

## *Curriculum Vitae*

### **Christine J. Small, Ph.D.**

Associate Dean, Artis College of Science and Technology  
Professor, Department of Biology  
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#### **EDUCATION**

**Ph.D., Environmental and Plant Biology**, *Summa cum laude*. 2001. Ohio University, Athens, OH  
**M.S., Botany**, *Summa cum laude*. Minor in Soil Science. 1996. North Carolina State University, Raleigh, NC  
**B.S., Biology**, *Summa cum laude*. Minor in Music. 1993. Christopher Newport University, Newport News, VA.  
College of Science and Technology, Dean's Award  
**Tropical Ecology and Conservation Study Abroad**. 1992. Council for International Educational Exchange (CIEE),  
Monteverde Estación Biológica, Monteverde, Costa Rica

#### **PROFESSIONAL & LEADERSHIP EXPERIENCE**

Associate Dean, Artis College of Science and Technology, Radford University, Radford, VA (2023-present)  
Chair, Department of Biology, Radford University, Radford, VA (2014-2016, 2022-2023)  
Professor, Department of Biology, Radford University, Radford, VA (2014-present)  
Associate Professor, Department of Biology, Radford University, Radford, VA (2007-2014)  
Assistant Professor, Department of Biology, Radford University, Radford, VA (2005-2007)  
Assistant Professor, Department of Botany, Connecticut College, New London, CT (2001-2005)

#### **TEACHING – Donald Dedmon Distinguished Teaching Professor Award, Radford University (2011)**

**Radford University** (2005-present): Communicating Science, Forest & Wetland Ecology, Flora of Virginia, Phenology & Field Biology, Plants & Society, Tropical Biology Study Abroad (Virgin Islands, co-lead), Ecology & Adaptation, Environmental Biology, Integrative Biology II, Biology I & II, Organismal Biology, Human Biology, Freshman Seminar  
**Connecticut College** (2001-2005): Ecology of Terrestrial and Wetland Plant Communities, Systematic Botany and the Local Flora, Introductory Botany, General Ecology  
**Ohio University** (1997-2001, Graduate Teaching Assistant): Quantitative Methods in Biology, Plant Systematics, Trees and Shrubs, Wildflowers, Plant Biology, World of Plants, Introductory Biology  
**North Carolina State University** (1994-1996, Graduate Teaching Assistant): Botany, Ecology  
**Duke University** (1993 - Graduate Teaching Assistant): Soil Science  
**Christopher Newport University** (1991-1993 - NSF Peer Mentor): Biology, Chemistry, Soil Science

#### **PEER-REVIEWED PUBLICATIONS - 30 publications with 14 undergraduate co-authors\***

Powers, KE, Harris\* III, N, Sheehy, R, McLaughlin\*, J, **Small, CJ**. (in review). Microhabitat preferences and genetic confirmation of *Plethodon jacksoni* in karst sinkholes in western Virginia. *Northeastern Naturalist*.  
**Small, CJ**. 2023. [Medicinal forest herbs: Conservation and economic development in the Appalachian Mountains](#). *Bulletin of the Transilvania University of Braşov, Special Issue 15:35-48*. (invited)  
Chamberlain, JL and **Small, CJ**. 2021. [How does harvesting impact wild plant sustainability?](#) *Natural Inquirer: Forests & Agriculture Monograph Series, USDA Forest Service 22: 7-39*. (outreach)  
Allen\*, E, Powers, K, **Small, CJ**. 2020. [Noteworthy Collections: County additions to the Virginia flora vouchered at the Radford University Herbarium](#). *Castanea 85: 14-22*.  
Chamberlain, JL, **Small, CJ**, Baumflek, M. 2019. [Sustainable forest management for nontimber products](#). *Special Issue: Sustainable Forest Management, Sustainability 11: 2670-2691* (invited).  
Chamberlain, JL, **Small, CJ**, Baumflek, M. 2019. Ch. 20, [Sustainable production of temperate and boreal nontimber forest products: Examples from North America](#). In: JA Stanturf (ed.) *Achieving Sustainable Management of Boreal and Temperate Forests*. Burleigh Dodds Science Publishing (invited). 36 pgs.

