

SUNSHINE LIBERTY BROSI

CURRICULUM VITAE

Department of Wildland Resources
S.J. & Jessie E. Quinney College of Natural Resources
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A. ACADEMIC APPOINTMENTS

Utah State University (USU), Eastern Campus, Price, Utah, Fall 2020-present

Rank: Associate Professor, Fall 2020-present, Dept. of Wildland Resources (WILD), S.J. & Jessie E. Quinney College of Natural Resources (QCNR). **Appointments:** Director of the Master of Natural Resources Program (MNR) and Undergraduate Program Advisor and local campus contact: Wildlife Ecology & Management, Environmental Studies, & Recreation Resource Management. Additional teaching within the Environmental Studies, Watershed Resources, and Biology Department (College of Sciences). Curator of the Herbarium. Greenhouse Director. Faculty-Student Mentorship Program.

Frostburg State University (FSU), Biology Department, Frostburg, Maryland, Fall 2007-present

Ranks: Associate Professor 2014-2020, Assistant Professor: 2010-2014, Instructor: Aug. 2007-2010 (*prior to obtaining terminal degree*). **Appointments:** *Undergraduate Program Coordinator* of the Bachelor of Science programs in Ethnobotany (2007-2020), Interpretative Biology and Natural History (2010-2015), and Wildlife & Fisheries (2010-2015). *Graduate Program Coordinator* of the Master of Science Programs in Applied Ecology & Conservation Biology and Wildlife & Fisheries (2014-2018). Faculty advisor of the Sierra Student Coalition, Curator of the Herbarium, Director of the Arboretum (2007-2020).

Adjunct appointments: Univ. of Alaska, Fairbanks (Ethnobotany 2014-2019) and West Virginia University (Biology 2012-2020).

Past-President, Society for Economic Botany, 2018-2019: established in 1959 with members from all 50 U.S. states and more than 64 countries around the globe, the world's largest and most-respected professional society for ethnobotanical studies (additional service on the Council and Education Committee since 2011).

B. ADDITIONAL EDUCATIONAL APPOINTMENTS

National Committee, 4-H Forestry Invitational: The Super Bowl of Forestry, Weston, West Virginia, pro-bono, 2011-present

Tree Identification Judge and Committee Member, Attendees 9-12 High School students from multiple states, recruitment and organization throughout the year and one-week camp in July (2011-present). I participated in 4-H forestry as a high school student and continue engagement through local and national 4-H programming.

Committee West Virginia Wildflower Pilgrimage, Blackwater Falls, West Virginia, pro-bono, 2011-present

Botanical Fieldtrip Leader, Collaboration with The Nature Conservancy, WV Land Trust, and WV Department of Natural Resources (DNR), May (2011-present).

Faculty, Governor's Scholars Program, Centre College, Danville, Kentucky, 2022-present

Faculty Instructor, Focus Area: Biological and Environmental Issues, General Studies: Zoonotic Diseases, summer residential program for outstanding high school students in Kentucky. I participated in the program as a high school student and give back to the community through faculty teaching of students from rural Kentucky Counties.

C. EDUCATION

The University of Tennessee, Department of Forestry, Wildlife and Fisheries, Knoxville, Tennessee

Doctor of Philosophy in Natural Resources, May 2002 to August 18th, 2010, Defense: May 10, 2010, GPA: 3.95/4.0, 120 Semester Hours, Dissertation: Steps toward Butternut (*Juglans cinerea* L.) Restoration, advisor: Scott E. Schlarbaum, Ph.D.

University of Kentucky, Department of Forestry, Lexington, Kentucky

Master of Science in Forestry, August 1999 to May 2001, GPA: 3.53/4.0, 39 Semester Hours, Thesis: American Chestnut Seedling Establishment in the Knobs and Eastern Coalfields Regions of Kentucky, advisor: Charles C. Rhoades, Ph.D.

Warren Wilson College, Asheville, North Carolina

Bachelor of Arts in Environmental Studies, Concentration in Forest Resource Conservation, August 1995 to May 1999, GPA: 3.38/3.43, 138 Semester Hours, Senior Research Project: Comparison of Cavitation Vulnerability in *Acer rubrum* L. and *Acer saccharum* Marsh. Roots and Shoots, advisors: William C. Davis, Ph.D. & Mark Boudreau, Ph.D.

D. TEACHING

Developed and taught 30 different courses across a variety of topics. Experience teaching graduate and undergraduate courses, online, broadcast, in-person, field-based and in remote field locations in rural Utah, Alaska, and Appalachia. Experience teaching Alaskan Native and Native American students in collaboration with Indigenous Elders and incorporating research and service into place-based learning. Several courses include Community Engaged Learning (CEL) Designation.

Utah State University, Eastern Campus in Price, Utah, 13 courses in 2 years

Community Engaged Learning Designation*

*WILD/WATS/ENVS 2000: Natural Resources Prof. Orientation (broadcast)

*WATS/BIOL 2220: General Ecology (broadcast)

*BIOL 3085: General Ecology Lab (face-to-face)

*WILD 2400: Wildland Resources Techniques (face-to-face)

*WILD 3830: Range Plant Taxonomy and Function (face-to-face)

*WILD 4500: Principles of Wildlife Management (face-to-face)

USU 1010: Connections (first-year experience) (face-to-face)

NR 6900: Wildlife Ecology and Management for Natural Resources Professionals (online)

WILD 2200: Ecology of Our Changing World (Zoom)

Lab Only

WILD 5560: Applied Avian Ecology (face-to-face)

WILD 3800: Wildland Plants and Ecosystems (face-to-face)

WILD 3820: Forest Plants (face-to-face)

BIOL 5580: Mammalogy (face-to-face)

University of Alaska Fairbanks, Kuskokwim Campus in Kotzebue and Chukchi Campus in Bethel, Alaska, 2 courses

EBOT 220: Ethnobotanical Methods, techniques in ethnobotany. Online and call-in course.

EBOT 100: Introduction to Ethnobotany, basics of plant identification for northwestern plants and interviewing techniques with local Indigenous Elders. Projects include collecting and cooking wild greens, collecting berries, fishing and canning salmon, and making sweetgrass baskets with Elders. 4-week online and 2-week field course. Taught in Scammon Bay, Kotzebue, and Bethel, Alaska

Frostburg State University, Frostburg, Maryland, 15 courses

BIOL 600: Research Methods in the Biological Sciences

BIOL 460/650: Forestry Field Practices

BIOL 305: Dendrology

BIOL 425: Forest Ecology and Conservation

BIOL 314: Plant Taxonomy

ORIE 100: Introduction to Higher Education, Conservation Careers in Wildlife

BIOL 128: Introduction to Ethnobotany

BIOL 328: Economic Botany

BIOL 609: Plant Ecology

BIOL 428: Ethnographic Field Techniques

BIOL 499: Special Problems in Biology

BIOL 710: Thesis

BIOL 109: Humans and the Environment (lab only)

BIOL 494/650: Field Experiences in the Biological Sciences, Pine Mountain, Kentucky

BIOL 484/650: Field Experiences in Ethnobotany & Ecology, Qualla Boundary, Cherokee, North Carolina.

Advising

Currently advise **17** undergraduate BS students in QCNR including Wildlife Ecology & Management Major, academic advisor of USU Eastern's The Wildlife Society (TWS) student club.

Completed **11** M.S. students as Major Advisor (7 after receiving associate professor rank): Erica Duda & Elizabeth Green (2019), Karen Heeter (2018), Bryan Whitmore (2017), Laura G. Smith (2016), Mitchell Hall, Michael McCampbell and Justin Bower (2014), Robert Kutchman and Amanda Vickers (2011), Natalie A. Walsh (2010).

Completed over **50** B.S. Ethnobotany Majors, **11** undergraduates with Departmental Honors at Honors Convocation, **4** Commencement Speakers for the College of Liberal Arts and Sciences.

E. AWARDS, HONORS, & RECOGNITION

Teaching Recognition and Honors

2022, Master Teacher Certificate, Empowering Teaching Excellence (ETE), Utah State University, August 17th, completed ten micro credentials through documentation of teaching excellence as part of the ETE 10 Professional Learning Pathways program.

2022, Life Discovery Faculty Mentoring Network (FMN), Ecological Society of America (ESA) and Quantitative Undergraduate Biology Education and Synthesis (QUBES), Spring 2022 semester, selected from a Nationwide pool of applicants, \$750 award.

2021, Teaching Scholar Certificate, Empowering Teaching Excellence (ETE), Utah State University, August 18th, completed ten micro credentials through documentation of teaching excellence as part of the ETE 10 Professional Learning Pathways program.

2021, ETE Scholars Program, 2021 Cohort, Empowering Teaching Excellence (ETE), Utah State University, May 12th, selected from a pool of applicants to complete the scholars' program, \$4,000 award.

2021, Association of College and University Educators (ACUE), Effective Online Instructor Training, May 12th, selected to receive funding to participate in 12-month instructor training, selected as cohort speaker at the Awards ceremony.

2018-2019, President, Society for Economic Botany, elected by members of the society.

2018, NSF, BIO IUSE Ideas Lab: Supporting Faculty in Quantitative Undergraduate Biology Education and Synthesis (QUBES), Travel Award, Harvey Mudd College, Claremont, California, June, received travel funding and was selected as a keynote speaker.

2017, NSF, Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (INCLUDES) Tutorial and Conference on Multi-Scale Evaluation in STEM Education, sponsored by the National Institute for Mathematical and Biological Synthesis (NIMBioS) and the National Institute for STEM Evaluation and Research (NISER), Conference Travel Award, Knoxville, Tennessee, February, received travel funds to attend the conference.

2015, NSF, REIL-Research Experiences in Introductory Laboratories-Biology Network, Research Coordination Network-Undergraduate Biology Education. Workshop Team Member and Travel Award, Ecological Society of America, Baltimore, Maryland, Aug. 8-14, received travel award for conference attendance.

Conference Host, 2016 & 2012, Annual Meetings of the Society for Economic Botany,
 2016: Pine Mountain, Kentucky, June 3-9th, host institution, Frostburg State University.
 2012: Featured symposium: Ethnobotany of Mountain Cultures, June 2-7th, host institution, Frostburg State University.
 2012-2013, American Fellowship, Summer Publication Grant, American Association of University Women (AAUW)
 2011, Faculty Scholar, Bioscience Education Network (BEN) Scholars Program, National Science Digital Library (NSDL) Biological
 Sciences Pathway, American Association for the Advancement of Science, AAAS.
 Merit Awards, Dean's Salary Enhancement, Service Achievement (2007-2009, 2011-2015), Professional Achievement (2010).

Teaching Awards

2014, Charles B. Heiser, Jr., Mentor Award, Society for Economic Botany (SEB), presented in Cherokee, North Carolina, nominated
 by students who had taken my classes and were members of SEB, International competition.

