, J., Stone, D. and J. Villella. 2015. A bryophyte and lichen checklist for the south Puget Sound prairies of western Washington State, USA. *Evansia* 32: 30-41.
10. \*Eide, G. E., Stone, D., **Calabria, L. M** and J. Villella. 2014. Lichen communities on oak (*Quercus garryana*) in Washington. *Douglasia* Summer Issue: 15-19.
9. Masullo, M., **Calabria, L. M.**, Gallotta, D., Pizza, C. and S. Piacente, S. 2014. Polyhydroxylated triterpene saponins from *Silphium asteriscus*. *Phytochemistry* 97: 70-80.
8. **Calabria, L. M.**, Gross, S. and N. Nadkarni. 2014. Growing moss, science and conservation with seniors. AARP International Magazine. Published April 04, 2014 @ <http://aarpinternational.org/calabria>.
7. Villella, J., D. Stone, **Calabria, L. M.** and \*G. D. Eide. 2013. Macrolichen communities of *Quercus garryana* in the Puget Trough and Columbia River Gorge areas of Washington State. *North American Fungi* 8: 1-22.

6. **Calabria, L. M.**, \*Cowles, T \*Cracknell, P. \*Dominguez, A., \*Leibman, C., \*Eide, G., \*Moore, N., \*Matsuoka, I. and \*M. Wirwahn. 2013. Curation and databasing of the Evergreen Herbarium bryophyte collection. *Douglasia* Spring Issue: 13-15.
5. Ammar, N. M., Lamia, T., Abou, E., Nabil, H. S., **Calabria, L. M.** and T. J. Mabry. 2009. Flavonoid constituents and antimicrobial activity of date (*Phoenix dactylifera* L.) seeds growing in Egypt. *Med. Arom. Plant Sci. Biotechnol* 3: 1-5.
4. Williams, J. D., Wojcińska, M, **Calabria, L. M.**, Linse, K., Clevinger, J. A. and T. J. Mabry. 2009. The flavonoids and phenolic acids of the genus *Silphium* and their chemosystematic value. *Natural Product Communications* 4: 435-446.
3. **Calabria, L. M.**, Piacente, S., Kapusta, I., Dharmawardhane, S. F., Segarra, F. M., Pessiki, P. J. and T. J. Mabry. 2008. Triterpene saponins from *Silphium radula* (Asteraceae). *Phytochemistry* 69, 961-972.
2. **Calabria, L. M.** 2007. Tom J. Mabry's natural products chemistry program: 1960-2007. *Natural Product Communications* 2: 959-968.
1. **Calabria, L. M.**, Emerenciano, V. P., Ferreira, M.J.P, Scotti, M.T. and T. J. Mabry. 2006. Phylogenetic analysis of tribes of the Asteraceae based on phytochemical data. *Natural Product Communications* 3: 277-285.

Book chapters:

2. **Calabria, L. M.** and T. J. Mabry. 2010. *Silphium* (L.) Asteraceae. In Drug Plants IV: *Recent Advances in Medicinal Plants* (Vol 30). Eds. V.K. Singh and J.N. Govil. pp. 37-50.
1. **Calabria, L. M.**, Emerenciano, V.P, Scotti, M. T., and T. J. Mabry. 2009. Secondary Chemistry of the Asteraceae. Book Chapter in: *Systematics, Evolution, and Biogeography of the Compositae*. Funk, V.A., Susanna, A., Stuesy, T. and Bayer, R. (eds.).

