

## Emily B. Sessa

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### I. RESEARCH INTERESTS

Plant systematics and evolution, phylogenetics, historical biogeography, diversification processes, physiological ecology, community assembly, reticulate evolution, ferns and lycophytes.

### II. APPOINTMENTS

- 2022–present **New York Botanical Garden**, Bronx, New York  
Patricia K. Holmgren Director, William & Lynda Steere Herbarium
- 2022–present **Cornell University**, Ithaca, New York  
Adjunct Professor of Plant Biology, School of Integrative Plant Science
- 2022–present **City University of New York**, New York, New York  
Adjunct Professor of Biology, Graduate Center
- 2013–present **University of Florida**, Gainesville, Florida  
Courtesy Professor, Department of Biology (2022–present)  
Associate Professor, Department of Biology (2019–2022)  
Assistant Professor, Department of Biology (2013–2019)
- 2013–2022 **Florida Museum of Natural History**, Gainesville, Florida  
Affiliate Associate Curator of Molecular Systematics, Department of Natural History
- 2005–2007 **Paleontological Research Institution & Museum of the Earth**, Ithaca, New York  
Assistant to the Director and Assistant Editor, *American Paleontologist* magazine

### III. PROFESSIONAL PREPARATION

- 2012–2013 **University of Arizona**, Tucson, Arizona  
Postdoctoral Associate, Ecology and Evolutionary Biology; Mentor: Dr. Mike Barker
- 2012 **University of Wisconsin–Madison**, Madison, Wisconsin  
Ph.D., Botany; Advisor: Dr. Thomas Givnish
- 2005 **Cornell University**, Ithaca, New York  
B.A., *magna cum laude*, Ecology & Evolutionary Biology; Advisor: Dr. Barbara Bedford

### IV. FUNDING (TOTAL TO DATE: \$5,168,993)

- 2020–2024 **Surviving a mass extinction: Lessons from the K-Pg fern spike**. PI: EB Sessa. \$1,175,784. NASA Science Mission Directorate, Planetary Science Division 19-EXO10-0060.
- 2019–2020 **Support for Society of Systematic Biologists Standalone Meeting: SSB 2020 –Systematics in the Swamp**. PI: EB Sessa. \$3,000. UF Office of Research.
- 2019–2020 **Developing a vision for the future of systematics at the Society of Systematic Biologists conference**. PI: EB Sessa. \$99,603. NSF DEB 1953920.
- 2019–2024 **CAREER: Resolving a paradox of global botanical biodiversity: Why is Africa the “odd man out”?** PI: EB Sessa. \$1,045,479. NSF DEB 1844930.

- 2019 *RET supplement* to NSF DEB 1541506. PI: JG Burleigh, Co-PIs: EB Sessa, P Antonenko, EC Davis, SF McDaniel. \$19,703. NSF DEB 1918299.
- 2019 *REU supplement* to NSF DEB 1541506. PI: JG Burleigh, Co-PIs: EB Sessa, P Antonenko, EC Davis, SF McDaniel. \$14,000. NSF DEB 1917757.
- 2019 **Study abroad course development trip to South Africa, Namibia, and Botswana.** \$9,072. UF International Center.
- 2018–2024 **Collaborative Research: Understanding the effects of ploidal level on responses to global change in plants.** A collaborative project with C Visger (CSU-Sacramento) and JE Watkins (Colgate University). PI: EB Sessa. \$338,035. NSF IOS 1754911.
- 2018–2021 **Digitization TCN: Collaborative Research: The Pteridological Collections Consortium: An integrative approach to pteridophyte diversity over the last 420 million years.** A consortium of 39 institutions, led by C Rothfels and C Looy (UC Berkeley). UF PI: EB Sessa. \$147,790. NSF DBI 1802134.
- 2018 *REU supplement* to NSF DEB 1541506. PI: EB Sessa, Co-PIs: P Antonenko, EC Davis, SF McDaniel. \$7,500. NSF DEB 1820535.
- 2017 *REU supplement* to NSF DEB 1541506. PI: EB Sessa, Co-PIs: P Antonenko, EC Davis, SF McDaniel. \$6,500. NSF DEB 1722132.
- 2017–2020 **Dissertation Research: The Evolutionary Significance of Gametophyte Morphology in Epiphytic Ferns.** PI: EB Sessa, Co-PI: Jerald Pinson. \$19,816. NSF DEB 1701708. Currently in a no-cost extension.
- 2016–2019 **Collaborative Research: Building a comprehensive evolutionary history of flagellate plants.** A collaborative award with H Cui (University of Arizona), M von Konrat and E Gaus (Field Museum of Natural History). PI: EB Sessa/JG Burleigh, Co-PIs: JG Burleigh/EB Sessa, P Antonenko, EC Davis, SF McDaniel. \$2,227,377. NSF DEB 1541506. Currently in a no-cost extension.
- 2014–2016 **A novel network and molecular approach to conserving the globally imperiled pine rockland ecosystem of south Florida.** PI: B Baiser; Co-PIs: EB Sessa, J Hulcr. \$25,470. Eppley Foundation for Research.
- 2014 **A preliminary investigation of genome size and structure in ferns: The role of transposable elements and duplicate gene copies.** PI: PS Soltis; Co-PIs: EB Sessa, WB Barbazuk, M Kirst, DE Soltis. \$15,000. UF Genetics Institute 89167530.
- 2011–2012 **Dissertation Research: Investigating phylogeny, reticulate evolution, and gene tree discordance in New World *Dryopteris* (Dryopteridaceae).** PI: TJ Givnish; Co-PI: EB Sessa. \$14,864. NSF DEB 1110335.