- Small, CJ**, Chamberlain, JL. 2018. [Experimental harvest and regrowth in Appalachian black cohosh \(\*Actaea racemosa\*, Ranunculaceae\) populations: Implications for sustainable management of a medicinal forest herb.](#) *Journal of the Torrey Botanical Society* 145: 109-120.
- Small, CJ**, Chamberlain, JL. 2015. [Forest diversity and disturbance: Changing influences and future of Virginia's forests.](#) Special Issue: State of Virginia's Environment, *Virginia Journal of Science* 66: 1-21 (invited).
- Bower\*, JE, Brosi, S, Ammer, F, **Small, CJ**. 2014. Health status of butternut (*Juglans cinerea*) in Maryland. M.S. Thesis, Applied Ecology & Conservation Biology, Frostburg State University, Frostburg, MD.
- Small, CJ**, Chamberlain, JL, Nuckols\*, CM. 2014. [Failure of black cohosh \(\*Actaea racemosa\* L.\) rhizome transplants: Potential causes and forest farming implications.](#) *Agroforestry Systems* 88: 815-822.
- Chamberlain, JL, Ness\*, G, **Small, CJ**, Bonner, SJ, Hiebert\*, E. 2013. [Modeling below-ground biomass to improve sustainable management of \*Actaea racemosa\*, a globally important medicinal forest product.](#) *Forest Ecology and Management* 293: 1-8.
- Chamberlain, JL, Ness\*, G, **Small, CJ**, Bonner, SJ, Hiebert\*, E. 2013. Modeling below-ground biomass to improve management of globally important medicinal forest product. *CUR Research Highlights* 34: 22.
- Francl, KE, **Small, CJ**. 2013. [Temporal changes and prescribed fire effects on vegetation and small mammal communities in central Appalachian forest, creek, and field habitats.](#) *Southeastern Naturalist* 12: 11-26.
- Newtoff\*, KN., **Small, CJ**. 2013. [Enhancing statistical skills in ecology: Quantifying bird feeding behaviors.](#) *Tested Studies for Laboratory Teaching* 34: 473-474.
- Small, CJ**, Newtoff\*, K. 2013. [Integrating quantitative skills in introductory ecology: Investigations of wild bird feeding preferences.](#) Emphasis Issue: Mathematical Application in Learning Biology, *The American Biology Teacher* 75: 269-273.
- Small, CJ**, Chamberlain, JL, Mathews\*, DS. 2011. [Recovery of black cohosh \(\*Actaea racemosa\* L.\) following experimental harvests.](#) *American Midland Naturalist* 166: 339-348.
- Small, CJ**, White, DC, Hargbol\*, B. 2010. [Allelopathic influences of the invasive tree of heaven \(\*Ailanthus altissima\*\) on a native and a non-native herb.](#) *Journal of the Torrey Botanical Society* 137:366-372.
- Francl (Powers), KE, Faidley\*, CR, **Small, CJ**. 2010. Salamander use of karst sinkholes in Montgomery County, Virginia. *Southeastern Naturalist* 9: 35-46.
- Small, CJ**, McCarthy, BC. 2010. [Seed bank variation under contrasting site quality conditions in mixed oak forests in southeastern Ohio, USA.](#) *International Journal of Forestry Research* 2010: 1-13.
- Wojdak, J, Guinan, J, Wirgau, J, Kugler, R, Hammond, G, **Small, C**, et al. 2010. [University facilities as real-world foci of multidisciplinary science learning.](#) *Journal of College Science Teaching* 39: 8-16.
- Kelly\*, A, **Small, CJ**, Dreyer, G. 2009. [Vegetation classification and invasive species distribution in natural areas of southern New England.](#) *Journal of the Torrey Botanical Society* 136: 500-519.
- Small, CJ**. 2006. [A comprehensive review of herbaceous layer ecology.](#) *Diversity and Distributions* 12: 222-223.
- Small, CJ**, McCarthy, BC. 2005. [Relationship of understory diversity to soil nitrogen, topographic variation, and stand age in an eastern oak forest, USA.](#) *Forest Ecology and Management* 217: 229-243.
- Small\*, MJ, **Small, CJ**, Dreyer, GD. 2005. [Changes in hemlock-dominated forests following woolly adelgid infestation in southern New England.](#) *Journal of the Torrey Botanical Society* 132: 458-470.
- Lundgren\*, M, **Small, CJ**, Dreyer, GD. 2004. [Influence of land use and site characteristics on invasive plant abundance in the Quinebaug Highlands of southern New England.](#) *Northeastern Naturalist* 11: 313-332.
- Small, CJ**, McCarthy, BC. 2003. [Spatial and temporal variability of herbaceous vegetation in an eastern deciduous forest.](#) *Plant Ecology* 164: 37-48.
- Small, CJ**, McCarthy, BC. 2002. [Effects of simulated post-harvest light availability and soil compaction on deciduous forest herbs.](#) *Canadian Journal of Forest Research* 32: 1753-1762.
- Small, CJ**, McCarthy, BC. 2002. [Spatial and temporal variation in the response of understory vegetation to disturbance in a central Appalachian oak forest.](#) *Journal of the Torrey Botanical Society* 129: 136-153.
- Small, CJ**, McCarthy, BC. 2001. [Vascular flora of the Waterloo Wildlife Research Station, Athens County, Ohio.](#) *Castanea* 66: 363-382.
- McCarthy, B, **Small, CJ**, Rubino, D. 2001. [Composition, structure, and dynamics of Dysart Woods, an old-growth mixed mesophytic forest of southeastern Ohio.](#) *Forest Ecology and Management* 140: 193-213.
- Small, CJ**, Wentworth, TR. 1998. [Characterization of Montane Cedar-Hardwood Woodlands in the Piedmont and Southern Blue Ridge Provinces of North Carolina.](#) *Castanea* 63: 241-261.

## **EXTERNAL GRANTS - Includes undergraduate research support\***

- \*2023-2027. American Herbal Products Association. Phenology of medicinal forest herbs: Implications for sustainable harvest and management (Co-PIs: K. Commender, R. Huish, J. Chamberlain). \$72,340
- \*2021-2027. American Herbal Products Association. Experimental harvest of goldenseal: Sustainable management through research and community partnerships (Co-PIs: K. Commender, R. Huish, J. Chamberlain). \$49,933
- \*2020-2024. USDA Natural Resources Conservation Service, Conservation Innovation Grant. Increasing landscape-scale adoption of agroforestry systems in Central Appalachia through market-based incentives. (Co-PIs: Appalachian Sustainable Development, USDA Forest Service, UVA-Wise). \$386,539
- \*2022. The Garden Club of America, Fellowship in Conservation Horticulture. Conservation and sustainable management of the medicinal forest herb goldenseal (Mentored undergraduate research: L. White). \$5,000
- \*2019, 2016, 2015, 2014. Enterprise Rent-A-Car Foundation Grant. Radford University Alternative Spring Break: Forest Reclamation on Mountaintop Removal Mining Sites with Appalachian Regional Reforestation Initiative (co-PIs: R. Roth, T. Burriss). \$3,500 per award (\$14,000 total)
- \*2012-2017. USDA Forest Service, Southern Research Station, Partnership Enhancement Initiative. Experimental harvest and monitoring of select Appalachian Non-Timber Forest Products. \$50,000
- \*2017. Virginia Native Plant Society. Monitoring spring and summer flowering plant phenology in a southwestern Virginia natural area with citizen scientists. \$6,490 (co-PIs: R. Harris, J. Kell; not funded)
- \*2014. USDA Forest Service, Southern Research Station, Partnership Enhancement Initiative. Integrating Southern Forest Issues into Undergraduate Curricula. \$46,000 (co-PI: S. Maxwell; not funded)
- \*2011, 2010, 2009. USDA Forest Service, Southern Research Station. Sustainable harvest and management of black cohosh (*Actaea racemosa*), a southern Appalachian medicinal plant. \$1,800, \$1,800, \$1,100 (\$4,700 total)
- \*2008-2009. VA Academy of Science. Classification of the ecological communities of the Selu Conservancy, Montgomery County, VA. \$1,240
- \*2002-2004. CT Department of Environmental Protection. Use of prescribed burning in the restoration of a regionally rare pitch pine sand plain, Hopeville Pond State Park, Griswold, CT. \$3,000
- \*2004. Andrew W. Mellon Foundation, Student-Faculty Research Partnership Grant. Vascular flora of the West Farms Land Trust Avery Tract, Waterford, CT. \$3,000
- \*2004. National Oceanic and Atmospheric Administration. Ecological and physical effects of the removal of two low head dams (co-PI's: M. Carabetta, J. Turek, L. Wildman). \$80,260.
- \*2002-2003. CT Chapter, The Nature Conservancy. Impacts of white-tailed deer and invasive non-native plants on natural vegetation of the Burnham Brook Preserve, East Haddam, CT. \$2,000
- \*2003. RI and CT Chapters, The Nature Conservancy. Impacts of invasive exotic plants in the Pawcatuck Borderlands Natural Management Area. \$5,000
- 2000. Ohio Biological Survey. The influence of soil nitrogen on plant species composition and diversity in an oak-hickory forest of southeastern OH. \$500.
- 1999. Ohio Biological Survey. Survey of seed bank and aboveground vegetation in mature and reorganizing forest stands of southeastern OH. \$250.
- 1998. Ohio Biological Survey. Vascular flora of Waterloo Wildlife Experiment Station, Athens, OH. \$500.
- 1998. *Sigma Xi* Grant-in-Aid of Research. Effects of post-harvest light and soil compaction on understory plants in a central Appalachian deciduous forest. \$595.
- 1995. Charles W. Ash Memorial Scholarship, Highlands Biological Station, NC. Characterization of Montane Cedar-Hardwood Woodlands in Piedmont and southern Blue Ridge Provinces of NC. \$300.
- 1995. Grant in Aid, Highlands Biological Station, NC. Characterization of Montane Cedar-Hardwood Woodlands in the southern Blue Ridge Provinces of NC. \$2,200.