Awards Received by my Students: (graduate student indicated with *, undergraduate student indicated with **)

Associate Professor Rank:

Student Research Award, Alexandra Cartwright**, 2022, Helper City Native Planting Boxes, Utah Native Plant Society, \$500.
 Student Presentation Award, Elizabeth Green*, Sunshine Brosi, Linda Black Elk, and Isabel Ashton, 2019, Habitat Suitability
 Modeling of Culturally Important Plants at Wind Cave National Park in South Dakota, Natural Areas Conference, Pittsburgh,
 Pennsylvania, Oct. 8-10, \$100.
 National Science Foundation, Travel Award, 2019, Society for Economic Botany Meeting, to Elizabeth Green* support for travel to
 Cincinnati, Ohio, June 2-6, \$590.
 National Science Foundation, Travel Award, 2018, Joint Meeting Society for Economic Botany & Society of Economic Botany, to
 Karen Johnson* support for travel to Madison Wisconsin, June 3-7, \$590.
 Post Doc and Graduate Student Travel Award, 2017, 58th Annual Meeting, Society for Economic Botany, to Karen Johnson* support
 for travel to Bragança, Portugal, June 4-9, \$1,000.
 Graduate Student Poster Award, to Erica Duda*, Andrew J. Dayton, Sunshine L. Brosi, Kelly J. Pearce, Thomas L. Serfass, Daniel J.
 Feller, Rande Brown, 2017, Twenty-five years of Allegheny woodrat population and oak-mast surveys across Western Maryland,
 Maryland Delaware Chapter of the Wildlife Society, McHenry, MD, April 20.
 Appalachian Studies Association Travel Award, Madison L. Lawrence**, Andy Wall**, Olivia Goldstein**, Laura Price**,
 2017, 40th annual Appalachian Studies Conference March, (\$400).
 Nature Genetics, 2015, Travel Award, Society for Economic Botany, to Laura Smith* support for travel to Clanwilliam, South Africa,
 June. \$2,000.
 Edmund H. Fulling Oral Presentation Award, Seedling Establishment of American Chestnut, Society for Economic Botany, to
 Michael McCampbell*, Sunshine Brosi, Thomas Hall, Arnold Saxton, and Scott Schlarbaum, 2014, *Castanea dentata*, in
 Pennsylvania, presentation, Cherokee, NC, June. \$1,000
 Student Research Award, Maryland Native Plant Society 2014, Lauren Hull, Karen Johnson**, and Sunshine Brosi, Mountain
 Bugbane Preservation through Population Analysis & Outreach Materials, 2014, (\$1,994.95).
 Mid-Atlantic Chapter of the International Society of Arboriculture, Scholarship Winner, 2014, Laura G. Smith**.

Assistant Professor Rank:

International Erosion Control Association, Mid-Atlantic Chapter, Scholarship, Megan Carr** (2013) and Nathan Beeman** (2010).
 Julie F. Morton Poster Presentation Award, Society for Economic Botany, to Amanda Vickers*, Sunshine L. Brosi, James Howell,
 and David Puthoff, 2011, presentation, Chromatographic quantification of medicinal compounds in flowering and non-flowering
 wild-harvested *Actaea racemosa* L. Botany 2011, Healing the Planet, St. Louis, Missouri, July, \$500.
 Li-COR Prize, Physiological Section, Botanical Society of America. Mitchell Hall**, Sunshine L. Brosi, and David Puthoff, 2011,
 The effectiveness of tomato plants (*Solanum lycopersicum*) modified with a Hessian fly-responsive (Hfr) gene against phloem-
 feeding and chewing insects. Botany 2011, Healing the Planet, St. Louis, Missouri, July.
 Honorable Mention, Julia F. Morton Award, Mitra Karimian** and Sunshine L. Brosi, poster: Analysis of Dulcimer Makers in
 Appalachia, 2010, Society for Economic Botany 51st Annual Meeting, Xalapa, Mexico, June.
 Traditional Ecological Knowledge Student Merit Award for Oral Presentation, Ecological Society of America, to Natalie A. Walsh*
 and Sunshine L. Brosi, 2009, poster, Stratification protocols and germination rates of open-pollinated families of black cohosh
 (*Actaea racemosa* L.) from three western Maryland state forests: Population dynamics of a medicinal herb native to the
 Appalachian Mountains, 94th Ecological Society of America (ESA) Annual Meeting, Albuquerque, NM, Aug.
 Ronald E. McNair Ambassador Award for Exemplifying the Life, Values and Qualities of Dr. Ronald E. McNair, Christopher
 Massimino** and Sunshine L. Brosi, 2009, Summer Research Institute, Metabolic Profiling of in vitro Cultured Medicinal Plants:
Actaea racemosa L., University of Maryland, College Park, MD, Aug.

Additional Awards

Warren Wilson College: Sigma Xi Award for Outstanding Undergraduate Research Project, September 1998.
 Pinchot Institute Scholarship, 7th American Forest Congress in Washington, D.C., February 1996. Beverly Hamilton Moran
 Scholarship \$20,000 yr., Kentucky River Foothills Scholarship \$5,000 yr., Valedictorian Scholarship \$4,000 yr., 1995-1999.
 Berea Community High School Awards: Kentucky Governor's Scholar, June 1995, Valedictorian, 4.0 GPA, Graduated in 3 years.

F. GRANTS

Associate Professor Rank:

- Sunshine L. Brosi** (PI) 2019. National Park Service, Identify and Map At-Risk Plants in Harpers Ferry National Park (\$20,000).
Sunshine L. Brosi (PI) 2018. National Park Service, Ethnobotany at Fort Union Trading Post National Historic Site, North Dakota (\$95,000).
Sunshine L. Brosi (PI) 2017. National Park Service, Ethnobotany & Traditional Ecological Knowledge of Wind Cave National Park, South Dakota (\$98,000, \$55,752 remaining).
Sunshine L. Brosi (PI) 2017. US Forest Service, State & Private Forestry Street Tree Planting Prioritization Project for Washington, DC (\$47,000).
Sunshine L. Brosi (PI) 2019. National Park Service, Northeast Temperate Network Tree Coring 2019, (\$4,865.81 and \$3,364.83).
Sunshine L. Brosi (PI) 2019. National Park Service, Shenandoah National Park Tree Coring 2019 (\$9,728.25 and \$5,000).
Sunshine L. Brosi (PI) 2018. Maryland Department of Natural Resources, Frostburg City Tree Planting (\$2,000).
Sunshine L. Brosi (PI) 2018. National Park Service, Dendroecological Analysis of Tree Species at NCRN), dendrochronological analysis of trees in the National Capital Parks Region on long-term vegetation plots, (\$60,000).
Sunshine L. Brosi (PI) 2018. Maryland Department of Natural Resources, Old Growth Research on Public Lands in Western Maryland (\$10,000).
Sunshine L. Brosi (PI) 2017. University of Maryland Center for Environmental Science (subaward from National Park Service), Dendroecological Analysis of Dominant Tree Species at NCRN Forest Monitoring Plots (\$56,251)
Sunshine L. Brosi (PI) 2016. Cherokee Preservation Foundation, Butternut and White Oak Cultural Resource Plantings for Cherokee Artisans (\$18,936).
Sunshine L. Brosi (PI) 2016. Maryland Department of Natural Resources, Old Growth Forest Analysis & Documentation (\$10,000).
Sunshine L. Brosi (PI) 2015. Identifying and Targeting Intervention Strategies for Allegheny Woodrat (*Neotoma magister*) Recovery, Northeastern Research Conservation Needs Grant Program (RCN) (\$99,804).
Sunshine Brosi (PI) 2013 and 2015. District of Columbia, Urban Forestry Association, awarded through Metropolitan Washington Council of Governments (COG): #13-023, Science-Based Approach to Elm Management (\$36,158 and \$8,560).

Assistant Professor Rank or below:

- Sunshine Brosi** (PI) 2012. American Association of University Women, American Fellows, Summer Publication Grant (\$6,000).
 Patricia D. Harrison, Gail E. Wagner, Rainer Bussmann, **Sunshine L. Brosi**, Will C. McClatchey, 2009-2014, National Science Foundation, Research Coordination Network-Undergraduate Biology Education (RCN-UBE), Open Science: an education network in Ethnobiology to coordinate the development of a new culture in the undergraduate science classroom, #0840946 (\$368,173, approximately \$100,000 in support of travel for myself and my students).
Sunshine Brosi (PI) 2013. Chesapeake Bay Foundation, Outreach Grant, Frost Avenue Tree Planting (\$2,000).
Sunshine Brosi and Elaine Raesly 2009. Chesapeake Bay Foundation, Project GROWS: Greening and Restoration for On-Campus Watershed Stewardship (\$29,797).
 David Puthoff and **Sunshine Brosi** 2009. LI-COR Environmental Education Fund (LEEF) Grant (\$40,000).

G. PUBLICATIONS

Peer-Reviewed Publications *graduate student, **undergraduate student

Associate Professor Rank:

- Williams, B.L. and **Brosi, S.L.** 2022. Changes in Obstacles to Learning During the COVID-19 Pandemic for University Students and Recommended Solutions, Journal on Empowering Teaching Excellence, Vol. 6, Issue 2, Fall, <https://digitalcommons.usu.edu/jete/vol6/iss2/7/>
- Wolfkill, J., Bejarano, M. E., Serfass, T. L., Turner, G., **Brosi, S.**, Feller, D., & Mahan, C. G. 2021. The Prevalence of the Raccoon Roundworm, *Baylisascaris procyonis*, in Allegheny Woodrat Habitat in the Mid-Atlantic Region, USA. The American Midland Naturalist, 185(1), 145-147.
- Heeter, K.J.*, **Brosi, S.L.**, & Brewer, G. 2019. Dendroecological analysis of xeric, upland, *Quercus*-dominated old-growth forest within the Ridge and Valley Province of Maryland, USA, Natural Areas Journal, Vol. 39 (3): 319-332.
- Brosi, S.L.** and Marietta, S.H. 2019. Experiential Trips to Help Appalachian Students Persist toward Primary Degrees in the Sciences, Journal of Appalachian Studies, Vol. 25 (1): 105-115).
- Heeter, K.J.*, Price, L.M.***, and **Brosi, S.L.** 2017, Distinguishing black cohosh from look-alikes, Journal of Medicinal Plant Conservation, Spring, pp. 5-7.
- Vickers, A., **Brosi, S.L.**, Howell, J., Kaur, B., Puthoff, D., & Eisenstein, E. 2015. Ecological and chemotypic analysis for improved growth and management of naturally occurring black cohosh (*Actaea racemosa* L.) populations in Western Maryland. American Journal of Plant Sciences, 6 (19), 3272.
- Brosi, S.L.**, & Huish, R. D. 2014. Aligning Plant Identification Curricula to Disciplinary Standards Through the Framework of Student-Centered Learning. In Innovative strategies for teaching in the plant sciences (pp. 83-100). Springer, New York, NY.
- Vougioukalou, S. A., Barfield, K., Huish, R. D., Shiels, L., **Brosi, S.L.**, & Harrison, P. 2014. The contribution of ethnobiology to teaching plant sciences: Student and faculty perspectives. In Innovative Strategies for Teaching in the Plant Sciences (pp. 33-45).

Springer, New York, NY.

Assistant Professor Rank or below:

- Hoban, S.M, S.E. Schlarbaum, **S.L. Brosi**, and J. Romero-Severson. 2012. A rare case of natural regeneration in butternut, a threatened forest tree, is parent and space limited. *Conservation Genetics*. 13 (6): 1447-1457.
- Hoban, S.M., Borkowski, D.S., **Brosi, S.L.**, McCleary, T.S., Thompson, L.M, McLachlan, J.S., Pereira, M.A., Schlarbaum, S.E, and Romero-Severson, J. 2010. Range-wide distribution of genetic diversity in North American tree *Juglans cinerea*: a product of historical range shifts, not ecological marginality or recent population decline. *Molecular Ecology*. 19 (22): 4876-4891.
- Clark, S.L, **Brosi, S.L.**, Schlarbaum, S.E., Grissino-Mayer, H.D. 2008. Dendrochronology of two butternut (*Juglans cinerea*) populations in the southeastern United States. *Forest Ecology and Management*. 255 (5-6): 1772-1780.
- Brosi, S.L.**, S.E. Schlarbaum, A. M. Saxton, R.L. Anderson, P.S. Spaine, and C. Young. 2007, March. Restoring butternut (*Juglans cinerea* L.) to southeastern forests: determining a genetic basis of disease resistance (Tennessee). *Ecological Restoration*: Vol. 25 (1): 51-54.
- Rhoades, C. C., **Brosi, S.L.**, Dattilo, A. J., & Vincelli, P. 2003. Effect of soil compaction and moisture on incidence of phytophthora root rot on American chestnut (*Castanea dentata*) seedlings. *Forest Ecology and Management*, 184 (1-3), 47-54.