## V. BOOKS

**Sessa EB. (2024)** *Ferns, Spikemosses, Clubmosses, and Quillworts of Eastern North America*. Princeton University Press. Princeton, USA.

## VI. PUBLICATIONS

*Submitted for review or in revision*

76. Davis CC, **EB Sessa**, A Paton, A Antonelli, and JK Teisher. The destructive sampling conundrum and guidelines for effective and ethical sampling of herbaria. *PNAS*. In review.

75. MJ Karichu, BK Ngarega, J Jefwa, B Loiselle, **and EB Sessa**. Tracing the range shifts of African tree ferns: Insights from the African Humid Period and beyond. *Ecological Informatics*. In review.
74. Antonelli A, JK Teisher, RJ Smith, AM Ainsworth, G Furci, E Gaya, SC Goncalves, DL Hawksworth, I Larridon, **EB Sessa**, ARG Simoes, LM Suz, C Acedo, DN Aghayeva, AA Agorini, LS Al Harthy, KL Bacon, MG Chavez-Hernandez, M Colli-Silva, J Crosier, AH Davey, PY Eguia, WL Eiserhardt, F Forest, RV Gallagher, G Gigot, J Gomez-da-Silva, RHA Govaerts, OM Grace, Z Gudzinskas, TG Hailemichael, SJ Ibadullayeva, R Idohou, JI Marquez-Corro, SP Muller, R Negrao, I Ondo, AJ Paton, MOO Pellegrini, DS Penneys, S Pironon, DV Rafidimanana, R Ramnath-Budhram, F Rasaminirina, JA Reiske, RF Sage, A Salino, D Silvestro, MSJ Simmonds, M Soto Gomez, JL Souza, L Taura, A Taylor, AM Vasco-Palacios, DT Vasques, P Weigelt, JD Wieczorkowski. The 2030 Declaration on Scientific Plant and Fungal Collecting. *Plants, People, Planet*. In review.
73. Pelosi JA, BA Zumwalde, WL Testo, EH Kim, JG Burleigh, **and EB Sessa**. All tangled up: Unraveling phylogenetics and reticulate evolution in the vining ferns, *Lygodium* (Lygodiaceae, Schizaeales). *American Journal of Botany*. In review.
72. Tiley GP, AA Crowl, PS Manos, **EB Sessa**, C Solis-Lemus, AD Yoder, and JG Burleigh. Phasing alleles improves network inference with allopolyploids. *Systematic Biology*. In revision.
71. Howard CC, P Kamau, H Väre, L Hannula, A Juslén, J Rikkinen, **and EB Sessa**. Historical biogeography of Sub-Saharan African Spleenworts. *Journal of Biogeography*. In revision.