## **UNDERGRADUATE CURRICULUM & RESEARCH INITIATIVES**

- 2018-2023. [Council for Undergraduate Research \(CUR\), Transformations Project](#): Integrating and Scaffolding Research into Undergraduate STEM Curricula – Biology Leadership Team, Radford University
- 2017-2022. [Howard Hughes Medical Institute, Inclusive Excellence Grant](#): REALising Inclusive Science Excellence (REALISE) – Faculty Implementation Team, Radford University
- 2019-2020. RU Biology Core Curriculum Revision – Committee Chair, proposals for scaffolding undergraduate research throughout the curriculum and improving first year experiences
- 2018-2019. REALISE Faculty Development Institute, Redesigned freshmen- and senior-level courses using inclusive excellence and backwards design principles and project-based learning
- 2018. [REALISE Project-Based Learning Workshop](#), Worcester Polytechnic Institute, Radford University
- 2018. [USA National Phenology Network](#), Certified Local Phenology Leader (80-hour training & certification)

- 2016-2018. [National Science Foundation, Biology Math Attitudes & Anxiety Program \(BioMAAP\) Grant](#) – RU curriculum development, pilot, assessment to reduce math anxiety (PIs: J. Wojdak, A. Fleming-Davies)
- 2016. [NSF Partnership for Undergraduate Life Sciences Education \(PULSE\) Institute](#) – PULSE Fellow, Summer Institute for undergraduate curriculum reform (T. Phelps-Durr, J. Mekolichick, S. O’Brien, C. Small, J. Wojdak)
- 2011-2016. Radford University Alternative Spring Break, [Appalachian Mountain-Top Removal Coal Mining & Forest Reclamation](#). With T. Burris (Appalachian Studies), R. Roth (Geospatial Science), Appalachian Regional Reforestation Initiative – Trip development & co-lead (2011-2014), grant co-author (2013-2016, 2019)
- 2014-2015. RU Biology Connections Living-Learning Community – Steering Committee and course instructor
- 2011-2014. [NSF Strengthening Undergraduate Mathematics & Statistics Education for Biologists \(SUMS4BIO\) Grant](#) – Senior personnel & project contributor. (PIs: J. Hagen, F. Singer, J. Wojdak, J. Stewart).
- 2011. [Radford University Quality Enhancement Plan \(QEP\): Scholar-Citizen Initiative](#) – Writing Team, Student Learning Outcomes Committee, Developed SCI curricular and co-curricular experiences
- 2011. Strengthening Undergraduate Mathematics & Statistics in Biology, RU workshop development team
- 2009. Strategies for Teaching Quantitative Skills in Biology, RU workshop development team
- 2008. [National Tropical Botanical Garden, Fellowship for College Biology Professors](#), The Kampong, FL
- 2005-2008. NSF Curriculum Adaptation & Implementation Grant: [Integrating Service-Learning into University Biology, Chemistry, Geology, and Geography Curricula](#). RU Stormwater Remediation Wetland. (PIs: J. Wojdak, C. Kugler, J. Guinan) – Developed investigative lab modules, mentored undergraduate research and symposia
- 2007-2008. Core Curriculum Committee / General Education program revision, Radford University
- 2007. Strategies for Teaching Reading & Writing, QEP Workshop Grant, RU workshop development team
- 2006. Commission for the Future of Radford University, Task Force for Academic Centers of Distinctiveness
- 2004. Teaching Scientific Writing, CT College. Workshop developer
- 2003, 2004. Using GIS Across the Curriculum in the Liberal Arts. National Institute for Technology & Liberal Education, Invited panelist