Peer-Reviewed Publications Under Review

- Michael J. Kellett, Joan E. Maloof, Susan A. Masino, Lee E. Frelich, Edward K. Faison, Sunshine L. Brosi, David R. Foster. Forest-clearing to create early-successional habitats: Questionable benefits, significant costs, *Frontiers in Forests and Global Change*, section Forest Management, resubmitted Dec. 2, 2022, under review.
- Sunshine L. Brosi, Marilyn M. Cuch, Spencer Spotted Elk, Julie Stevens, Gustavo A. Ovando-Montejo. Book Review Rural Education in America: What Works for Our Students, Teachers, and Communities, *Journal on Empowering Teaching Excellence*, submitted Oct. 26, 2022, under review.

Proceedings and Book Reviews

- Brosi, S.L.** 2020. Book Review: Unsheltered by Barbara Kingsolver, *Appalachian Journal*, Vol. 47, No. 1-2, Fall 2019/Winter 2020 p. 148.
- Brosi, S.L.** 2019. Book Review: Braiding Sweetgrass Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants by Robin Wall Kimmerer, *Appalachian Journal*, Volume 46 Numbers 3-4, 276, book is used as a textbook in a course I'm teaching.
- Brosi, S.** 2019. Adaptive Silviculture for Climate Change. In Clark, S. L., & Schweitzer, C. J. Oak symposium: sustaining oak forests in the 21st century through science-based management. e-Gen. Tech. Rep. SRS-237. Asheville, NC: US Department of Agriculture Forest Service, Southern Research Station., 237, 1-192 (p. 33) and Heeter, K. J., & **Brosi, S. L.** 2019. Dendroecological analysis of continued *Quercus* dominance on edaphically extreme southeastern slopes of the Alleghany Front. (p. 180) and Duda, E. S., **Brosi, S. L.**, Dayton, A. J., Feller, D. J., & Brown, R. 2019. Twenty-five years of oak-mast surveys and Allegheny woodrat populations in Western Maryland. (p. 178).
- Churchill, J, Howell, J., and **Brosi, S.** 2011. Risk Assessment to State Rare Mountain Bugbane in Western Maryland, ESRI International User Conference Paper.
- Brosi, S. L.** 2010, Fall. Book Review, *Ethnobotany of the Eastern Band of the Cherokee Indians: A Path to Sustaining Traditional Identity with an Emphasis on Medicinal Plant Use*. *Appalachian Heritage*, 38(4), 83-85. Reprinted with permission, Sept. 23rd, 2010, Appalachian Independent, Frostburg, MD.
- Schlarbaum, S. E., Anderson, R. L., Ostry, M. E., **Brosi, S. L.**, Thompson, L. M., Clark, S. L., ... & Brantley, E. A. 2004, November. An integrated approach for restoring butternut to eastern North American forests. In *Forest Genetics and Tree Breeding in the Age of Genomics: Progress and Future*. L. Bailian and S. McKeand, eds. Proc. Joint Conf. IUFRO Div (Vol. 2, 156-158).
- Schlarbaum, S. E., **Brosi, S. L.** & Anagnostakis, S. L. 2004, May. Feasibility of large-scale reintroduction of chestnut to National Park Service lands: some thoughts. In *Proceedings of the Conference on Restoration of American Chestnut to Forest Lands* (pp. 4-6).

H. FIELDWORK

Rosebud Reservation, South Dakota, 2017-2020, Ethnobotanical medicinal and edible resources, *Sicangu* food sovereignty
 Rural Alaskan Villages: Kotzebue, Scammon Bay, and Bethel, Alaska 2014, 2015, 2016, sweetgrass basketry
 Pine Mountain Settlement School, Harlan County, Kentucky, 2008-present, artisan resources, hickory and rivercane chairs
 Eastern Band of the Cherokee Nation, North Carolina, 2003-present, artisan resources, white oak & rivercane basketry, butternut dyes.

I. PRESENTATIONS

Associate Professor Rank, Utah State University

- Spencer Spotted Elk, Sunshine Brosi, Marilyn Cuch, Gustavo Ovando-Montejo, Julie Stevens, Inclusiveness in Our Classrooms, 2022 Empowering Teaching Excellence (ETE) Conference, Teaching Reimagined: Lessons Learned, Lessons Kept, and Lessons Coming, Logan, Utah, Aug. 17, 2022.
- S.L. Brosi, Aging Old-Growth Forest Stands Using Tree Rings, Nature Connection Series, West Virginia University, Core Arboretum, Morgantown, West Virginia, June 7, 2022, *invited*.
- S.L. Brosi, Formative Assessment: The Rise and Fall of Undergraduate Ethnobotany Programs in the United States, Annual Meeting of The Society for Economic Botany and The International Society of Ethnobiology, The University of the West Indies,

- Kingston, Jamaica, June 2, 2022, virtual event.
- S.L. Brosi, Ideas for Creating Final Project, eLearnX, Experiential Training for Digital Age Teaching, cosponsored by the Office of Empowering Teaching Excellence (ETE) and by the Center for Innovative Design and Instruction (CIDI), May 16, 2022.
- Sunshine Brosi and Becky Williams (USU-Uintah Basin), Changes in obstacles to learning during the COVID-19 pandemic for university students and recommended solutions, with), 7th Life Discovery Conference: Doing Science, Biology Education Conference, Estes Park, Colorado, Oct. 1, 2021.
- Sunshine Brosi and Becky Williams, Obstacles to Learning Increase for College Students in the Covid-era, with Becky Williams (USU-Uintah Basin), 8th annual Empowering Teaching Excellence (Virtual) Conference, Pedagogies of Care: Community, Research, and Mentorship, Aug. 18, 2021, virtual event.
- S.L. Brosi, Overcoming Obstacles faced by College Students in the Covid-era: Teaching Methods for online ecology courses, with Becky Williams (USU-Uintah Basin), Ecological Society of America's Life Discovery Conference, Oct. 23, 2020, virtual event.
- Sunshine Brosi and Linda Black Elk, Opportunities & Challenges of Traditional Plant Gathering in National Parks by Federal Recognized Tribes in the USA: Case Studies of the Modified Plant Gathering Rule, with Society for Ethnobiology, Cedar City, Utah, May 15, 2020, conference canceled.
- S.L. Brosi, Science Communication Roundtable: Teaching Our Students to Communicate, Society for Ethnobiology, Cedar City, Utah, May 14, 2020, conference canceled, *invited*.
- Associate Professor Rank, Frostburg State University*
- S.L. Brosi, Ecological Importance of At-Risk Plants and Habitats in Harpers Ferry National Historical Park, Maryland, National Park Service, 2020 Spotlight on National Park Resources in the National Capital Area, Interior Region 1, Shepherdstown, WV, April 30, 2020, conference canceled.
- S.L. Brosi, Thirty Years of Allegheny Woodrat Decline in Maryland, with Daniel Feller, 76th Annual Northeast Fish & Wildlife Conference (NEAFWA), Long Branch, New Jersey, April 20, 2020, conference canceled.
- Sunshine Brosi and Sarah Hall, Isolating Mountains of Vibrant Cultures: Widening Appalachian Students' Worldviews through Immersion Courses in Alaska, Appalachian Studies Conference, Lexington, Kentucky, March 12, 2020, conference canceled.
- S.L. Brosi, E. Lucy Braun, A Force of Nature, Maryland Native Plant Society Meeting, Frostburg, MD, March 12, 2020.
- S.L. Brosi, Outcomes of Habitat Suitability Modeling, Wind Cave National Park, Park Service Presentation, Hot Springs, SD, Feb. 21, 2020.
- Linda Black Elk and Sunshine Brosi, Sustainable Harvesting of Wild Edible Plants, 1st Annual Lakota Food Summit, Rapid City, South Dakota, Feb. 19, 2020, *invited*.
- Sunshine Brosi and Megan Carr, Natural and Cultural Histories of Rare, Threatened, and Endangered Plants at Harpers Ferry National Historical Park, Western Maryland Native Plant Society Meeting, Frostburg, MD, Feb. 13, 2020.
- S.L. Brosi, Natural Plant Dyes: Linking Chemistry and Crafts, Maryland Association for Environmental and Outdoor Education (MAEOE) Conference, Ocean City, MD, Feb. 7, 2020.
- S.L. Brosi, American Chestnut as a Cultural Keystone Species, Rowlesburg Chestnut Festival, Rowlesburg, West Virginia, Oct. 13, 2019, *invited*.
- S.L. Brosi, Dendroecological analysis of xeric, upland, *Quercus*-dominated old-growth forest within the Ridge and Valley Province Maryland, Natural Areas Conference, Pittsburgh, PA, Oct. 8-10, 2019.
- S.L. Brosi, Ethical Edible Wild Harvesting, Delmarva Forestry seminar, Wor-Wic Community College, Salisbury, Maryland, Sept. 21, 2019, *invited*.
- S.L. Brosi, Old-Growth Forests of the Ridge & Valley and Appalachian Plateau: Ecology & Age, Maryland Native Plant Society Meeting, Frostburg, Maryland, August 24, 2019, *invited*.
- S.L. Brosi, Lakota Plants of Wind Cave National Park, People & Plants Symposium, Sinte Gleska University, Rosebud Reservation, SD, July 17, 2019.
- Sunshine Brosi, Elizabeth Green*, Linda Black Elk, Isabel Ashton, and Sunshine Brosi, Habitat Suitability Modeling of Culturally Important Plants of Wind Cave National Park, Society for Economic Botany Conference, Cincinnati, OH, June 2-7.
- S.L. Brosi, AAUW Fellowships: Hearing from a Fellowship Recipient, American Association of University Women (AAUW), Maryland State Convention, McHenry, MD, April 13, 2019.
- S.L. Brosi, Ethnobotany & Graduate School, Plant Taxonomy Course, Virginia Tech, Blacksburg, VA, April 29, 2019, *invited*.
- S.L. Brosi, Habitat modeling and application of local ranks to culturally important plants at Wind Cave National Park, Black Hills Area Botany & Ecology Workshop, (BHABEW XVII), Rapid City, SD, March 15 and Wind Cave National Park personnel, Hot Springs, South Dakota, March 19, 2019, *invited*.
- S.L. Brosi, The Consequences of the Lack of Conference Childcare: a Barrier to Diversity at SAF Meetings, Society of American Foresters (SAF), Poster, Portland, OR, Oct. 4, 2018.
- Sunshine Brosi, Erica Duda*, Sunshine Brosi, Karen Heeter, & Elizabeth Green*, Dendroecological Analysis of Quercus Species among Six National Capital Parks, Poster, Portland, OR, Oct. 4, 2018.
- S.L. Brosi, Keynote, Ethical Wild Harvesting, Wild Edible Weekend, Shawnee State Park, OH, Sept. 8, 2018, *invited*
- S.L. Brosi, Plenary Session: Including Culture in Biology: Appealing to the Broader Student Demographic, Wicked Problems: Investigating real world problems in the biology classroom, BIO IUSE Ideas Lab: Supporting Faculty in Quantitative Undergraduate Biology Education and Synthesis (QUBES), Harvey Mudd College, Claremont, CA, June 19, 2018, *invited*.