*Published or in press*

70. Azevedo-Schmidt L, ED Currano, R Dunn, J Pittermann, **EB Sessa**, and JL Gill. **(2024)** Ferns as facilitators of community assembly following biotic upheaval. *BioScience*.
69. Bechteler J, G Peñaloza-Bojacá, David Bell, JG Burleigh, SF McDaniel, EC Davis, **EB Sessa**, A Bippus, DC Cargill, S Chantanaorrapint, I Draper, L Endara, LL Forrest, R Garilleti, SW Graham, S Huttunen, J Jauregui Lazo, F Lara, J Larraín, LR Lewis, DG Long, D Quandt, KS Renzaglia, A Schäfer-Verwimp, GE Lee, AM Sierra, M von Konrat, EE Zartman, MR Pereira, B Goffinet, JC Villarreal. **(2023)** Comprehensive phylogenomic time tree of bryophytes reveals deep relationships and uncovers gene incongruences in the last 500 million years of diversification. *American Journal of Botany* 110: e16249. 20 pages.
68. Pelosi JA, E Sorojsrisom, B Zumwalde, **and EB Sessa**. **(2023)** A genome size for the Appalachian gametophyte. *American Fern Journal* 113 (4): 257–262.
67. **Sessa EB**, RR Masalia, N Arrigo, MS Barker, and JA Pelosi. **(2023)** GOgetter: A pipeline for summarizing and visualizing GO slim annotations for plant genetic data. *Applications in Plant Sciences* 11: e11536. 9 pages.
66. Krieg CP, K Seeger, C Company, JE Watkins Jr., D McClearn, KA McCulloh, **and EB Sessa**. **(2023)** Functional traits and trait co-ordination change over the life of a leaf in a tropical fern species. *American Journal of Botany* 110: e16151. 10 pages.
65. Pelosi JA, WB Barbazuk, **and EB Sessa**. **(2023)** Life without a sporophyte: the origin and genomic consequences of asexual reproduction in a gametophyte-only fern. *International Journal of Plant Sciences* 184: 454–469.
64. Pelosi JA, BA Zumwalde, O Hornych, K Wheatley, EH Kim, **and EB Sessa**. **(2023)** *Lygodium japonicum* (Lygodiaceae) is represented by a tetraploid cytotype in Florida. *American Fern Journal* 113: 43–55.
63. Johnson KR ...**EB Sessa**... IFP Owens (156 authors total). **(2023)** A global approach for natural history museum collections in the 21<sup>st</sup> century. *Science* 379(6638): 1192–1194.