#### **INTERNAL GRANTS (2006-present) - *Includes undergraduate research support\****

- \*2023. RU Biology Ruth Bricker Painter Undergraduate Student Research Award. Cross-dating death: Applications of dendrochronology for early emerald ash borer detection. L. White, Co-mentor S. Maxwell. \$3,000
- \*2018. RU Artis College of Science and Technology Faculty Research Grant. Shifts in seasonal activity and harvest response in a globally important medicinal forest plant. \$3,383
- \*2017. RU Summer Undergraduate Research Fellowship. Mechanism of resistance to the allelopathic effects of the invasive species, tree-of-heaven. C. Gavan, Co-mentor G. Cote. \$3,000
- \*2016. RU Scholar-Citizen Co-Curricular Grant. Radford University Alternative Summer Break: Conservation and cultural importance of Appalachian medicinal plants. \$1,400
- \*2015. RU Summer Undergraduate Research Fellowship. Selu Soundscape. C. Leggett, Co-mentor: M. Close \$2,500
- \*2015, 2014, 2013. RU Scholar-Citizen Co-Curricular Grant. Alternative Spring Break: Mountain-top removal coal mining and Appalachian forests reclamation (co-PIs: R. Roth, T. Burris). \$2,850, 2,473, 1,950 (Total \$7,273)
- \*2011-2012. RU Multi-Disciplinary Faculty Research Grant. Terra2B: Development and scenario testing of a GIS-based model of Appalachian agroecosystems management. (co-PIs: I. Clelland, G. Fetter). \$17,700
- \*2011. RU Faculty Research Grant. Recovery of the medicinal plant black cohosh after harvest. \$7,300
- \*2010. RU Faculty Research Grant. Southern Appalachian medicinal plants: Investigating the sustainability of current wild harvesting practices. \$7,307
- \*2008-2009. RU Faculty-Student Collaborative Grant. Ecological communities of the Selu Conservancy. \$750
- \*2008. RU SEED Grant. Learning beyond the classroom: Integrating multidisciplinary natural history investigations into the undergraduate curriculum (co- PI: K. Francl). \$27,946
- \*2008. RU Faculty Research Grant. Classification of ecological communities of Selu Conservancy, VA. \$5,000
- \*2007-2008. RU Faculty-Student Collaborative Grant. Habitat use by small mammals in natural areas of southwest VA (co- PI: K. Francl). \$750
- \*2007. RU Faculty Research Grant. Vegetation and small mammals of the Selu Conservancy. \$14,399
- \*2006-2007. RU Faculty-Student Collaborative Grant. Relationship of site conditions and land-use history to the distribution of non-native invasive plant species in southwestern VA. \$750
- \*2006. RU Faculty Research Grant. Distribution of invasive plants in natural areas of Selu Conservancy. \$5,190\*
- \*2006. RU Faculty Research Grant. GIS mapping of invasive plant species at the Selu Conservancy. \$3,300



## PROFESSIONAL PRESENTATIONS (2007-present) - Undergraduate presenters or co-authors\*

**External presentations** – 80 total research and pedagogical conference presentations; 36 with undergraduate co-authors. (Below external presentations since 2007 – 57 presentations, 35 with undergraduate co-authors\*)

**Internal presentations** – 112 mentored student presentations: 40 on independent research (61 students); 72 on Course-Based Undergraduate Research (163 students). (Internal presentations not listed below).

- Small, CJ**, Huish, R, Chamberlain, J. 2024. Increasing forest farming adoption. Gather to Grow Forest Farming Conference, Roanoke, VA. (Conference symposium)
- White\*, L, McKenney\*, P, Kepley\*, E, Hernandez\*, J, Britton\*, A, Harmon\*, T, Vance\*, E, Tracy\*, K, **Small, C**. 2023. Forests that heal: Appalachian biodiversity, sustainability, and medicinal herbs. Virginia Natural History Conference, Radford, VA.
- Commender, K, **Small, C**, Chamberlain, J, Huish, R. 2022. Conservation of at-risk medicinal forest herbs: sustainable harvest and propagation of goldenseal in the Appalachian Mountains. 5th World Congress on Agroforestry: Transitioning to a Viable World, Quebec City, Canada.
- Commender, K, **Small, C**, Chamberlain, J, Huish, R. 2022. Increasing landscape-scale adoption of agroforestry systems in Appalachia. Annual Conference of the Soil and Water Conservation Society. Denver, CO.
- Small, CJ**. 2022. Biodiversity and mountain heritage: Conservation, culture, and medicinal forest herbs. Appalachian-Carpathian International Mountain Conference. Transilvania University, Braşov, Romania.
- Small, CJ**, Commender, K, Huish, R, Chamberlain, JL. 2021. Regional variation and early senescence of goldenseal: implications for sustainable management. American Herbal Products Association Meeting.
- Allen\*, A, Ditch\*, S, **Small, C**. 2019. Impacts of the emerald ash borer on ash trees in southwest Virginia forests. Virginia Natural History Society Meeting. Martinsville, VA
- Chamberlain, J, Frey, G, **Small, C.**, Munsell, J. 2019. Integrating non-timber forest products into forest assessment management. XXV International Union of Forest Research Organizations World Congress, Curitiba, Brazil.
- Phelps-Durr, T, Anderson, J, **Small, CJ**, O'Brien, S, Bhatta, C. 2019. Integrating undergraduate research in the undergraduate biology curriculum. CUR Transformations Annual Meeting, Rice University, Houston, TX.
- Phelps-Durr, T, Anderson, J, **Small, CJ**, Wojdak, J, O'Brien, , C. 2018. Undergraduate research in a biology backward-designed curriculum. CUR Transformations Annual Meeting, The College of New Jersey, NJ.
- Taylor, B, Phelps-Durr, T, Rogers, J, Mekolichick, J, Herman, R, Huston, S, Freed, M, Anderson, J, **Small C**, Sheehy, R, Redmond, S, Wojdak, J. 2018. Adding undergraduate research in a backward designed curriculum. CUR Biennial Conference. CUR Biennial Conference, Arlington, VA.
- Chamberlain, J, **Small, C**. 2017. Black cohosh: Harvest impacts, population response, and sustainable management of medicinal forest products. The Future of Ginseng and Forest Botanicals Symposium, Morgantown, WV.
- Small, C**, Phelps-Durr, T, Wojdak, J, O'Brien, S, Mekolichick, J. 2017. Improving core competencies and meta-cognitive skills through student-centered learning and authentic research at Radford University. Partnership for Undergraduate Life Science Education Symposium. Association of Southeastern Biologists, Montgomery, AL.
- Wojdak, J, **Small, C**, Phelps-Durr, T, O'Brien, S, Mekolichick, J. 2016. Modernizing Biology at Radford University. Partnership for Undergraduate Life Science Education, Southeast Institute, Spartanburg, SC.
- Burris, T, Roth, R, **Small, C**. 2015. Place defense and conflicted local resistance in resource extraction economies: Multi-disciplinary analysis of Central Appalachian coalfields. Appalachian-Carpathian International Conference: Researching & Preserving Highland Traditions. Transilvania University, Braşov, Romania.
- Small, CJ**. 2015. Changing influences and the future of Virginia's forests. Virginia Academy of Science: State of Virginia's Environment Symposium, James Madison University, Harrisonburg, VA. (Invited speaker)
- Bower\*, J, Schlarbaum\*, E, Brosi, S. 2014. Health status of butternut in Maryland. The Energy of People, Places, and Life. Society of Economic Botany / Society of Ethnobiology Joint Conference, Cherokee, NC.
- Burris, T, Roth, R, **Small, C**, Hall, N, Angel, P, Wilson\*, C, LaPrade\*, T, Curtis\*, V. 2014. Imagining and acting on possibilities for reforesting abandoned mountaintop removal sites. Appalachian Studies Conference, Marshall University, Huntington, WV.
- Chamberlain, J, Ness\*, G, **Small, CJ**, Bonner, S, Hiebert\*, E. 2014. Modeling below-ground biomass of black cohosh, a medicinal forest product. Journal of Forestry 112:157 (published conference proceedings)
- Chamberlain, J, Ness\*, G, **Small, CJ**, Bonner, S, Hiebert\*, E. 2013. Modeling below-ground biomass of black cohosh, a medicinal forest product. National Convention of American Foresters, Charleston, SC.
- Donahoe\*, M, Hutchinson\*, L, Vaughn\*, J, Hammond, G, **Small, CJ**. 2013. Identification of fungi associated with rhizome rot in the medicinal plant, *Actaea racemosa* (black cohosh). American Society for Microbiology, University of VA, Charlottesville.