- S.L. Brosi, Sharing of Teaching Resources: The Open Science Network and Beyond, Society for Economic Botany and Society for Ethnobotany, Annual Meeting, Madison Wisconsin, June 4, 2018, *invited*.
- S.L. Brosi, Ethnobotany alumni where are they now? Careers and Graduate School Opportunities, Society for Economic Botany and Society for Ethnobotany, Annual Meeting, Madison, WI, June 6, 2018 (poster).
- S.L. Brosi, Sharing of Teaching Resources: The Open Science Network and Beyond, Society for Economic Botany and Society for Ethnobotany, Annual Meeting, Madison, Wisconsin, June 4, 2018, *invited*.
- S.L. Brosi, Ethnobotany alumni where are they now? Careers and Graduate School Opportunities, Society for Economic Botany and Society for Ethnobotany, Annual Meeting, Madison, Wisconsin, June 6, 2018 (poster).
- S.L. Brosi, Appalachian Experiential Learning Courses in Environmental & Cultural Sustainability Appalachian Studies Conference, Conversations on Hope in a Hostile (Educational) Climate and Tools for Empowerment through Appalachian Studies Cincinnati, Ohio, April 7, 2018, *invited panel*.
- S.L. Brosi, Trees & People: Including Culture in Forestry Projects Society of American Foresters, Allegheny Chapter Meeting, Gettysburg, PA, Feb. 21, 2018, *invited*.
- S.L. Brosi, Including the Culture in Forestry: Appealing to the Broader Student Demographic, Society of American Foresters Meeting, Albuquerque, NM, Nov. 18, 2017.
- S.L. Brosi, Dendroecological Evaluation of Gypsy Moth Impacts in Western Maryland, Society of American Foresters Meeting, Albuquerque, NM, Nov. 17, 2017.
- Sunshine Brosi and Tracy Edwards, Introducing Students to Campus Sustainability through Interactive Tree Labeling, with AASHE: American Association for Sustainability in Higher Education, San Antonio, Texas, Oct. 23, 2017 (poster).
- S.L. Brosi, Adaptive Silviculture for Climate Change. Oak symposium: sustaining oak forests in the 21st century through science-based management, Knoxville, TN, Oct. 25, 2017.
- S.L. Brosi, Seeing the Forest in the Trees, Keynote, Home Ground, 6th Annual Membership Banquet, Flintstone, Maryland, Oct. 26.
- S.L. Brosi, Appalachian Teas, Gambrill State Park, Frederick, MD, Oct. 1, 2017.
- S.L. Brosi, Organizer, Teaching Tuesday Workshops, 58th Annual Meeting, Society for Economic Botany, Bragança, Portugal, June 4-9, 2017.
- S.L. Brosi, Socioecological Approaches to Conservation of Culturally Important Tree Species, Visiting Scholar Seminar, University of Maryland Center for Environmental Science, Appalachian Lab, Frostburg, MD, April 27, 2017.
- S.L. Brosi, Ethnobotany, Advanced Naturalist Workshop, Cincinnati Museum Center, Richard and Lucile Durrell Edge of Appalachia Preserve, Adams County, OH, May 26-28, 2017.
- S.L. Brosi, Wildflower Identification, Wildflower Weekend, Pine Mountain Settlement School, Pine Mountain, KY, April 21-23, 2017.
- S.L. Brosi, Incorporating Intercultural Proficiency in Biology Courses, Presented at the National Science Foundation's Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (INCLUDES) Conference, Multi-Scale Evaluation in STEM Education, Knoxville, Tennessee, Feb. 23, 2017 (poster).
- S.L. Brosi, Trees for Bees, Allegheny Mountain Beekeepers Association, LaVale Public Library, MD, Feb. 10, 2017.
- S.L. Brosi, Geospatial Applications of Street Tree Pest and Disease Vulnerability Assessments in the District of Columbia, with Laura Smith*, National Convention Society of American Foresters, Madison, WI, Nov. 5, 2016.
- S.L. Brosi, Ethnobotany as a Pathway for Attracting & Retaining Minority Students to Natural Resources, National Convention Society of American Foresters, Madison, Wisconsin, Nov. 4, 2016.
- S.L. Brosi, Chair, Next Generation Careers: Innovation in Environmental Biology Education, Focus Group at the Society for Economic Botany Meeting, Pine Mountain, KY, June 7, 2016.
- S.L. Brosi, Weaving Together Ethnobotany, Weaving Workshop, Society for Economic Botany Meeting, Pine Mountain, KY, June 5, 2016.
- S.L. Brosi, Lucy Braun's Plants and Places, Symposium, Society for Economic Botany Meeting, Pine Mountain, KY, June 6, 2016, *invited*.
- S.L. Brosi, Rare Proteas and other plants of South Africa's Fynbos, Maryland Native Plant Society, Frostburg, MD, April 19, 2016.
- S.L. Brosi, Cherokee Basketry: Ecological Restoration and Cultural Resilience, keynote, Perspectives on the Land: Traditions and Visions, presented by the Xi Sigma Pi Forestry Honors Society, Visiting Women & Minority Lecture/Scholarship Series, Michigan Technological University, Houghton, MI, March 25, 2016, *invited*.
- S.L. Brosi, Ethnobotany: Connecting Forest Ecology & Cultural Ecology, Department of Social Sciences, Michigan Technological University, Houghton, Michigan, March 24, 2016, *invited*.
- S.L. Brosi, Engaging Minority Students and Incorporating Intercultural Proficiency in Biology Courses, Life Discovery Conference, Baltimore, MD, March 19, 2016.
- S.L. Brosi, Goods from the Woods: Wild Medicinal and Edible Plants of Appalachian Forests, keynote speaker at the 19th Annual Forestry and Wildlife Conference, Woodland Owners of the Southern Alleghenies, Bedford, PA, March 12, 2016, *invited*.
- S.L. Brosi, The People, Places, and Plants of EBOT 100: Introduction to Ethnobotany, Alaska Native Science and Engineering Program (ANSEP), University of Alaska, Fairbanks, AK, Nov. 17, 2015.
- S.L. Brosi, The People, Places, and Plants of EBOT 100: Introduction to Ethnobotany, Kuskokwim Campus's Brown Bag Lunch Series, Bethel, AK, Nov. 10, 2015.

- S.L. Brosi, In the Footsteps of E. Lucy Braun Weekend, Pine Mountain Settlement School, Pine Mountain, KY, Aug. 15-16, 2015.
- S.L. Brosi, REIL-Research Experiences in Introductory Laboratories-Biology Network, Workshop Team Acceptance, National Science Foundation, Research Coordination Network-Undergraduate Biology Education. Ecological Society of America, Baltimore, MD, Aug. 8-14, 2015.
- Sunshine L. Brosi and Karen Hall, Connecting Students to Ecology through Culture Workshop, *Organizer of Teaching Tuesday Workshops & Workshop Presenter*, International Plant Use Forum (IPUF) & Society for Economic Botany (SEB) joint annual meeting, Clanwilliam, South Africa, June 28-July 3, 2015.
- S.L. Brosi, The Brief Blooms of Alaska: Iñupiat Ethnobotany Above the Arctic Circle, Maryland Native Plant Society, Western Maryland's Chapter, Frostburg, MD, Feb. 17, 2015.
- Educational Hands on Workshop*: Sunshine Brosi & Karen Hall, Dyeing to learn objectives: using a natural dyes activity to develop learning objectives. 2nd Annual Life Discovery, Doing Science, San Jose, CA, October 3-4, 2014.
- Society for Ethnobiology (SOE) & Society for Economic Botany (SEB) joint annual meeting, Cherokee, NC, May 11-15, 2014.
- Organizer of Teaching Tuesday Workshops, Workshop*: Hall, Karen & Sunshine Brosi, Dyeing to learn objectives: using a natural dyes activity to develop learning objectives.
- Sunshine Brosi & Ryan Huish. Cherokee collaborative field school: teaching core concepts & competencies in ethnobiology through the lens of Cherokee Artisan Resources.
- Huish, Ryan and Sunshine Brosi, Student-centered learning and ethnobotanical connections in plant identification curriculum: engaging students in broader scientific competencies.
- S.L. Brosi, Botany of Cherokee Basketry, Smithsonian National Museum of Natural History, Department of Botany, Washington, DC, March 18, 2014, *invited*.
- S.L. Brosi, Palatable or Prohibited: Conservation Concerns of Edible & Medicinal Plants, Maryland Native Plant Society, Frostburg, MD, February 18, 2014.
- Assistant Professor Rank*
- S.L. Brosi, Fieldtrip Leader, Mount Aetna & Cranesville Swamp, The Threatened Natural Communities & Rare Plants of Maryland's Mountains, Annual Meeting of the Maryland Native Plant Society, Frostburg, MD, September 22-23, 2013.
- S.L. Brosi, Working Group Coordinator, How to Build Networks for Change. Vision & Change II: Chronicling the Changes, Washington, District of Columbia, August 28-30, 2013.
- S.L. Brosi, What do we want students to know – and are we getting it across? *Organizer of Teaching Tuesday Workshops & Workshop Presenter*, Annual Meeting, Society for Economic Botany, Plymouth, England, June 29, 2013.
- S.L. Brosi, Spring Wildflower Walk, Savage River Watershed Association & Maryland Native Plant Society, Bear Pen, Garrett County, MD, April 27, 2013.
- S.L. Brosi, Cultural Flora of Appalachian Forests, Friends of the Frostburg Library, Frostburg, MD, April 23, 2013.
- S.L. Brosi, American Chestnut as an Appalachian Socio-Ecological Keystone Species, Maryland Chapter of the American Chestnut Foundation, Germantown, MD, Oct. 13, 2012.
- S.L. Brosi, AAUW Fellowship & Black Cohosh, American Association of University Women, Frostburg Chapter, Frostburg, MD, Oct. 2, 2012.
- S.L. Brosi, Hoban, Sean, Scott Schlarbaum, Sunshine Brosi, Jeanne Romero-Severson, Genetic change in a regenerating patch of butternut, a threatened forest tree, is attributable to the contribution of few successful parents. Botany 2012, Columbus, OH, July 7-11, 2012.
- 53rd Annual Meeting, Society for Economic Botany, Frostburg State University, Frostburg, MD, June 2-7, 2012.
- Organizer of the first Teaching Tuesday Educational Workshops*
- Brosi, Sunshine, Gail Wagner, Vision and Change for Ethnobiology: recommendation for core concepts and course objectives
- Brosi, Sunshine, Lunch Workshop, The Scholarship of Teaching & Learning.
- Eisenstein, Edward, Sunshine L. Brosi, Mimi Hernandez, An Appalachian Consortium for the Sustainable Cultivation of Medicinal Plants.
- S.L. Brosi, Keynote, Cherokee basketry and dye, Wild Herb Weekend, NC Herb Association, Valle Cruces, NC, July 22, 2011 *invited*.
- John Churchill, James Howell, and Sunshine Brosi, Risk Assessment to State Rare Mountain Bugbane in Western Maryland, 2011 Esri International User Conference Paper Sessions, Understanding our World, San Diego, CA, July 11-15, 2011.
- S.L. Brosi, Curriculum Peer-Review and Inter-Institutional Collaboration Assisted by the Open Science Network in Ethnobiology, Botany 2011: Botanical Society of America & Society for Economic Botany, Healing the Planet, St. Louis, MI, July 9-13, 2011, *invited*.
- Appalachian Center for Ethnobotanical Studies, ACES, 2011 Research Symposium, Mount Washington Conference Center, Baltimore, MD, June 24, 2011.
- Sunshine L. Brosi and James A. Howell, Forest Communities of Black Cohosh in Western Maryland, Appalachian Plants and People; Interdependent Networks at Multiple Scales.
- John B. Churchill, Sunshine Brosi and James Howell, Risk Assessment to State Rare Mountain Bugbane in Western Maryland
- Joseph R. Ferrari, Sunshine L. Brosi, and James Howell, Quantifying habitat for the medicinal plant black cohosh (*Actaea racemosa* L.) in western Maryland.