62. Testo WL, AL de Gasper, S Molino, JM Gabriel y Gálan, A Salino, VA de Oliveira Dittrich, **and EB Sessa. (2022)** Deep vicariance and frequent transoceanic dispersal shape the evolutionary history of a globally distributed fern family. *American Journal of Botany* 109: 1579–1595.
61. Marchant DB, G Chen, S Cai, J Jenkins, S Shu, C Plott, J Webber, J Lovell, G He, L Sandor, M Williams, S Rajasekar, A Healey, K Barry, Y Zhang, **EB Sessa**, PG Wolf, A Harkess, F-W Li, P Schafran, A Becker, L Gramzow, D Xue, Y Wu, F Chen, T Tong, Y Wang, F Dai, S Hua, H Wang, S Xu, F Xu, H Duan, G Theißen, RJ Schmitz, D Stevenson, B Ambrose, JA Banks, JH Leebens-Mack, J Grimwood, J Schmutz, PS Soltis, DE Soltis, and Z-H Chen. **(2022)** Ancient yet Dynamic: The Evolution of a Fern Genome. *Nature Plants* 8(9): 1038–1051.
60. Karichu MJ, BK Ngarega, GE Onjalalaina, P Kamau, **and EB Sessa. (2022)** Ecological niche modeling predicts the potential distributions of African *Azolla* species and their implications for African wetland ecosystems. *Ecology and Evolution* 12(8): e9210. 13 pages.
59. Pelosi JA, EH Kim, WB Barbazuk, **and EB Sessa. (2022)** Phylotranscriptomics illuminates the placement of whole genome duplications and gene retention in ferns. *Frontiers in Plant Sciences* 13:882441. 23 pages. *Invited for a special issue on fern genomics.*
58. Pinson JB, SM Chambers, **and EB Sessa. (2022)** The spatial separation of *Callistopteris baueriana* (Hymenophyllaceae) sporophytes and gametophytes along elevational gradients in Hawai'i. *American Fern Journal* 112(1): 1–16.
57. Fawcett S, AR Smith, M Sundue, JG Burleigh, **EB Sessa**, L-Y Kuo, C-W Chen, WL Testo, M Kessler, GoFlag Consortium, and DS Barrington. **(2021)** A global phylogenomic analysis of the Thelypteridaceae. *Systematic Botany* 46(4): 891–915.
56. Valle N, P Anonenko, L Endara, EC Davis, G Somarriba, **EB Sessa**, F Luo, S Carey, S Dogan, JG Burleigh, and S McDaniel. **(2021)** Community science, storytelling, or inquiry-based learning? Evaluating three technology-enhanced pedagogical approaches in an online botany course. *The American Biology Teacher* 83(8): 513–520.
55. Riibe L, M Sundue, **EB Sessa**, and WL Testo. **(2021)** A reassessment of the little-known Amazonian fern *Diplazium praestans* based on molecular and morphological evidence. *Systematic Botany* 46(2): 260–272.
54. Tribble CM, J Martínez-Gómez, CC Howard, J Males, V Sosa, **EB Sessa**, N Cellinese, and CD Specht. **(2021)** Get the shovel: Evolutionary complexities of below ground organs in geophytes. *American Journal of Botany* 108(3): 1–16.
53. Trotta L, ZA Siders, **EB Sessa**, J Possley, and B Baiser. **(2021)** The role of phylogenetic scale in Darwin's Naturalization Conundrum. *Diversity and Distributions* 27: 618–631.
52. Pelosi JA and **EB Sessa. (2021)** From genomes to populations: a meta-analysis and review of fern population genetics. *International Journal of Plant Sciences* 182(5): 325–343.
51. Cai S, Y Huang, F Chen, X Zhang, **EB Sessa**, C Zhao, DB Marchant, D Xue, G Chen, F Dai, JH Leebens-Mack, G Zhang, S Shabala, JM Christie, MR Blatt, E Nevo, PS Soltis, DE Soltis, P Franks, F Wu, and Z-H Chen. **(2021)** Evolution of rapid blue-light response linked to explosive diversification of ferns in angiosperm forests. *New Phytologist* 230: 1201–1213.
50. Howard CC, CM Tribble, J Martínez-Gómez, **EB Sessa**, CD Specht, and N Cellinese. **(2021)** 1, 2, 3, GO!: Venturing beyond gene ontologies in plant evolutionary research. *American Journal of Botany* 108(3): 1–5.
49. Breinholt JW, SB Carey, GP Tiley, EC Davis, L Endara, SF McDaniel, LG Neves, **EB Sessa**, M von Konrat, S Fawcett, SM Ickert-Bond, PH Labiak, J Larraín, M Lehnert, LR Lewis, NS Nagalingum, N Patel, SA Rensing, WL Testo, A Vasco, JC Villarreal, EW Williams, JG Burleigh. **(2021)** Target enrichment probe set for resolving the flagellate plant tree of life. *Applications in Plant Sciences* 9(1): e11406 (9 pages).