- Chamberlain, J, **Small, CJ**. 2012. Sustaining *Actaea racemosa* (black cohosh) from Appalachian forests. Society for Economic Botany, Frostburg State University, MD.
- Clelland, I, **Small, CJ**, Fetter, G, Giles, R. 2012. Rural Systems 1.0: A natural resource-based enterprise platform for sustainable land management. Rural Entrepreneurship Conference, Aberdeen, UK.
- Clelland, I, **Small, CJ**, Fetter, G, Giles, R. 2012. An entrepreneurial experiment in sustainable management of private land. Annual Sustainability, Ethics & Entrepreneurship Conference, Denver, CO.
- Ness\*, G, Chamberlain, J, Bonner, S, **Small, CJ**. 2012. Modeling the relationship between below ground and above ground biomass of black cohosh. Ecological Society of America, Portland, OR.
- Newtoff\*, K, **Small, CJ**. 2012. Enhancing statistical skills in undergraduate ecology: Multi-week lab investigation of bird feeding preferences. Association for Biology Laboratory Education, UNC Chapel Hill.
- Small, CJ**. 2012. Conservation and management of black cohosh, a southern Appalachian medicinal plant. 28<sup>th</sup> Annual Cullowhee Native Plant Conference, Western Carolina University, Cullowhee, NC.
- Chamberlain, J, **Small, CJ**, Mathews\*, D. 2011. Sustaining black cohosh (*Actaea racemosa* L.) harvests. Southern Appalachian Man and the Biosphere Conference. Asheville, NC.
- Chamberlain, J, **Small, CJ**, Mathews\*, D. 2011. The impact of experimental harvests on black cohosh (*Actaea racemosa* L.). North American Forest Ecology Workshop. Roanoke, VA.
- Creange\*, K, Francl (Powers), KE, **Small, CJ**. 2011. Quantifying effects of prescribed fire on small mammals and vegetation at Caldwell Fields, Jefferson National Forest. VA Wildlife Society Annual Meeting, Staunton, VA.
- Creange\*, K, Francl (Powers), K, **Small, CJ**. 2011. Quantifying effects of prescribed fire on small mammals and vegetation at Caldwell Fields, Jefferson National Forest. Big South Undergraduate Research Symposium, Washington & Lee University, VA.
- Ness\*, G, Chamberlain, J, Bonner, S, **Small, C**. 2011. Modeling relationship of below ground and above ground biomass of black cohosh. 2<sup>nd</sup> University of Kentucky Environmental Research Showcase. Lexington, KY.
- Small, CJ**. 2011. Long-term dynamics & disturbance response in an eastern forest. Department of Biology, Appalachian State University, Boone, NC. Invited speaker.
- Brennan\*, MC, **Small, CJ**. 2010. Effects of experimental harvesting on black cohosh, a southern Appalachian medicinal herb. Big South Undergraduate Research Symposium, Radford University.
- Meikle\*, D, Francl, KE, **Small, CJ**. 2010. Effects of prescribed fire on small mammal communities at Caldwell Fields, Jefferson National Forest. Big South Undergraduate Research Symposium, Radford University.
- Small, CJ**, Brennan\*, M, Chamberlain, J. 2010. Experimental harvesting effects on black cohosh, a southern Appalachian medicinal plant. Association of Southeastern Biologists, Asheville, NC.
- White, D, **Small, CJ**, Hargbol\*, B. 2010. Allelopathic influences of invasive *Ailanthus altissima* on native and non-native herbs. Association of Southeastern Biologists, Asheville, NC.
- Francl (Powers), KE, Faidley\*, CR, **Small, CJ**. 2009. Salamander-habitat relationships in karst sinkholes at the Selu Conservancy, Montgomery County, VA. Virginia Wildlife Society Meeting, Staunton.
- Mathews\*, D, **Small, CJ**, Chamberlain, J. 2009. Sustainable harvest of black cohosh, an Appalachian medicinal plant. Big South Undergraduate Research Symposium, University of North Carolina, Asheville.
- Meikle\*, D, Francl (Powers), KE, **Small, CJ**. 2009. Effects of prescribed fire on small mammals at Caldwell Fields, Jefferson National Forest. Big South Undergraduate Research Symposium, UNC Asheville.
- Meikle\*, D, Francl (Powers), KE, **Small, CJ**. 2009. Effects of prescribed fire on small mammals at Caldwell Fields, Jefferson National Forest. Virginia Wildlife Society Meeting Annual Meeting, Staunton, VA.
- Meyer\*, B, **Small, CJ**, Francl (Powers), KE. 2009. Biotic diversity of karst sinkholes at Selu Conservancy, southwest VA. Big South Undergraduate Research Symposium, UNC Asheville.
- Meyer\*, B, **Small, CJ**, Francl (Powers), KE. 2009. Biotic diversity of karst sinkholes at Selu Conservancy, southwest VA. Virginia Wildlife Society Meeting Annual Meeting, Staunton, VA.
- Patton\*, M, Francl (Powers), KE, **Small, CJ**. 2009. Summer-winter avian habitat relationships at Selu Conservancy, Montgomery County, VA. Big South Undergraduate Research Symposium, UNC Asheville.
- Patton\*, M, Francl (Powers), KE, **Small, CJ**. 2009. Summer-winter avian habitat relationships at Selu Conservancy, Montgomery County, VA. Virginia Wildlife Society Meeting Annual Meeting, Staunton, VA.
- Small, CJ**. 2009. Vegetation dynamics and disturbance history in eastern forests. Department of Biology, Chemistry & Environmental Science, Christopher Newport University, Newport News, VA. Invited speaker.
- Faidley\*, CR, Francl (Powers), KE, **Small, CJ**. 2008. Salamander use of karst sinkholes at Selu Conservancy, Montgomery County, VA. Virginia Herpetological Society, Richmond, VA.
- Baisey\*, M, **Small, CJ**, Francl (Powers), K. 2008. Classification of ecological communities of Selu Conservancy, VA. Virginia Academy of Science, Hampton University.
- Hargbol\*, B, **Small, CJ**. 2008. Allelopathic effects of *Ailanthus altissima* on germination and growth of native and invasive plants in southwestern VA. Virginia Academy of Science, Hampton University.