- S.L. Brosi, Loss of Appalachian cultural keystone species, Appalachian Studies Conference: River of Earth: Action, Scholarship, Reflection, and Renewal, Eastern Kentucky University, Richmond, KY, March 13, 2011.
- Sunshine L. Brosi, James A. Howell, and Joe R. Ferrari, Population dynamics of the ethnobotanical herb, black cohosh, *Actaea racemosa* L., in western Maryland, Ecological Society of America, Pittsburgh, Pennsylvania, Aug. 6, 2010.
- Sunshine L. Brosi, James Howell, and Joe Ferrari. Sustainability of an Appalachian herb, black cohosh, *Actaea racemosa* L.: determining factors of habitat and abundance in western Maryland. Society for Economic Botany (SEB), 51th Annual Meeting, Xalapa, Veracruz, Mexico June, 2010.
- Joe R. Ferrari, Sunshine L. Brosi, and James A. Howell, Habitat suitability for the medicinal plant black cohosh (*Actaea racemosa* L.) in western Maryland- a baseline study for management of non-timber forest resources, 2010 International Association of Landscape Ecology, US-IALE Twenty-fifth Anniversary Symposium, University of Georgia, Athens, GA, April 5-9, 2010.
- S.L. Brosi, Green Jobs Panel, Fields of Green Internship Fair, Bethesda, MD, March 27, 2010.
- S.L. Brosi, The Last Forest Curriculum Guide Panel, Appalachian Studies Conference, Engaging Communities, North Georgia College and State University, Dahlonega, GA, March 21, 2010.
- Sunshine L. Brosi, People and Plant Communities of the Appalachian Mountains: Ethnobotany in western Maryland, 33rd Annual Appalachian Studies Conference, Dahlonega, GA, March 20, 2010.
- S.L. Brosi, Faculty Panel: The Curious Case of the Life of Academics, The 11th National Conference for McNair Scholars and Undergraduate Research, University of Maryland College Park, MD. March 12, 2010.
- S.L. Brosi, Winter Woods Wonderland, Maryland Association for Environmental and Outdoor Education, 10th Annual Conference, Rocky Gap, MD. February 21, 2010.
- S.L. Brosi, Restoring culturally and biologically significant species in Appalachia: American chestnut, butternut, and white oak, Seminar Series, West Virginia University Biology Department, Morgantown, WV, Nov. 9, 2009.
- S.L. Brosi, Anthropogenic and ecological aspects of plant distributions: How medicinal and culinary herbs become invasive, Complicating Factors in Invasive Plant management: Circumstances Beyond Our Control? University of Pittsburgh at Johnstown, PA, Aug. 11, 2009, *invited*.
- Sunshine L. Brosi and James Howell, Prospects for of Sustainable Management of Black Cohosh, *Actaea racemosa* L., in Western Maryland. Society for Economic Botany (SEB) 50th Annual Meeting, Charleston, SC, June, 2009.
- S.L. Brosi, Healthy Women and Healthy Forests: Prospects for Sustainable Management of an Ethnobotanical Herb, Black Cohosh, in Western Maryland, Southeastern Women's Studies Association (SEWSA) Annual Conference Appalachian State University, Boone, NC, Apr. 4, 2009.
- Sunshine L. Brosi, S.E. Schlarbaum, and A. Sharp, Cherokee White Oak Basketry, a Traditional Craft Dependent on Depleted Natural Resources. Society for Economic Botany, 49th Annual Meeting, Duke University, Durham, NC, June, 2008.
- S.L. Brosi, Earth Day Celebration, Frostburg State University, Frostburg, MD, April 22, 2008.
- S.L. Brosi, Integrating Ecological and Ethnobotanical Approaches to American Chestnut and Butternut Restoration. Western Maryland Nation Plant Society Meeting, Grantsville, MD, April 15, 2008.
- S.L. Brosi, Maryland's Healthy Forests: Combating Exotics and Conserving Biodiversity for Culture and Crafts, Hood College, Frederick, MD, Apr. 8, 2008.
- S.L. Brosi, American Chestnut: Restoring a Healthy, Historical Carbon Sequestration System, Focus the Nation, Frostburg State University, Frostburg, MD. Jan. 31, 2008.
- S.L. Brosi, Conserving Forest Diversity, Sustainability & Health, Biology Department Seminar, Frostburg State University, Frostburg, MD, Oct. 18, 2007.
- S.L. Brosi, Arboretum Field Trip Leader, Maryland Native Plant Society Meeting, Frostburg, MD, Sept. 30, 2007.

Student Research Presentations *graduate student, **undergraduate student

Associate Professor Rank

- Alexandra Cartwright** and Sunshine Brosi, Native Plants for Bees, Helper First Fridays, City of Helper Event, May 6, 2022.
- Alexandra Cartwright** and Sunshine Brosi, Digitization of entomological collections at USU, Eastern using SCAN (Symbiote Collections of Arthropods Network) data portal and Seek! iNaturalist app, Fall Student Research Symposium (FSRS), Utah State University, December 9, 2021.
- Clara Thiel* and Sunshine Brosi, Telling the Stories of Cultural Transitions and Environmental Change: Educational Outreach of Mobility and Understory Plants at Harpers Ferry, Appalachian Studies Conference, Lexington, KY, March 2020 (Conference canceled).
- Elizabeth Green*, Sunshine Brosi, Linda Black Elk, and Isabel Ashton, Habitat Suitability Modeling of Culturally Important Plants at Wind Cave National Park in South Dakota, Natural Areas Conference, Pittsburgh, Pennsylvania, Oct. 9, 2019. ***Student Poster Award, \$50***
- Deanna Eagle Feather**, Lisa Iron Cloud, Linda Black Elk, Arlo Iron Cloud, Leroy Iron Cloud, Culturally Important Plants of the Lakota at Wind Cave National Park, South Dakota, USA, Society for Economic Botany Conference, Cincinnati, Ohio, June 2-7, 2019.
- Erika Allen, Lauren Halvorson, Austin Persons, Gabe Crow, James Howell, and Sunshine Brosi, Increasing the Sustainability of White Oak (*Quercus alba* L.) for Use in Traditional Cherokee Basketry, Society for Economic Botany Conference, Cincinnati,

- Ohio, June 2-7, 2019.
- Elizabeth Green*, Lakota Plants, MD Native Plant Society Meeting, Frostburg State University, Frostburg, MD, Nov. 8, 2018.
- Elizabeth Green*, Sunshine Brosi, Karen Heeter*, and Olivia Shaffer**, Seasonal Rounds of the Lakota at Wind Cave National Park, Society for Economic Botany and Society for Ethnobiology, Annual Meeting, Madison, Wisconsin, June 6, 2018 (poster).
- Karen Heeter*, Sunshine Brosi, Laura Smith, Elizabeth Green*, Andrew Elmore, Elizabeth Matthews, and John Paul Schmit, Dendroecological Analysis of oak trees among six National Capital Region National Parks, Spotlight on National Park Resources in the National Capital Region, Shepherdstown, WV, April 25, 2018.
- Brenna Bohn**, A.J. Dayton**, and Sunshine L Brosi, Cultural Resources Plantings of White Oak for Cherokee Basketry, Appalachian Studies Conference, Cincinnati, Ohio, April 6, 2018.
- Erica Duda* and Sunshine Brosi, Oak Masting: A Tale in Tree Rings, Maryland Native Plant Society, Western Mountains Chapter, Frostburg, MD, March 8, 2018.
- Karen Heeter*, Getting into Graduate School, Student Panel, Society of American Foresters, Allegheny Chapter Meeting, Gettysburg, PA, Feb. 21, 2018.
- Karen Heeter*, Sunshine Brosi, and Laura Smith*, Dendrochronological Evidence of Disturbance Dynamics in Old-growth Forests in Western Maryland, Society of American Foresters Meeting, Albuquerque, NM, Nov. 17, 2017.
- Heeter, K. J., & Brosi, S. L. 2019. Dendroecological analysis of continued *Quercus* dominance on edaphically extreme southeastern slopes of the Allegheny Front, Oak symposium: sustaining oak forests in the 21st century through science-based management, Knoxville, TN, Oct. 25, 2017.
- Duda, E. S., Brosi, S. L., Dayton, A. J., Feller, D. J., & Brown, R. 2019. Twenty-five years of oak-mast surveys and Allegheny woodrat populations in Western Maryland, Oak symposium: sustaining oak forests in the 21st century through science-based management, Knoxville, TN, Oct. 25, 2017.
- Karen Heeter* and Sunshine Brosi, Dendrochronological analysis of old-growth forest and the pre-European cultural landscape of the Appalachian region, USA. 58th Annual Meeting, Society for Economic Botany, Bragança, Portugal, June 4-9, 2017.
- Erica Duda*, Andrew J. Dayton*, Sunshine L. Brosi, Kelly J. Pearce, Thomas L. Serfass, Daniel J. Feller, Rande Brown, Twenty-five years of Allegheny woodrat population and oak-mast surveys across Western Maryland, Maryland Delaware Chapter of the Wildlife Society, McHenry, MD, April 20, 2017 (poster), **Graduate Student Presentation Award**.
- Presentations at the Northeastern Association of Fish & Wildlife Managers NEAFWA, Norfolk, Virginia, April 9-11, 2017.
- Laura G. Smith¹, Sunshine L. Brosi¹, and Daniel J. Feller², Karen E. Johnson-Heeter¹, ¹Department of Biology, Frostburg State University; ²Maryland Department of Natural Resources, Natural Heritage Service, Evaluating Relationships Between Habitat Conditions and Population Dynamics of Allegheny Woodrat (*Neotoma magister*).
- Karen E. Johnson-Heeter¹, Sunshine L. Brosi¹, Laura G. Smith¹, James McCann², Daniel J. Feller², and Gwen Brewer², ¹Department of Biology, Frostburg State University; ²Maryland Department of Natural Resources, Natural Heritage Service, Dendrochronological Analysis to Determine Historic Dominance of Mast-Producing Species: Preliminary Findings
- Erica Duda¹, Andrew J. Dayton¹, Sunshine L. Brosi¹, Kelly J. Pearce², Thomas L. Serfass^{1,2}, Daniel J. Feller³, Rande Brown³, ¹Frostburg State University, Department of Biology and Natural Resources, ²University of Maryland Center for Environmental Sciences, Appalachian Laboratory, ³Maryland Department of Natural Resources, Natural Heritage Program, Twenty-five years of Allegheny woodrat population and oak-mast surveys across Western Maryland (poster).
- Alice M Hotopp¹, Kelly J Pearce², Thomas L Serfass^{1,2}, Daniel J Feller³, Sunshine L Brosi¹, ¹Frostburg State University, Department of Biology and Natural Resources, ²University of Maryland Center for Environmental Sciences, Appalachian Laboratory, ³Maryland Department of Natural Resources, Natural Heritage Program, Evaluating interactions between Allegheny woodrats (*Neotoma magister*) and Raccoons (*Procyon lotor*) in western Maryland using remote cameras.
- Presentations at the Appalachian Studies Association Meeting in Blacksburg, VA, March 9-12, 2017.
- Karen J. Heeter*, Laura G. Smith, and Sunshine L. Brosi, How Old is the Old-growth? Dendrochronological Assessments to Protect Unique Appalachian Forest.
- Laura M. Price**, Karen J. Heeter*, and Sunshine L. Brosi Unintentional Wild-harvesting of Black Cohosh Look-alikes Causes Safety and Conservation Concerns in Appalachia.
- Madison L. Lawrence**, Andy Wall**, Olivia Goldstein**, and Sunshine L Brosi, Increasing the Sustainability of a Threatened Tree Species, Butternut (*Juglans cinerea*), For Use in Traditional Dyes for Cherokee Basketry. Poster Presentation
- Presentations at the Western Maryland Chapter of the Native Plant Society Meeting, Frostburg State University, Frostburg, MD
- Karen J. Heeter, Old Growth Forest on Dans Mountain Wildlife Management Area, October 19, 2017.
- Laura Smith and Sunshine Brosi, Tree Ring Analysis, March 16, 2017.
- Laura M. Price**, Karen J. Heeter*, and Sunshine L. Brosi, The Potential Dangers of Black Cohosh Dietary Supplement Use and How to Address Safety Concerns with Botanical Education, Feb. 16, 2017.
- Bryan W. Whitmore* and Sunshine Brosi, Sustaining the Plants Used in Cherokee Basketry, Western Mountains Chapter of the Maryland Native Plant Society, Frostburg, MD, Oct. 18, 2016.
- Laura G. Smith * and Sunshine Brosi, Geospatial Applications of Pest Vulnerability Matrix, Mid-Atlantic Chapter of the International Society of Arboriculture, MAC-ISA, Morgantown, WV, Oct. 3, 2016.
- Karen E. Johnson*, Laura Price**, and Sunshine Brosi, Conservation Concerns of Identification among the genus *Actaea* in Western Maryland, Annual Fall Conference of the Maryland Native Plant Society, College Park, MD, Sept. 17, 2016.