48. Hornyach O, WL Testo, **EB Sessa**, JE Watkins, C Company, J Pittermann, L Ekrt. (2021) Insights into the evolutionary history and widespread occurrence of antheridiogen systems in ferns. *New Phytologist* 229(1): 607–619.
47. Marques E, C Krieg, E Dacosta, E Bueno, **EB Sessa**, RV Penmetsa, and EB von Wettberg. (2020) The impact of domestication on above- and below- ground trait responses to nitrogen fertilization in wild and cultivated genotypes of chickpea (*Cicer* sp.). *Frontiers in Genetics* 11: 576338 (11 pages).
46. Shepherd KA, EA Johnson, AG Gardner, BJ Lepschi, **EB Sessa**, and RS Jabaily. (2020) The concluding chapter: Recircumscription of *Goodenia* (Goodeniaceae) to include four allied genera with an updated infrageneric classification. *PhytoKeys* 152: 27–104.
45. Luo F, P Antonenko, N Valle, **EB Sessa**, JG Burleigh, L Endara, S McDaniel, S Carey, and EC Davis. (2020) Collaborative design reasoning in a large interdisciplinary learning tool design project. *International Journal of Designs for Learning* 11(1): 85–97.
44. de la Fuente P, JM Gabriel y Galán, S Molino, **EB Sessa**, and LG Quintanilla. (2020) Character expression, reproductive barriers and origin of the rare fern hybrid *Asplenium* × *aran-tohanum* (Aspleniaceae). *Plant Systematics and Evolution* 306: 24 (12 pages).
43. Possley J, L Riibe, J Lange, and **EB Sessa**. (2020) Final Report: Conservation efforts for federally endangered ferns of Puerto Rico’s Cordillera Central. Report from Fairchild Tropical Botanic Garden to USFWS Caribbean Field office and Puerto Rico Departamento de Recursos Naturales y Ambiente, under Cooperative Agreement F14AC01201, Amendment No. 1.
42. Marchant DB, **EB Sessa**, PG Wolf, K Heo, WB Barbazuk, PS Soltis, and DE Soltis. (2019) The C-Fern (*Ceratopteris richardii*) genome: insights into plant genome evolution with the first partial homosporous fern genome assembly. *Scientific Reports* 9: 18181 (14 pages).
41. One Thousand Plant Transcriptomes Initiative\*. (2019) A phylogenomic view of evolutionary complexity in green plants. *Nature* 574: 679–685. \*A consortium of 192 authors.
40. Kinoshian S, WL Testo, SM Chambers, and **EB Sessa**. (2019) Using RAD data to confirm parentage of polyploids in a reticulate complex of ferns. *American Fern Journal* 109(3): 267–282. *Invited for special issue on fern genomics*.
39. Testo WL, AR Field, **EB Sessa**, and M Sundue. (2019) Phylogenetic and morphological analyses support the resurrection of *Dendroconche* and the recognition of two new genera in Polypodiaceae subfamily Microsoroideae. *Systematic Botany* 44(4): 1–16.
38. Molino S, JM Gabriel y Galán, **EB Sessa**, and P Wasowicz. (2019) A multi-character review of *Struthiopteris* leads to the rescue of *Spicantopsis* (Blechnaceae, Polypodiopsida). *Taxon* 68(2): 185–198.
37. Molino S, JM Gabriel y Galán, P Wasowicz, P de la Fuente, and **EB Sessa**. (2019) The *Struthiopteris spicant* (Blechnaceae, Polypodiopsida) complex in Western Europe, with proposals for some taxonomic and nomenclatural changes. *Plant Systematics and Evolution* 305: 255–268.
36. Testo WL, **EB Sessa**, and DS Barrington. (2019) The rise of the Andes promoted rapid diversification in Neotropical *Phlegmariurus* (Lycopodiaceae). *New Phytologist* 222: 604–613.
35. Rivero R, **EB Sessa**, and R Zenil-Ferguson. (2019) EyeChrom and CCDBcurator: Visualizing chromosome count data from plants. *Applications in Plant Sciences*. 7(1): e1207 (5 pages).
34. **Sessa EB**. (2019) Commentary: Polyploidy as a mechanism for surviving global change. *New Phytologist* 221: 5–6. *This commentary was invited by the editors*.
33. Trotta L, B Baiser, J Possley, D Li, J Lange, S Martin, and **EB Sessa**. (2018) Community phylogeny of the globally critically imperiled pine rockland ecosystem. *American Journal of Botany* 105: 1735–1747.
32. Pinson JB, SR Manchester, and **EB Sessa**. (2018) *Calcita remberi* sp. nov., a tree fern from the Miocene of northern Idaho. *International Journal of Plant Sciences* 179 (8): 635–639.