- Helton\*, A, Francl (Powers), KE, **Small, CJ**. 2008. Examining relationships of small mammals and habitat variables at Selu Conservancy, Montgomery Co., VA. Annual Colloquium on the Conservation of Mammals in the Southeastern United States. VA Tech, Blacksburg, VA.
- Munsey\*, W, Francl (Powers), KE, **Small, CJ**. 2008. Fire impacts in Burriss Tract, Jefferson National Forest. 18<sup>th</sup> Colloquium on Conservation of Mammals in the Southeastern US, VA Tech, Blacksburg, VA.
- Munsey\*, W, Francl (Powers), KE, **Small, CJ**. 2008. Fire impacts in Burriss Tract, Jefferson National Forest. Virginia Wildlife Society Annual Meeting, Staunton, VA.
- Wirgau, J, Guinan, J, Bodo, B, Wojdak, J, Manyara, C, Hammond, G, **Small, C**. 2008. RU Stormwater Wetland as a Real-World Teaching Laboratory. American Chemical Society, Annual Meeting, Philadelphia, PA.
- Clement\*, LJ, **Small, CJ**. 2007. Spatial analysis of invasive plant distribution, land use, and site conditions at Selu Conservancy, southwest VA. Virginia Academy of Science, James Madison University, Harrisonburg.
- Hargbol\*, B, **Small, CJ**. 2007. Factors influencing the invasion of *Rosa multiflora* into natural areas of the Selu Conservancy, Southwestern VA. Virginia Academy of Science, James Madison University, Harrisonburg.
- McIntyre\*, EM, **Small, CJ**, Clement\*, LJ. 2007. Influence of site conditions on multiflora rose and Japanese honeysuckle distribution in southwestern VA. Mid-Atlantic Regional Conference of Undergraduate Scholarship, Sweet Briar College, VA.
- Small, CJ**. 2007. Influence of land use and disturbance history on long-term vegetation change in eastern forests. Virginia Academy of Science, James Madison University, Harrisonburg.
- Wojdak, J, Guinan, J, Wirgau, J, Kugler, J, **Small, C**, et al. 2007. Using a real-world environmental issue as the context for teaching college science. Society of Wetland Scientists, Sacramento, CA, and Ecological Society of America, San Jose, CA.

### **COURSE-BASED UNDERGRADUATE RESEARCH – *Sample Student Products***

- **BIOL 476: Forest & Wetland Ecology – Forest Health Assessment, Wildwood Park** – Semester-long team research at Wildwood Park, disseminated through student-designed website.  
Bailey\*, L, Allen\*, M, Ouellette\*, A, Salen\*, R, Howerin\*, H. 2020. Susceptibility and resistance of forests to invasive plants in southwest Virginia. RU Winter CARD.  
Holmes\*, A, Tompkins\*, C, Afrifa\*, M, Bradley\*, S. 2020. Comparison of emerald ash borer impacts on ash trees at Wildwood Park and Selu Conservancy. RU Winter CARD.  
Allen\*, A, Ditch\*, B, Ruppert\*, S. 2019. Impacts of the invasive emerald ash borer on ash trees in southwest Virginia forests. RU Student Engagement Forum.  
Daniels\*, J, Oliver\*, J. 2015. Using GIS land use history and site condition data to predict invasive plant distribution in central Appalachia. RU Student Engagement Forum.
- **BIOL 481/489: Field Biology & Phenology – Radford Phenology Monitoring Program** – Project-based course at RU Selu Conservancy, research on wildlife, birds, salamanders, plants, disseminated through student website; 24 student “Digital Research Portfolios” describing course research and other professional development: [E. Dimino](#), [S. Martin](#), [N. Jones](#), [H. McArdle](#), [R. Forbes](#), [C. Philson](#)
- **BIOL 460: Communicating Science** – Students developed and led K-12 outreach activities; public Flash Talk symposium; elevator pitch job talks, CVs and cover letters; popular / professional articles and presentations; VT ComSciCon graduate student conference
- **BIOL 232: Organismal Biology** – 32 peer-reviewed species descriptions published on Animal Diversity Web. *Sample student publications: [Histriophoca fasciata](#) (ribbon seal)\*, [Anolis carolinensis](#) (green anole)\*, [Acrochordus granulatus](#) (little filesnake), [Chironectes minimus](#) (water opossum), [Marmota himalayana](#) (Himalayan marmot), [Amblyomma cajennense](#) (cayenne tick).* \*RU Winesett Library Research Award winner
- **BIOL 217: Flora of Virginia & BIOL 215: Plants & Society** – Benefits of RU campus trees, Champion Big Trees: [Radford University Campus Trees Website](#); Felty\*, S, Simmons\*. 2020. A bird’s eye view: Benefits of trees for a mid-sized university. RU Student Engagement Forum.
- **BIOL 160: Introductory Biology Seminar**  
Bialobreski\*, M, Cecil\*, W, Edmonds\*, P, Ramsey\*, O. 2019. Region of origin and stomata density in Radford University campus trees. RU Winter Creative Activities & Research Days.  
Albergottie\*, L, Jones\*, M, Tompkins\*, C, Price\*, A. 2019. Differences in leaf stomata density between evergreen and deciduous trees. RU Winter Creative Activities & Research Days.