Invited Lectures and Oral Presentations:

- Calabria, L.M.**, Petersen, K., Hamman S. T. and R. J. Smith. 2016. Prescribed fire decreases lichen and bryophyte biomass and functional group diversity in Pacific Northwest prairies. Presented at the 87<sup>th</sup> Annual Northwest Scientific Association and Northwest Lichenologists joint Conference in Bend, OR.
- Hynson, L. M, Arnold, A. Charatz, E., Eide, G. Jackmond, G., Nannes, J., Petersen, K and **L. M. Calabria**. 2014. Bryophyte and lichen flora for the south Puget Sound prairies. Presented at 85th annual conference of the Northwest Scientific Association and Northwest Lichenologists. Missoula, MT.
- Villella, J., Stone, D., **Calabria, L. M.** and G. Eide. 2013. The lichen communities on garry oak (*Quercus garryana*) in Washington State. Presented at 84th annual conference of the Northwest Scientific Association and Northwest Lichenologists. Portland, OR.
- Petersen, K., Villella V, **Calabria, L.M.**, \*Brown-Clay, J and L. Hynson. 2013. Substrate age influences species richness and succession patterns of Calicioid lichens and fungi growing on wooden buildings in the Cascade mountains of Oregon. Presented at 84th

annual conference of the Northwest Scientific Association and Northwest Lichenologists. Portland, OR.

**Calabria, L. M.** 2007. Plant chemistry research at UT-Austin: 1963-2007 and the future of phytochemistry. Invited lecture at the 10th International Symposium on Pharmaceutical Sciences. Montreal, Canada.

**Calabria, L. M.,** Emerenciano, V.P, Scotti, M. T. and T. J. Mabry. 2006. Secondary Chemistry of the Asteraceae. Invited lecture at The International Compositae Alliance (TICA) annual meeting, Barcelona, Spain.

**Calabria, L. M.,** Piacente, S., Kapusta, I., Dharmawardhane, S. F., Segarra, F. M., Pessiki, P. J. and T. J. Mabry. 2006. Triterpene saponins from *Silphium radula* (Asteraceae). Invited lecture at The International Conference on Chromatography of Natural Products, Lublin, Poland.

**Calabria, L. M.** 2006. Introduction to phytochemical research. Guest Speaker, Beta Beta Beta National Biological Honor Society Meeting, UT-Austin. Austin, TX.

**Calabria, L. M.** 2004. Biochemical studies on triterpene saponins from *Silphium* L. (Asteraceae). Invited lecturer, The Noble Foundation- Agricultural Phytochemistry Department. Ardmore, OK.

Poster Presentations:

**Calabria, L. M.,** Wojcinska, M., Oleszek, W., Ahmed, A. A., Clevinger, J. A. and T. J. Mabry. 2004. Saponins of *Silphium* L. (Asteraceae) Book of Abstracts of International Conference on Saponins: Phytochemistry and Application of Plant Saponins" pg. 56. Pulawy, Poland.

Manning, S. A., **Calabria, L. M.,** Mabry, T.J. and J. LaClaire. 2004. Noxious algae, golden tide in Texas waterways. UT-Austin College of Natural Sciences Open House Poster session, Austin, TX.

Moore, G. F., **Calabria, L. M.,** and Pessiki, P. J. 2002. Lichen acids covalently attached to porphyrins. American Chemical Society Symposium undergraduate poster session, University of Washington. Seattle, WA.

**Calabria, L. M.** and Pessiki, P. J. 2002. Isolation and characterization of secondary metabolites from Pacific Northwest native lichens, *Letharia* and *Usnea*. 57<sup>th</sup> Annual Northwest Regional ACS Symposium, undergraduate poster session, Gonzaga University, Spokane, WA.

**Collaborators (last 48 months):**

**WA:** Dr. Tom DeLuca – University of Washington School of Environmental and Forest Sciences, Dr. Sarah T. Hamman- Center for Natural Lands Management, Mr. Dave Hays-WA Dept. of Fish and Wildlife (WDFW), Mr. Dave Wilderman – WA Dept. Of Natural Resources (WDNR), Mr. Jim Lynch – Joint Base Lewis-McChord

**Other US:** Dr. William Miller-Baker University, Dr. Shana Gross-US Forest Service, Lake Tahoe Ranger District, Mr. Robert Smith-Oregon State University, Mr. John Villella-Siskyou Biosurveys,