31. Jabaily RS, KA Shepherd, PS Michener, CJ Bush, R Rivero, AG Gardner, **and EB Sessa. (2018)** Employing mitochondrial sequences and hypothesis testing to resolve recalcitrant backbone nodes in *Goodenia* s.l. (Goodeniaceae). *Molecular Phylogenetics and Evolution* 127: 502–512.
30. **Sessa EB**, M Vicent, SM Chambers, and JM Gabriel y Galán. **(2018)** Evolution and reciprocal origins in Mediterranean ferns: The *Asplenium obovatum* and *A. adiantum-nigrum* complexes. *Annals of the Missouri Botanical Garden* 103(2): 175–187.
29. **Sessa EB**, SM Chambers, L Endara, JG Burleigh, and B Baiser. **(2018)** Community assembly of the ferns of Florida. *American Journal of Botany* 105(3): 549–564.
28. Soltis DE, M Moore, **EB Sessa**, S Smith, PS Soltis. **(2018)** Using and navigating the plant tree of life. *American Journal of Botany* 105(3): 287–290.
27. **Sessa EB. (2018)** Evolution and classification of ferns and lycophytes. Pages 179–200 in: *Current Advances in Fern Research*. H Fernández, Ed. Springer: Switzerland
26. Pinson JB, SM Chambers, **and EB Sessa. (2017)** *Vittaria graminifolia* (Pteridaceae) and *Didymoglossum petersii* (Hymenopyllaceae) in Broxton Rocks, GA. *American Fern Journal* 107(4): 257–264.
25. Vicent M, JM Gabriel y Galán, **and EB Sessa. (2017)** Phylogenetics and historical biogeography of *Lomaridium* (Blechnaceae, Polypodiopsida). *Taxon* 66(6): 1304–1316.
24. Berger BA, J Han, **EB Sessa**, AG Gardner, KA Shepherd, V Ricigliano, RS Jabaily, and DG Howarth. **(2017)** The unexpected depths of genome skimming data: a case study examining Goodeniaceae floral symmetry genes. *Applications in Plant Sciences*. 5(10): 1700042 (10 pages).
23. Cai S, G Chen, Y Wang, Y Huang, DB Marchant, G Jing, Y Wang, Q Yang, F Dai, A Hills, PJ Franks, E Nevo, DE Soltis, PS Soltis, **EB Sessa**, P Wolf, D Xue, G Zhang, BJ Pogson, and Z-H Chen. **(2017)** Evolutionary conservation of ABA signaling for stomatal closure in fern. *Plant Physiology* 174(2): 732–747.
22. Chambers SM, JE Watkins, Jr., **and EB Sessa. (2017)** Differences in desiccation tolerance among populations of a gametophyte-only fern. *American Journal of Botany* 104(4): 598–607.
21. **Sessa EB**, A Juslén, H Väre, and SM Chambers. **(2017)** Into Africa: Molecular phylogenetics and historical biogeography of sub-Saharan African woodferns (*Dryopteris*). *American Journal of Botany* 104(3): 477–486.
20. Pinson JB, SM Chambers, J Nitta, L-Y Kuo, **and EB Sessa. (2017)** The separation of generations: Biology and biogeography of long-lived, sporophyte-less fern gametophytes. *International Journal of Plant Sciences* 178(1): 1–18.
19. PPG 1: The Pteridophyte Phylogeny Group\*. **(2016)** A community-derived classification for extant lycophytes and ferns. *Journal of Systematics and Evolution* 54(6) 563–603.  
\*This project was organized by E Schuettpelz, H Schneider, AR Smith, P Hovenkamp, J Prado, G Rouhan, A Salino, M Sundue, TE Almeida, B Parris, **EB Sessa**, AR Field, AL de Gasper, CJ Rothfels, MD Windham, M Lehnert, B Dauphin, A Ebihara, S Lehtonen, PB Schwartsburd, J Metzgar, L-B Zhang, L-Y Kuo, PJ Brownsey, M Kato, and MD Arana, with 68 additional contributors.
18. Link-Pérez MA, TG Ludwig, CJ Ledford, MH Seabolt, **and EB Sessa. (2016)** Lectotypification of *Adiantopsis alata* Prantl (Pteridaceae) and descriptions of new palmate species in the Guiana Shield. *Systematic Botany* 41(4): 906–918.
17. Hafler CH, KM Pryer, E Schuettpelz, **EB Sessa**, DR Farrar, R Moran, JJ Schneller, JE Watkins, Jr., and MD Windham. **(2016)** Sex and the single gametophyte: Revising the homosporous plant life cycle in light of contemporary research. *BioScience* 66(11): 928–937.