- **BIOL 131: Ecology & Adaptation**  
 Schardt\*, H, Cobbs\*, C, Nyfeler\*, W, Nseke\*, L. 2023. A bug's life: Box elder bug group size and mating behavior. RU Student Engagement Forum.  
 Viers\*, W, Mokreh\*, E, Vacciana\*, D. 2023. Helicopter seeds: Does seed size affect dispersal distance of box-elder trees? RU Student Engagement Forum.  
 McKenney\*, P, Passeretti\*, M, , White\*, L, Simmons\*, E. 2021. Effects of the invasive emerald ash borer on forest health in southwest Virginia. RU Winter CARD.  
 Felty\*, S, Wozniak\*, C. 2020. Effects of human activity on diversity and social behaviors of wildlife, Wildwood Park, Radford, VA. RU Winter Creative Activities & Research Days.  
 Fowler\*, D, Loudermilk\*, N, Ransome\*, K, Roberts\*, H, Scott\*, D, Vance\*, T. 2018. [Wildlife diversity at Wildwood Park and Selu Conservancy, VA](#). RU Artis College Research Celebration.
- **BIOL 481: Tropical Biology Study Abroad, US Virgin Islands**  
 Blevins\*, B, Cassar\*, C, Grandy\*, E, Harris\*, R, **Small, C**, Wojdak, J, Fleming-Davies, A. 2016. Snout weevil impacts on *Agave missionum*, U.S. Virgin Islands. RU Student Engagement Forum.  
 Rudasill\*, A., Evans\*, S., Fleming-Davies, A., Wojdak, J., **Small, CJ**. 2016. Nectar robbing as a means of invasive plant control by ants in a subtropical dry forest. RU Student Engagement Forum.  
 Fritz\*, A, Hamed\*, M, Ryan\*, C, Wojdak, J, **Small, C**. 2014. *Agave missionum* density and plant condition after introduction of the agave snout weevil. RU Student Engagement Forum.  
 McKenzie\*, C, Palmquist\*, E, **Small, CJ**, Wojdak, J. 2012. Allelopathic effects of gumbo limbo (*Bursera simaruba*) on St. John, US Virgin Islands. RU Student Engagement Forum.  
 Richardson\*, C, Moore\*, P, **Small, CJ**, Wojdak, J. 2012. Effects of the agave snout weevil on century plants in dry tropical forests, US Virgin Islands. RU Student Engagement Forum.  
 Faulkner\*, T, Jayne\*, M, Ness\*, G, **Small, CJ.**, Wojdak, J. 2010. The effect of trails on tropical dry forest structure on St. John, US Virgin Islands. RU Student Engagement Forum.
- **Outreach Projects** – Online plant identification tools: [Key to the Woody Plants of Wildwood Park, Radford, VA](#) (C. Nuckols & J. Christman) & [Key to the Wildflowers of Wildwood Park, Radford, VA](#). (K. Newtoff)

## OUTREACH ARTICLES & PRESENTATIONS

- Small, CJ**. 2018. Seasonal change in your backyard. Wildwood Summer Nature Series, Radford, VA.
- Small, CJ**. 2017. Barking up the right tree: Trees by bark. Wildwood Summer Nature Series, Radford, VA.
- Small, CJ**. 2014. Conserving our forest pharmacy: Ecology and sustainability of Non-Timber Forest Products. Virginia Native Plant Society, Blacksburg, VA.
- Small, CJ**. 2013. Conserving our forest pharmacy. Wildwood Park Summer Nature Series, Radford, VA.
- Chamberlain, J & **Small, CJ**. 2010. [Monitoring the harvest of black cohosh: Advancing research and awareness for sustainable management of a valuable nontimber forest product](#). USDA Forest Service video.
- White, DC, **Small, CJ**. 2010. Invaders helping invaders: Does allelopathy favor non-native species? Newsletter of the Association of Education and Research Greenhouse Curators.
- Small, CJ**. 2006. Wildflower pollination in southwest Virginia. Virginia Native Plant Society, Blacksburg, VA.
- Small, CJ**. 2004. Passion-flower and *Heliconius* butterfly. Newsletter of CT Botanical Society 32 (2): 6-8.
- Small, CJ**. 2003. Floral attraction: Plants and their pollinators. Annual Meeting, CT College Arboretum.
- Small, CJ**. 2003. What has become of Scrophulariaceae? Newsletter of CT Botanical Society 31 (2): 8-9.
- Small, CJ**. 2002. A new link to the origins of Angiosperms. Newsletter CT Botanical Society 30 (3): 11.
- Small, CJ**. 2002. A new link to the origins of Angiosperms. Chinquapin 10 (4): 29.
- Small, CJ**. 2002. An editorial review of the Flora of the Northeast: A Manual of the Vascular Flora of New England and Adjacent New York. Newsletter of CT Botanical Society 30 (1-2): 9.
- Small, CJ**. 2002. Giant hogweed in Connecticut. Chinquapin 10(4): 28.
- Small, CJ**. 2002. Long-Term Vegetation Studies in the Bolleswood Natural Area, Joint Annual Meeting, CT College Arboretum / CT Forest and Park Association.