Presentations at the Society for Economic Botany's Meeting in Pine Mountain, KY, June 5-9, 2016.

Laura G. Smith * and Sunshine Brosi, Geospatial Analysis of Pest Vulnerability in Street Trees in the District of Columbia

Karen E. Johnson*, Laura Price**, and Sunshine Brosi, Conservation implications of misidentification among the genus *Actaea*

Laura G. Smith * and Sunshine Brosi, Management of Forest Pests in the Shifting Context of Urban Ecology. International Plant Use

Forum (IPUF) & Society for Economic Botany (SEB) joint annual meeting, Clanwilliam, South Africa, June 28-July 3, 2015.

Laura G. Smith* and Sunshine Brosi, Managing Forest Pests in Washington, D.C. Graduate Research Symposium (poster)

Presentations at FSU's College of Liberal Arts and Sciences Undergraduate Research Symposium, May 1, 2015.

Megan Carr** and Sunshine Brosi, Ex Situ Conservation of Endangered Native Ecosystems

Karen Johnson**, Sabrina Wasfi**, Selena Burke**, Jaime Tarnai** and Sunshine Brosi, What Do Traditional Appalachian Plant-Based Dyes Reveal About Changes in Gender Roles? (poster).

2nd Annual Life Discovery, Doing Science, San Jose, California, October 3-4, 2014.

Laura G. Smith* and Sunshine Brosi, Creating Relevance in Botany through Cultural Connections.

Lauren A. Hull* and Sunshine Brosi, Bugs and Botany: A Play-Based Approach to Bridging Science & Society.

Society for Ethnobiology (SOE) & Society for Economic Botany (SEB) joint annual meeting, Cherokee, NC, May 11-15, 2014.

Michael McCampbell*, Sunshine Brosi, Thomas Hall, Arnold Saxton, & Scott Schlarbaum, Seedling establishment of American chestnut, *Castanea dentata*, in Pennsylvania, **Edmund H. Fulling Oral Presentation Award, \$1,000.**

Bower, Justin**, Scott Schlarbaum, Eagle Brosi, & Sunshine Brosi, Health status of butternut (*Juglans cinerea* L.) in Maryland.

Poster Presentations:

Ngofa, Sedia**, Laura Smith**, Scott Schlarbaum, Ami Sharp, and Sunshine Brosi, Increasing the availability of butternut for traditional Cherokee dye.

Messick, Kerry**, Michael McCampbell*, Matt Tillett, Megan Carr**, Ami Sharp, Scott Schlarbaum, & Sunshine Brosi, Establishment of white oak, *Quercus alba*, seedlings for Cherokee basketry material.

Hall, Mitch*, J.B. Churchill, & Sunshine Brosi, Prioritizing management strategies in Washington, DC urban forests

Echeverri, Gabe**, Ian Cheek**, Ami Sharp, Scott Schlarbaum, & Sunshine Brosi, Rivercane as a companion for cultural resource butternut plantings.

Poster Presentations at FSU's College of Liberal Arts and Sciences Undergraduate Research Symposium, Frostburg, May 2, 2014

Kerry Messick**, Megan Carr**, Michael McCampbell*, Matthew Tillett*, Ami Sharp, Scott Schlarbaum, and Sunshine Brosi Establishment of White Oak, *Quercus alba*, Seedlings for Cherokee Basketry Material.

Alex Cathcart**, Hannah Goodmuth**, Ruth LaCourse**, Joseph Linsalata**, and Sunshine Brosi, Herbarium Revamp: Sorting, Displaying, and Digitizing the FSU Herbarium Collection.

Sedia Ngofa**, Juliana Hong**, and Sunshine Brosi, Increasing Availability of Butternut for Traditional Cherokee Dye: Study of Native Permaculture and Companion Planting of Temperate East Appalachia.

Gabriel Echeverri**, Ian Cheek**, and Sunshine Brosi, Rivercane as a Companion for Cultural Resource Butternut Plantings.

Assistant Professor Rank

Mitch Hall**, J.B. Churchill, & Sunshine L. Brosi, Management Strategies in DC Urban Forests, Western Mountains Chapter, Maryland Native Plant Society, Frostburg, MD, October 15, 2013.

Michael McCampbell*, Thomas Hall, and Sunshine L. Brosi, Seedling Establishment of American chestnut, *Castanea dentata*, in Pennsylvania, Maryland Delaware Wildlife Society Meeting, New Germany State Park, MD, April 25, 2013.

Oral Presentations at FSU's Learning Green, Living Green Focus Frostburg Earth Day Celebration, April 17, 2013, Undergraduate students in 2013 Economic Botany Course: Evergreen Heritage Center Herbaceous Research, Urban Forestry, Frostburg State University's Herbarium Online, Wild Beverages of the 'Burg, Community Supported Agriculture, Arbor Day Tree Planting and Tree Campus USA Designation.

Poster Presentations at FSU's College of Liberal Arts & Sciences Undergraduate Research Symposium, Frostburg, May 3, 2013

Ben Brown**, Rebecca Hiller**, Gabriel Echeverri**, and Sunshine L. Brosi, Beverages of the 'Burg.

Joseph Saucedo**, David Fisher**, Sedia Ngofa**, Hannah Goodmuth**, and Sunshine L. Brosi, Frostburg State University Digital Herbarium.

Susan R. Snow** and Sunshine L. Brosi, Evergreen Heritage Center Orchard Analysis.

MaryAnna Cole**, Alexander Cathcart**, Farren Smith**, Larry Shockley**, and Sunshine L. Brosi, Local Food & Local Sustainability.

Laura Smith**, Don Weston**, Joseph Linsalata**, Anna Slaten**, and Sunshine L. Brosi, Tree Campus USA Urban Tree Project.

Hall, Mitchell*, Sunshine L. Brosi, Saving Trees and Saving Time, Mid-Atlantic Chapter, International Society of Arboriculture, Annual Meeting, Rocky Gap Resort, Cumberland, MD, Sept. 30-Oct. 2, 2012.

53rd Annual Meeting, Society for Economic Botany, Frostburg State University, Frostburg, Maryland, June 2-7, 2012.

Vickers, Amanda*, Sunshine L. Brosi, David P. Puthoff, James A. Howell, Bhavenett Kuar, Edward Eisenstein, Chemotypic variation and adulteration factors in *Actaea racemosa* L.

Snow, Susan R.**, John B. McAllister**, MaryAnna Cole**, Sunshine L. Brosi, Local Produce Trends in Allegany, Garrett and Washington Counties Maryland (poster).

Kruger, Mary**, Joseph Saucedo**, Andrew Shadel**, Sunshine L. Brosi, Students Perceptions of Flowers and Weeds

- (poster).
- Fisher, David**, Morgan Bauer**, Ben Brown**, Sunshine L. Brosi, Campus Sustainability Assessment (poster).
- Snow, Susan R.**, Ruth LaCourse**, Sunshine L. Brosi, Vegetative Survey of Evergreen, Green Site Plan, Green Learning (poster).
- Kruger, Mary**, Joseph Saucedo**, Andrew Shadel**, Sunshine L. Brosi, Digital Ethnobotanical Herbarium (poster).
- Smith, Laura G.**, Mitchell Hall**, Donald Weston**, Larry Shockley**, and Sunshine L. Brosi, Becoming Tree City USA (poster).
- Amanda Vickers*, Sunshine Brosi, Jim Howell, and David Puthoff, Black cohosh: from field to laboratory, Western Chapter of the Maryland Native Plant Society, Appalachian Lab, Frostburg, MD, Aug 16, 2011.
- A. J. Vickers*, S. L. Brosi, J. A. Howell and D. P. Puthoff, Concentrations in triterpene glycoside levels found to differ between reproductive and non-reproductive black cohosh. Plant Biology 2011, American Society for Plant Biologists, Minneapolis, MN, Aug. 6-10, 2011.
- A. J. Vickers*, S. L. Brosi, J. A. Howell and D. P. Puthoff, Concentrations in triterpene glycoside levels found to differ between reproductive and non-reproductive black cohosh. Mid-Atlantic Plant Molecular Biology Society Meeting, Beltsville, MD, Aug. 15-16, 2011.
- A. J. Vickers*, S. L. Brosi, J. A. Howell and D. P. Puthoff, Concentrations in triterpene glycoside levels found to differ between reproductive and non-reproductive black cohosh. American Council for Medicinally Active Plants Conference, Huntsville, AL, July 19, 2011.
- Botany 2011: Botanical Society of America & Society for Economic Botany, Healing the Planet, St. Louis, MO, July 9-13, 2011.
- Amanda Vickers*, Sunshine L. Brosi, James Howell, and David Puthoff, Chromatographic quantification of medicinal compounds in flowering and non-flowering wild-harvested *Actaea racemosa* L. **Julie F. Morton Best Poster Award, US \$500.00.**
- Mitch Hall**, Sunshine L. Brosi, and David Puthoff, The effectiveness of tomato plants (*Solanum lycopersicum*) modified with a Hessian fly-responsive (Hfr) gene against phloem-feeding and chewing insects. **Li-COR Prize, Physiological Section Best Poster, Botanical Society of America.**
- Robbie Kutchman, Sunshine L. Brosi, and James A. Howell, The impact of artificial shade cloth and substrate on the establishment of cultivated *Actaea racemosa* L. in western Maryland, USA.
- Mary Kruger** and Sunshine L. Brosi, Frostburg State University's Digital Herbarium, Western Maryland Native Plant Society Meeting, Frostburg, MD, June 21, 2011.
- Appalachian Plants and People; Interdependent Networks at Multiple Scales, Appalachian Center for Ethnobotanical Studies, ACES, 2011 Research Symposium, Mount Washington Conference Center, Baltimore, MD, June 24, 2011.
- Amanda Vickers*, Sunshine Brosi, James Howell, David Puthoff, Quantification of medicinal compounds in flowering and nonflowering *Actaea racemosa* L..
- Robert Kutchman*, Sunshine L. Brosi, James A. Howell, The impact of artificial shade cloth and substrate on the establishment success of cultivated *Actaea racemosa* L. in western Maryland, USA.
- Mary Kruger**, Elizabeth Deasy**, Brittany Weeks** and Sunshine Brosi, Economic Botany: Digital Herbarium.
- Mitra Karimian** and Sunshine L. Brosi, Appalachian Dulcimers.
- Christopher Bryant**, Nathan Beeman**, Curtis O'Donnell**, Jaret Trail** and Sunshine L. Brosi, Urban Forestry in Frostburg.
- Christopher Massimino**, Morgan Bauer** and Sunshine L. Brosi, The University Compass: A Community Garden for Children.
- Natalie A. Walsh* and Sunshine L. Brosi, Stratification protocols and germination rates of black cohosh (*Actaea racemosa* L.) populations from western Maryland.
- Amanda Vickers*, Sunshine L. Brosi, James A. Howell, and David P. Puthoff, Assessment of five medicinal compounds in flowering and non-flowering black cohosh, Appalachian Studies Conference: River of Earth: Action, Scholarship, Reflection, and Renewal, Eastern Kentucky University, Richmond, KY, March 11, 2011.
- Mitra Karimian** and Sunshine L. Brosi, Appalachian dulcimer: traditional materials for a folk art shift with our changing forests, Appalachian Studies Conference: River of Earth: Action, Scholarship, Reflection, and Renewal, Eastern Kentucky University, Richmond, KY, March 13, 2011.
- Robbie Kutchman*, Sunshine L. Brosi, and James A. Howell, Western Maryland Native Plant Society, Meeting, Frostburg, Oct. 19, 2010.
- Natalie A. Walsh*, Sunshine L. Brosi, and James A. Howell, Stratification protocols and germination rates of black cohosh (*Actaea racemosa* L.) from populations in western Maryland, Ecological Society of America, Pittsburgh, PA, Aug. 5, 2010. **Traditional Ecological Knowledge Student Merit Award.**
- Society for Economic Botany (SEB), 51th Annual Meeting, Xalapa, Veracruz, Mexico, June 2010.
- Mitra Karimian**, Sunshine L. Brosi, Tommy Berry**, Nathan Beeman**, Steven Darrow**, Elizabeth Deasy**, Lauren Fetzer**, Carson Sommerlatt**, Analysis of Appalachian dulcimer makers (student poster), **Honorable Mention, Julia F. Morton Award.**
- Natalie A. Walsh* and Sunshine L. Brosi, Stratification protocols and germination rates of black cohosh (*Actaea racemosa* L.) from populations in western Maryland.
- Christopher Massimino** and Sunshine L. Brosi, Metabolic profiling of in vitro cultured medicinal plants (poster).