16. Visger CJ, CG Germain-Aubrey, M Patel, **EB Sessa**, PS Soltis, and DE Soltis. (2016) Niche divergence between diploid and autotetraploid *Tolmiea* (Saxifragaceae). *American Journal of Botany* 103(8): 1396–1406.
15. **Sessa EB**, W Testo, and JE Watkins, Jr. (2016) On the widespread capacity for, and functional significance of, extreme inbreeding in ferns. *New Phytologist* 211(3): 1108–1119. *This paper is featured on the cover of the volume in which it appears.*
14. **Sessa EB** and JP Der. (2016) Evolutionary genomics of ferns and lycophytes. Pages 215–254 in: *Genomes and Evolution of Charophytes, Bryophytes, and Ferns*. SA Rensing, Ed. *Advances in Botanical Research*, vol. 78. Elsevier: Massachusetts, USA.
13. Gardner AG\*, **EB Sessa\***, P Michener, E Johnson, KA Shepherd, DG Howarth, and RS Jabaily. (2016) Utilizing next-generation sequencing to resolve the backbone and inform taxonomy of the Core Goodeniaceae. *Molecular Phylogenetics and Evolution* 94: 605–617. \*Authors contributed equally.
12. Li Z, A Baniaga, **EB Sessa**, M Scascitelli, SW Graham, LH Rieseberg, and MS Barker. (2015) Early genome duplications in conifers and other seed plants. *Science Advances* 1(10): e1501084 (8 pages).
11. Wolf PG, **EB Sessa**, DB Marchant, F-W Li, CJ Rothfels, EM Sigel, MA Gitzendanner, CJ Visger, JA Banks, DE Soltis, PS Soltis, KM Pryer, and JP Der. (2015) An exploration into fern genome space. *Genome Biology and Evolution* 7(9): 2533–2544.
10. **Sessa EB**, L-B Zhang, H Väre, and A Juslén. (2015) What we do (and don't) know about ferns: *Dryopteris* (Dryopteridaceae) as a case study. *Systematic Botany* 40(2): 387–399.
9. Tank DC, JM Eastman, MW Pennell, PS Soltis, DE Soltis, CE Hinchliff, JW Brown, **EB Sessa**, and LJ Harmon. (2015) Nested radiations and the pulse of angiosperm diversification: increased diversification rates often follow whole genome duplication. *New Phytologist* 207: 454–467.
8. Lessl JT, D-X Guan, **EB Sessa**, B Rathinasabapathi, and LQ Ma. (2015) Transfer of arsenic and phosphorus from soils to the fronds and spores of arsenic hyperaccumulator *Pteris vitatta* and non-arsenic hyperaccumulators. *Plant and Soil* 390: 49–60.
7. **Sessa EB**, JA Banks, MS Barker, JP Der, AM Duffy, SW Graham, M Hasebe, J Langdale, F-W Li, DB Marchant, KM Pryer, CJ Rothfels, SJ Roux, ML Salmi, EM Sigel, DE Soltis, PS Soltis, DW Stevenson, and PG Wolf. (2014) Between two fern genomes. *GigaScience* 3: 15 (7 pages).
6. **Sessa EB** and TJ Givnish. (2014) Leaf form and photosynthetic physiology of *Dryopteris* species distributed along light gradients in eastern North America. *Functional Ecology* 28: 108–123.
5. **Sessa EB**, EA Zimmer, and TJ Givnish. (2012) Unraveling reticulate evolution in North American *Dryopteris* (Dryopteridaceae). *BMC Evolutionary Biology* 12(1): 104 (24 pages).
4. **Sessa EB**, EA Zimmer, and TJ Givnish. (2012) Reticulate evolution on a global scale: a nuclear phylogeny for New World *Dryopteris* (Dryopteridaceae). *Molecular Phylogenetics & Evolution* 64(3): 563–581.
3. Zhang L-B, L Zhang, S-Y Dong, **EB Sessa**, X-F Gao, and A Ebihara. (2012) Molecular circumscription and major evolutionary lineages of the fern genus *Dryopteris* (Dryopteridaceae). *BMC Evolutionary Biology* 12(12): 180 (15 pages).
2. **Sessa EB**, EA Zimmer, and TJ Givnish. (2012) Phylogeny, divergence times, and historical biogeography of New World *Dryopteris* (Dryopteridaceae). *American Journal of Botany* 99(4): 730–750.
1. Ross RM, F Allaby, CS Buckler, **EY Butler**, D Gabreski, L Paciulli, KJ Gremillion, and WD Allmon. (2008) The Hyde Park Mastodon Matrix Project, with particular reference to the mollusks and seeds. In *Mastodon Paleobiology, Taphonomy, and Paleoenvironment in the Late Pleistocene of New York State: Studies on the Hyde Park, Chemung, and North Java Sites* [WD Allmon and PL Nester, eds]. *Paleontographica Americana* 61: 111–134.