## SELECTED AWARDS & SERVICE

- 2023-present. RU Artis College, Realizing Inclusive Student Excellence (RISE) Community Action Plan Lead
- 2023-present. Program Lead, Artis Residential Community (Living-Learning Community), Radford University
- 2023-present. Artis College Curriculum Committee, Chair, Radford University
- 2023-present. Radford University Faculty Senate, At-Large Representative, Artis College of Science & Technology
- 2014-present. Highlander Day, Open House, QUEST orientation advisor and guide, Radford University



2023. Mary Draper Ingles Educational & Interpretive Trail, Glencoe Museum, Radford, VA. Outreach education.  
 2015. Judge, Blue Ridge Highlands Regional Science Fair, Radford University, Radford, VA  
 2015. Science Judge, Mountain Academic Competition Conference (SuperMACC) Academic Competition  
 2015. Virginia Master Naturalist Training Program, Forest Ecology Curriculum Contributor  
 2011-2015. Advisory Committee, Environmental Center, Radford University  
 2012-2014. M.S. Graduate Committee, Applied Ecology and Conservation Biology, Frostburg State University  
 2013. *Sigma Xi* International Research Society (Full Member 2013; Associate Member 1998)  
 2012. Instructor, Southwest VA Governor's School for Science, Mathematics & Technology  
 2010-2012. Executive Council, Southern Appalachian Botanical Society  
 2006-2012. Editorial Board, *Southeastern Naturalist*  
 2011. Committee for Digital Publication, *Castanea: Journal of the Southern Appalachian Botanical Society*  
 2011. Winesett Student Library Research Award Committee, Radford University  
 2002-2006. National Conservation and Research Foundation, Board of Trustees  
 2002-2004. C.F. Johnson Teaching Seminar, Organizing Committee, Connecticut College  
 2002-2003. Thomas J. Watson Global Fellowship Committee, Connecticut College  
 2001-2005. Burnham Brook Preserve Stewardship Committee, The Nature Conservancy, CT Chapter  
 2001-2005. Steering Committee, Goodwin-Niering Center for Conservation Biology, Connecticut College  
 2001-2005. Curator, Charles B. Graves Herbarium, Connecticut College  
 2001-2005. Editorial Board Member / Guest Editor, *Northeastern Naturalist*  
 2001-2005. Editor and Production Manager, Newsletter of the CT Botanical Society  
 1998-1999. Donald Clippenger Graduate Research Fellowship, Ohio University  
 1997. Eugene Odum Outstanding Presentation, Honorable Mention. Ecological Society of America  
 1996. National Science Foundation Graduate Fellowship, University of Kentucky, KY  
 1996. *Phi Kappa Phi* National Honor Society, invited member  
 1995. Charles Ash Memorial Scholarship, Highlands Biological Foundation, NC

### **PROFESSIONAL DEVELOPMENT – Diversity, Wellness & Pedagogy**

2022. The Art of Soul Space. Free Horse Arts & Autism Society of Central Virginia (8-week workshop on inclusive and integrative education and interconnectivity)  
 2022. How to Be a Chair: National Trends in Higher Education. The Chronicle of Higher Education. Webinar.  
 2022. The Chairs' Role in Enrollment, Retention, and Student Success. The Chronicle of Higher Education. Webinar.  
 2021. The Art of Play & Exploration. Free Horse Arts & Autism Society of Central Virginia (8-week workshop on inclusive and integrative education, communication, journaling, and improvisation)  
 2021. Building a Spectrum of Opportunity: Communication, Classrooms & Collaboration. Autism Society of Central Virginia Conference (Neuroscience of Community; Rethinking Ways we Identify, Understand, and Support Autistic People of All Genders in the Neurodiversity Movement)  
 2021. Building Mindfulness and Empathy through Improvisation, Workshop, Radford University  
 2021. Safe Zone Training I, Center for Diversity and Inclusion, Radford University (online course)  
 2021. Science News Now: Celebrating 100 Years of Science Communication, Science News, Online Conference.  
 2020. ComSciCon-VA Tech2020. Communicating Science Conference. Virginia Tech, Blacksburg, VA.  
 2020. Know Your Audience. Alda-Kavli Foundation Center for Communicating Science, Online Workshop Series.  
 2020. Know Your Goal, Alda-Kavli Foundation Center for Communicating Science, Online Workshop Series  
 2018. Backward Course Design, REALISE Faculty Development Institute (4-week online course)  
 2018. Inclusive Pedagogy Workshop, REALISE Faculty Development Institute, Radford University  
 2018. Microaggressions Pedagogy Workshop, REALISE Faculty Development Institute, Radford University  
 2018. Teamwork Pedagogy Workshop, REALISE Faculty Development Institute, Radford University  
 2017. Improving Scientific Communication: Crafting Your Message, Association of Southeastern Biologists  
 2017. Improving Scientific Communication: Adding Enthusiasm, Association of Southeastern Biologists  
 2017. Neural Plasticity & Memory: Incorporating Meaningful Activities for Student Success, Radford University  
 2010. Student Learning Outcomes and Assessment, Workshop, Radford University  
 2005. Introduction to ArcGIS 9.1 (ESRI-certified course), Radford University  
 2004. GIS Across the Curriculum, National Institute for Technology & Liberal Education, Middlebury College, VT  
 2004. Teaching Critical Thinking Across the Disciplines, Workshop, Connecticut College  
 2003. Temple Summer Institute: Web-based Technology to Enhance Student Learning, Connecticut College  
 2002. Smithsonian National Park Conservation and Research Center: Advanced GIS and Remote Sensing: Measuring Landcover Change and its Impact on Endangered Species