- Natalie A. Walsh* and Sunshine L. Brosi, An Herb Grows in Appalachia: Sustainability of Black Cohosh Populations in Western Maryland, 33rd Annual Conference, Appalachian Studies Conference, Engaging Communities, North Georgia College and State University, Dahlonega, Georgia, March 21, 2010.
- Natalie A. Walsh* and Sunshine L. Brosi, The Science Practice and Art of Restoring Native Ecosystems, at the 2010 Stewardship Network Conference, East Lansing, MI, Jan. 23, 2010.
- Natalie A. Walsh* and Sunshine L. Brosi, Stratification protocols and germination rates of open-pollinated families of black cohosh (*Actaea racemosa* L.) from three western Maryland state forests: Population dynamics of a medicinal herb native to the Appalachian Mountains (poster), 94th Ecological Society of America (ESA) Annual Meeting, Albuquerque, NM, Aug. 2009
- Christopher Massimino** and Sunshine Brosi, July 7, To increase our ethnobotanical knowledge of local medicinal plants (oral presentation, undergraduate student) University of Maryland, McNair Scholars Program, Summer Research Institute, awarded the McNair Ambassador Award. Also presented at the 2009 University at Buffalo (SUNY) McNair Research Conference at Niagara Falls, NY, July 18, 2009.
- Society for Economic Botany (SEB) 50th Annual Meeting, Charleston, SC, June, 2009.
- Natalie A. Walsh* and Sunshine L. Brosi, Stratification protocols and germination rates of open-pollinated families of black cohosh (*Actaea racemosa* L.) from three western Maryland state forests: Population dynamics of a medicinal herb native to the Appalachian Mountains.
- Mitra Karimian**, Sunshine L. Brosi, Rebecca Shipe**, Carson Sommerlatt**. Shiitake mushroom cultivation on various low-value tree species from a crop-tree release cutting in western Maryland (poster).
- Kathryn Schmeltzer**, Sunshine L. Brosi, Mitra Karimian**, Rebecca Shipe**, Medicinal herb cultivation in pure and mixed plantings (poster).
- Carson Sommerlatt**, Sunshine L. Brosi, Thomas Berry**, Rebecca L. Shipe, ** The effects of soil tilling in production of herbal species in the understory of forest in western Maryland (poster).
- Natalie A. Walsh* and Sunshine L. Brosi, Conserving Women's Herbal Healing Wisdom: Protecting Black Cohosh in Eastern Forests, SEWSA Annual Conference, Appalachian State University, Boone, NC, Apr. 4, 2009.
- Society for Economic Botany, 49th Annual Meeting, Duke University, Durham, NC, June, 2008.
- M. Chad Smith**, Tim Pegg**, Alison Croner**, Michael Clark** and Rebecca Shipe**, and Sunshine L. Brosi, Maple Sugar Production of Western Maryland.
- Rebecca Shipe**, Sunshine L. Brosi, and Alison Croner, Maple Sugar Production in Western Maryland. (poster).

J. SERVICE

Professional Service

Nationwide

- Judge, Committee Member, organizer of College/Career Fair, National 4-H Forestry Invitational: The Super Bowl of Forestry, July, Weston, WV, July (2011-present).
- Leader, West Virginia Wildflower Pilgrimage, Blackwater Falls, WV, May (2011-present).
- Society for Economic Botany (SEB)* SEB, elected President 2018, (Secretary, 2013-2016), Council Member, Education Committee, SEB, elected (2011-present), Conference Host, SEB 53rd Annual Meeting, Frostburg, Maryland, USA (2012), Richard Evans Schultes Student Award, Judge, SEB Annual Meeting, Plymouth, England (2013), Student Oral Presentation Judge, Fulling Award, SEB Annual Meeting, Xalapa, Mexico (2010), Review of Manuscripts for Ethnobotany Research and Applications.

Ecological Society of America (ESA)

- 2022, Life Discovery Faculty Mentoring Network (FMN), Ecological Society of America (ESA) and Quantitative Undergraduate Biology Education and Synthesis (QUBES), Spring 2022.
- REIL Research Experiences in Introductory Laboratories -Biology Network, Workshop Team Acceptance, Ecological Society of America, Aug. 8-13, 2015, National Science Foundation, Research Coordination Network-Undergraduate Biology Education.
- Data in the Ecological Classroom Scholar, EcoEdDL, Advisory Panel, develop exercises for data analyses using Science Pipes-a data visualization tool, Ecological Society of America, National Science Foundation Award, Digital Resource Discovery and Dynamic Learning Communities for a Changing Biology (DRD) (# DUE-1044359), 2012-present.
- Strategies for Ecological, Education, Diversity, and Sustainability (SEEDS) Mentor, ESA Annual Meeting, Pittsburgh, PA, July 30th - August 6th, 2010.
- Editor, Life Discovery, EconBotEd, Educational Portal for Economic Botany lesson plans (until 2021).

Statewide

- Utah:*
- Utah Chapter of The Wildlife Society, Treasurer (2022-present)
- Utah Division of Wildlife Resources *DWR), Regional Advisory Council (RAC), Southeastern Region (July 2021-present)
- Utah Division of Wildlife Resources *DWR), Bear Committee (August 2022-present)
- Carbon County Green Team Committee Member
- Maryland:* Maryland Department of Natural Resources: Savage River State Forest Advisory Board (appointed 2010-2017), Off-Road Vehicle (ORV) Working Group (appointed), Sustainable Forestry Certification Audit Process, Becoming an Outdoors Woman

presenter on Plant Identification, Native Teas, and Natural Dyes (2010-present), Campfire Programs: Rocky Gap State Park (2009-2012), New Germany State Park, Battling Botanical Bullies (invasive species removal), Red Spruce Tree Planting in Savage River State Forest. Allegany College of Maryland, Forestry Program, Advisory Board. Assisted with training: Master Gardener Programs Allegany and Garrett Counties, Envirothon Teams: State and Regional. City of Frostburg, Shade Tree Commission (appointed), organizer of 1st Arbor Day, applicant Tree City USA. External Evaluator, Slippery Rock University, Pennsylvania State System of Higher Education, Middle States Review, Bachelors of Arts (BA) and a Bachelor's of Science (BS) in Biology, BS in Medical Technology, Histotechnology or Cytotechnology tracks.

University Service

Utah State University: QCNR Faculty Senator (2021-2024), Undergraduate Curriculum Subcommittee (2021-present), Budget & Faculty Welfare Committee (2022-2024), Empowering Teaching Excellence Faculty Committee (2022-present), Community Engaged Learning Committee (2021-present), Rural Education Center Development Committee (Fall 2022-present), TAC Committees (4), Active Ombudsperson, Statewide Faculty-Student Mentoring Program.

Maryland: Council of University System Faculty, CUSF, University System of Maryland, Frostburg State University representative (2017-2019). Chair Middle-States Program Review: Ethnobotany (2018 & 2011), Wildlife & Fisheries (2014), Interpretive Biology and Natural History (2012). Major Curricular Modifications: Applied Ecology & Conservation Biology (2017), Ethnobotany (2009/2017), Wildlife and Fisheries (2011), Interpretive Biology and Natural History (2011). Faculty Panel, Scholars Reception (2010-2012), Faculty Speaker, Open House (2009-2011), Legislative Session (2010). University committees: Sustainability Committee, Center for Teaching Excellence Advisory Committee, CLAS-UUCR University Undergraduate Curriculum Requirements, Honors Program Advisory Committee, Advisory Group for Learning Green Living Green, Learning Green Living Green Community Committee, Women's Studies Steering Committee, American Association of University Women. Chair, Campus Shade Tree Commission, Organizer of 1st Annual Arbor Day, applicant for Tree Campus USA. Sponsored Celebrate Forests: Glimpses into the Communities and Ecosystems that Sustain Us All, Photography Exhibit, Roper Gallery, June 4-30, 2012.

Departmental Service

Utah State University: Herbarium Curator, Greenhouse Manager, Faculty Advisor of The Wildlife Society Eastern Chapter, Faculty Advisor of QCNR majors in Price.

Maryland: Biology Department Committees: Graduate Studies, Ethnobotany/Wildlife & Fisheries/Interpretive Biology Curriculum Committees, Arboretum, Sierra Student Coalition (faculty advisor). Program Coordinator: MS: Applied Ecology & Conservation Biology (since 2014), BS: Ethnobotany (since 2007), BS: Interpretive Biology and Natural History (2010-2014), and BS: Wildlife and Fisheries (2010-2014). Webmaster for the Biology Department (2010-2015), Herbarium Curator (2007-present).

Conference Hosts & Organizing Committees

International Conference Host, Society for Economic Botany (SEB), 57th Annual Meeting, Pine Mountain, KY (2016), 53rd Annual Meeting, Frostburg, Maryland (2012), Conference Organizing Committee, Educational Workshops: Cincinnati, OH (2019) Madison, Wisconsin (2018), Clanwilliam, South Africa (2015), Cherokee, North Carolina (2014), Plymouth, England (2013) and Frostburg, Maryland (2014).

National Conference Host, Life Discovery-Doing Science, Baltimore, Maryland (2016), Conference Organizing Committee (2013 & 2014), in conjunction with the Ecological Society of America, Society for the Study of Evolution, Botanical Society of America, and the Society for Economic Botany.

Regional Conference Host, Ancient Forests and Peatlands of Western Maryland (2019), and The Threatened Natural Communities & Rare Plants of Maryland's Mountains, Annual Meeting of the Maryland Native Plant Society, September 22nd, (2013), Frostburg State University, Frostburg, Maryland.

National Working Group Coordinator, How to Build Networks for Change, the AAAS/NSF Vision & Change in Undergraduate Biology Education II: Chronically the Changes, Washington, DC, August 2014.

National Realizing Vision & Change, Preparing for Next Generation Biology, Oct. 3-5, 2014, San Jose, California.

National Exploring Biology for a Changing World, March 15-16, 2013, St. Paul, Minnesota.

Regional Co-Organized the 1st, 2nd, 3rd & 4th Annual Regional Conference on Teaching, Learning, and Scholarship through the Center for Teaching Excellence with FSU, Allegany College of Maryland, Potomac State, and Garrett College, January 2012-2015.

K. INTERNAL FUNDING

Internal Grants: Total Internal Funding over \$100,000 *graduate student, **undergraduate student

Associate Professor Rank

Scholar Award, Excellence in Teaching Education (ETE), \$4,000, Utah State University, 2021-2022

Speaker Award (\$1,000), Student Travel (\$500**), 2018

Presentation at the American Association of Sustainability in Higher Education, Sustainability Fees, 2017 (\$3,100).