Dr. Daphne Stone-Stone Ecosurveys, Dr. Amanda Hardman-Biodiversity Research Collaborative, Dr. Nalini Nadkarni – University of Utah, Dr. Jesse Miller- University of California, Berkley  
**International:** Dr. Sonia Piacente- Università degli Studi di Salerno Italy, Ms. Christina Munck- The Tula Foundation-British Columbia, Ms. Stephanie Asbeck- Channel Rock Conservancy-British Columbia

### **Outreach & Broader Impacts:**

- 2016- present I am launching a new, faculty-directed project called **Women In Science at Evergreen (WISE)**, an organization dedicated to providing woman-identified science students at The Evergreen State College with an opportunity to build a community of peers with the common goal of breaking down the barriers of unconscious bias and discrimination facing today's women scientists.
- 2016- present I serve as the Parent Advocate on the Cystic Fibrosis Quality Control Board for the CF clinic at the Mary Bridge Children's Hospital in Tacoma
- 2012- present I am the Collections Manager for the Evergreen Natural History Museum, whose mission is to be an accessible educational and research environment for students and faculty of the Evergreen State College while developing and preserving the collection of museum specimens for future generations. In my role as Manager, I oversee the use and maintenance of the Collections, supervise undergraduate students (Natural History Fellows) who assist with academic program support and provide education and outreach to the public, and maintain State and Federal permitting.
- 2010-present I am the Curator of Bryophytes and Lichens at the Evergreen Herbarium (EVE), where I am actively involved in growing our research and teaching collections. Since 2010, I have led efforts to curate and database our existing bryophyte, lichen and fungi collections. These specimen records are now available online through the [Consortium of Pacific Northwest Herbaria](#), thereby providing greater accessibility and educational opportunities to students, researchers and the public.
- 2012 Offered a staff training on field methods for monitoring bryophyte and lichen ground-layers for Puget Sound prairies for the Center of Natural Lands Management.
- 2012 Attended the National Academy of Sciences Summer Institute on Undergraduate Education in Biology, The Evergreen State College, July 23-28, 2012. At this week-long Summer Institute, faculty participate in a variety of workshops, interactive projects and discussion groups focused on developing innovative approaches to biology education including active-learning techniques, inclusive teaching, backwards design and effective assessments.
- 2010 Participated in a workshop with the Kaleel Jamison Consulting Group. This workshop focused on fostering inclusiveness and promoting diversity in the workplace.



- 2010 As part of the NSF -The Research Ambassador Program (PI: Nalini Nadkarni), I developed a program in collaboration with a team of students and scientists to engage Senior Citizens in conducting research relating to bryophyte conservation and cultivation. Our goal was to develop techniques to “farm” mosses by examining effects of species and substrate on moss growth rates. These efforts helped raise awareness of the importance of moss in forest ecosystems, and ultimately, protect our old-growth forest from the illegal harvest of mosses for the floral industry. (see publication #8 under published journal articles).
- 2006-2008 Intellectual Entrepreneurship (IE) Pre-Graduate School Internship Program Mentor, UT-Austin. The goal of the internship is to connect undergraduates, faculty and graduate students in their field of study to explore those unique aspects of graduate study that make it distinct from the undergraduate experience. I mentored several IE participants who were first generation, underrepresented or economically disadvantaged students.

### **Professional Affiliations and Service**

**Northwest Lichenologists** 1999-present. Member, Board of Directors (2013-2105)  
**Phytochemical Society of North America:** 2003-present. Member  
**Botany Society of America 2003-present:** Member, Chair of Phytochemical Section (2009-2013)  
**American Bryological and Lichenological Society:** 2011-present  
**Northwest Scientific Association:** Member: 2012-present

**Reviewer for various journal articles, 2006-present:** *Bioscience, The Bryologist, Oikos, Natural Product Communications*

### **Professional References:**

Frederica Bowcutt, Ph.D.  
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