Presentation at the Appalachian Studies Association Conference, Undergraduate Research Award, 2017 (\$500**).

President's Experiential Leadership Education Fund (PELEF) grants: Alternative Spring Break, Pine Mountain, KY, 2017 (\$1,200) and Presentation at the Appalachian Studies Association Conference, 2017 (\$1,000).

Sustainability Grants: Summer: Sunshine Brosi, Karen Johnson* Dendrochronology Training, 2017 (\$1,300), Erica Duda*

Dendrochronology Training (\$1,300). Spring: Sunshine Brosi Learning Sustainability through Cherokee Nation Basketry (\$3,450), Madison Lawrence** An Arbor Day Celebration and Tree Planting (\$3,400), Karen Johnson* Forestry Equipment for Research (\$800), Bryan Whitmore* Establishing White Oak Seedlings in the Appalachians (\$150), Amanda Beeman** Restoration of the FSU Arboretum Memorial Garden (\$2,000).

Travel Support Society for Economic Botany Conference in Pine Mountain, KY, PELEF, 2016 (\$1,000).

Sustainability Grants: Sunshine Brosi, Laura Smith* Dendrochronology Training for Allegheny Woodrat Research, 2016 (\$1,460 & Karen Johnson* \$180), Karen Johnson** & Laura Price Tree Campus USA (\$1,727), Katerina Chaconas**, Sabrina Wasfi**, Amanda Beeman** Educational Raingarden Project (\$3,000).

Karen E. Johnson* & Sunshine Brosi Graduate Research Grant, Faculty Development, 2016 (\$1,500).

Travel support, Society for Economic Botany Meeting, Clanwilliam, South Africa, Faculty Development, 2015 (\$1,000).

Laura G. Smith* & Sunshine Brosi Graduate Research Grant, Faculty Development, 2015 (\$3,750).

Field Experiences in Biology to Pine Mountain, KY, PELEF, 2015 (\$1,500).

Scholarship of Teaching and Learning conference, University Foundation, 2014 (\$2,000).

Course release for fall 2014, Faculty Development (\$2,000).

Travel support, Field Experiences in Ethnobotany & Ecology to Cherokee, NC, PELEF, 2014 (\$2,000).

Travel support, student attendance Society for Economic Botany Meeting, Cherokee, NC, PELEF, 2014 (\$2,000).

Megan Carr** and Sunshine Brosi, Green Roof Initiative, University Foundation, 2014 (\$2,000).

Assistant Professor Rank

Travel support to Society for Economic Botany Meeting, Faculty Development, 2013 (\$2,000).

Michael McCampbell* & Sunshine Brosi, Graduate Research Project, Faculty Development, 2013 (\$707.30).

Justin Bower* & Sunshine Brosi, Graduate Research Project, Faculty Development, 2013 (\$707.30).

Sunshine Brosi, Susan Snow**, Ruth LaCourse**, David Fisher**, Permaculture Garden, University Foundation, 2013 (\$2,000).

Sunshine Brosi, Joe Saucedo**, Hannah Goodmuth**, Larry Shockley**, Digital Herbarium, University Foundation, 2013 (\$2,000).

Sunshine Brosi, Larry Shockley**, MaryAnna Cole**, Farren Smith**, Alexander Cathcart**, Farmers Market, Foundation, 2013 (\$225).

Sunshine Brosi, Susan Snow**, Brody McAllister**, MaryAnna Cole**, Farmers Community Involvement, Foundation, 2012 (\$500).

Support for student attendance, Society for Economic Botany Meeting, PELEF, 2012 (\$1,000).

Red Spruce Planting for Watershed Improvements on Native Trout Streams, PELEF, 2011 (\$3,000).

Forestry Field Practices: Hands-on Career Building and Community Enhancement Skills, PELEF, 2011 (\$2,000) and (\$3,000).

Mary Kruger** and Sunshine L. Brosi, Online Ethnobotanical Herbarium, Faculty Development, 2011 (\$2,250).

Amanda Vickers* and Sunshine Brosi, travel support, Appalachian Studies Conference, Boone, NC, Foundation, 2010 (\$830).

Mitra Karimian** and Sunshine Brosi, Student award, Appalachian Studies Conference, 2010 (\$100).

On-line ethnobotany learning modules, University Foundation, 2009 (\$4,019).

Sunshine Brosi and Natalie Walsh*, travel award, Southeastern Women's Studies Conference, Faculty Development, 2009 (\$663.63).

Sunshine Brosi and Natalie Walsh*, travel award, Southeastern Women's Studies Conference, Women's Studies Program, 2009 (\$230).

Michael McAlexander, Sunshine Brosi, and Melanie Lombardi, Arboretum Self-Guided Audio Tour Program, Foundation (\$1,000).

Workshop Grant: Dr. James A. Duke Presentation, Faculty Development, 2009 (\$2,397).

Economic Botany Class Project, Evergreen Heritage Center, Mt. Savage, MD, 2009 (\$300).

Ethnobotanical Herb Garden at FSU's Arboretum, University Foundation, 2008 (\$1,500).

Natalie Walsh* and **Sunshine Brosi**, travel award, Annual Meeting of the Ecological Society of America, Foundation, 2008 (\$750).

Ethnobotany Internships, Black Cohosh Research, July 2008, 2009, and 2010, Governors Internship Program, (\$7,500 yearly).

Previous Grants Received during my PhD program:

S. L. Brosi and S.E. Schlarbaum, March 14, 2005, Steps toward Consistent Production of Butternut-Based Dye for Cherokee Artisans on the Qualla Boundary. Revitalization of Traditional Cherokee Artisan Resources, Cherokee Preservation Foundation (\$37,500) Butternut Subaward from the Univ. of Tennessee, 2009 (\$3,000).

S.E. Schlarbaum and S.L. Brosi, October 2006, Planning for Integration of Cherokee Culture, Mathematics, Science, and Technology into K-12 Natural Resources Education. Revitalization of Traditional Cherokee Artisan Resources, Cherokee Preservation Foundation Revitalization of Traditional Cherokee Artisan Resources (\$5,000).

S. L. Brosi and S.E. Schlarbaum, March 14, 2006, White Oak Plantation Establishment for Traditional Arts and Crafts. Revitalization of Traditional Cherokee Artisan Resources, Cherokee Preservation Foundation (\$27,400).

Appalachian Studies Association (ASA), travel support, 30th Annual Meeting of the ASA, 2007 (\$75).

Travel support, 91st Annual Meeting of the Ecological Society of America, Strategic Environmental Research and Development Program (SERPA), August 2006 (\$1,000).

Graduate Student Travel Award, The University of Tennessee, Graduate Student Senate, travel support, 91st Annual Meeting of the Ecological Society of America, August 2006 (\$220).

Collaboration on External Grants

Evergreen Heritage Center: Green Learning Stations,

Appalachian Regional Commission, MD-17136-C1-302-12

(\$50,000), Sept. 2012 and Green Learning Site Plan, Green Restrooms, Appalachian Regional Center, MD-17136-302-11 (\$80,460), Sept. 2011.
Maryland Department of Juvenile Services, Seedling Project, Bill James Environmental Grant, grant written and submitted by undergraduate ethnobotany student, May 2011, (\$1,000).

Collaborator, contributor to application and progress reports, Appalachian Center for Ethnobotanical Studies, PI: Joseph Hoffman, Frostburg State University and University of Maryland Biotechnology Institute, USDA Cooperative State Research, Education and Extension Service, July 2008 \$348,543, September 2009 \$438,984, September 2010 \$514,799 (total \$1,302,326). Subawards: 2009: \$65,901, 2010: \$52,482.

Donations to Foundation Accounts

Personal interactions with numerous donors have resulted in over \$250,000 in donations to Frostburg State University Foundation Accounts including Ethnobotany Education, Ethnobotany Evergreen, Arboretum, and Society for Economic Botany Conference. Sponsorships to support students in excess of \$12,000 have been obtained through the following agencies: New Page, United Plant Savers, The Nature Conservancy, Bartlett Tree Care, Springer Scientific, Nature Genetics, and Shoots and Roots Bitters.

L. ADDITIONAL RELEVANT EMPLOYMENT

UT Tree Improvement Program, Tennessee Agricultural Experiment Station, The University of Tennessee, Knoxville, Tennessee. May 2002-Aug. 2007. Graduate Research Assistant, Project Coordinator of Butternut and American Chestnut Restoration Projects: grant writing and reporting, directing undergraduate and graduate students in research design, coordination, and analysis. Specific projects on artificial regeneration of hardwood species include seed collection and stratification, nursery studies, seedling grading, plantation establishment, progeny testing, seedling monitoring, and statistical analysis for over thirty hardwood species. Stand classifications, dendrochronology, soil analysis, database construction and management including GIS, and collaboration with federal, state, public and private landholding agencies throughout 12 eastern states. Designed, coordinated, and implemented numerous research studies on southern National forests, North Carolina Division of Natural Resources Educational Forests, and the Eastern Band of the Cherokee Indians.

Department of Forestry, University of Kentucky, Lexington, Kentucky. Aug. 1999-May 2001. Graduate Research Assistant: conducted field, laboratory, and greenhouse research including data collection, analysis and publication for restoration projects on timber thefts, log landings, road closures, surface mines, contoured streams, natural barrens, native meadows, and arboretums. Experience in site characterizations including analysis of soil, light, temperature, vegetation, and seedling health.

The Nature Conservancy, North Carolina Chapter, Asheville, North Carolina. May-Aug. 1998. Field Researcher: designed and implemented research on the impact of an invasive exotic vine, *Celastrus orbiculatus*, on the herbaceous layer of forested ecosystems including Biltmore Forest, the Blue Ridge Parkway, Pisgah National Forest, and Bent Creek Experimental Forest.

Boyce Thompson Institute for Plant Research, Cornell University, Ithaca, New York. May-Aug. 1997. Laboratory Researcher: designed, implemented, and analyzed senior research project focusing on ecophysiology and hydraulic architecture in tree species *Quercus rubra* and *Acer spp.*, detecting water potential and cavitation vulnerability of xylem in both root and twig tissues.

Warren Wilson College, Natural Resources Crew, Asheville, North Carolina. Jan. 1997-May 1999. Student Crew Leader (98-99) and Leader of Shiitake Mushroom Project: worked as a team leader to manage a 25-member work crew, assisted in multiple undergraduate research projects, helped to develop and implement forest management plans including: pruning, thinning, harvesting, timber stand improvement, firewood production, prescribed burning, invasive species control, trail construction and maintenance, and non-timber forest products production on 700-acre college forest.

M. OUTREACH PUBLICATIONS

USU Eastern Eagle, The Voice of the Students, Heavy metal music, spotlights, and an ATV, Dr. Sunshine Brosi, April 21, 2022.
Wildlife students find unexpected visitors, Dr. Sunshine Brosi, September 22, 2021.
From Kentucky, North Carolina, Tennessee, Maryland, Alaska, and Utah, Brosi's passion for ecology evolved in each state, February 5, 2021.

N. RELEVANT SKILLS

Certifications: Wildland Fire Fighting Red Card, Wilderness First Responder, CPR, Certified Instructor for Project WET, WILD, and Learning Tree, Class B Sawyer, Nature Serve Core Methodology Training, EPA Pesticide Applicators License, Hunting & Fishing License, Firearm Safety.

Ability to operate vans, boats, all-terrain and 4-wheel drive vehicles, motorcycles, chainsaws, maintenance of small engines and generators.

Experience teaching courses and conducting research in international and national locations and working with Indigenous groups in remote locations camping without electricity, cell reception, or running water, and in rugged terrain.

Computer Skills: Canvas, Blackboard, ArcMap 10.7 & ArcPro, Qualtrics, rStudio, MaxQDA, ggplot, GeoCat, Biotics, CMS, SAS, Dreamweaver, HootSuite Social Media Manager, Access, Excel, PowerPoint, Adobe Creative Cloud, and other software.