## VII. PRESENTATIONS

*Invited seminars*

- 2024 Universität Zürich, Institute of Systematic and Evolutionary Botany
- 2024 Michigan State University, Horticulture and Plant, Soil, and Microbial Sciences Departmental Spring Seminar Series  
*Invited by the Horticultural Organization of Graduate Students as their spring invited speaker.*
- 2023 University of Maine, School of Biology & Ecology
- 2022 Cornell University, School of Integrative Plant Science
- 2022 Smithsonian Institution, Department of Botany
- 2022 University of Connecticut, Department of Ecology & Evolutionary Biology
- 2021 University of Alabama–Huntsville, Department of Biological Sciences
- 2020 University of Connecticut, Department of Ecology & Evolutionary Biology
- 2020 Humboldt State University, Department of Biological Sciences
- 2020 Cornell University, School of Integrative Plant Science
- 2020 University of Vermont, Department of Plant Biology
- 2020 University of Kansas, Department of Ecology & Evolutionary Biology
- 2019 Universität Zürich, Institute of Systematic and Evolutionary Botany
- 2019 University of California, Davis, Plant Biology Graduate Group
- 2019 Louisiana State University, Department of Biological Sciences
- 2018 University of Arizona, Department of Ecology and Evolutionary Biology
- 2018 University of Alabama, Department of Biological Sciences
- 2018 Harvard University Herbaria
- 2018 University of Georgia, Department of Plant Biology
- 2018 Ohio State University, Department of Evolution, Ecology & Organismal Biology
- 2017 Plant Conservation Alliance, U.S. Bureau of Land Management, Washington, D.C.
- 2017 University of Wisconsin–Madison, Department of Botany
- 2017 Oregon State University, Department of Botany & Plant Pathology  
*Invited to give the 2017 Dr. Bonnie C. Templeton Annual Lecture, delivered each spring by a woman working in the field of plant systematics.*
- 2017 Chicago Plant Science Symposium, Field Museum
- 2017 Duke University, Department of Biology  
*Invited to be the Spring 2017 Duke Systematics Discussion Group Super-Speaker.*
- 2016 Iowa State University, Department of Ecology, Evolution, and Organismal Biology
- 2016 University of California, Santa Cruz, Department of Ecology & Evolutionary Biology
- 2014 Missouri Botanical Garden
- 2014 Finnish Museum of Natural History, University of Helsinki
- 2013 Rhodes College, Department of Biology
- 2010 University of California–Berkeley, University & Jepson Herbaria

*Invited conference presentations (speaker indicated with \*)*

- 2023 **Sessa EB\***, E Kim, K Wheatley, and JA Pelosi. How to survive a mass extinction: insights from fern gametophytes. In: *Attack of the (haploid) clones: the resurgence of gametophyte biology across land plants*. Colloquium at Botany 2023, Boise, ID.



- 2022 **Sessa EB\***. Fern Phylogeny, Ecology, and Genomics. Invited speaker at *The Fiddlehead Forum: Towards a community strategy for fern developmental genetics*, a consortium of researchers in the UK and Europe working on fern evo-devo.
- 2020 **Sessa EB\***. Fern Genomics & Fern Models. Invited plenary speaker at the kickoff meeting for Molecular Adaptation to Land: Plant Evolution to Change (MAdLand), a priority program of the German national science agency, Deutsche Forschungsgemeinschaft.
- 2020 **Sessa EB\***. Patterns and People in African Plant Systematics. Botany 2020, Virtual. Invited talk as the 2019 recipient of the Botanical Society of America's Emerging Leader Award.
- 2019 **Sessa EB\***. Global patterns of fern biogeography: lessons from islands and continents. In: *Ahupua'a: From the mountains to the ocean. Desde la montaña hasta el océano*. Symposium at the 2019 National Diversity in STEM Conference (SACNAS), Honolulu, HI.
- 2018 **Sessa EB\***, AL de Gasper, VA de Oliveira Dittrich, A Salino, JM Gabriel y Galán, and W Testo. Historical biogeography of the fern family Blechnaceae. In *S35: Avances en el conocimiento de la historia evolucionaria de las plantas flageladas*. Symposium at the XII Latin American Botanical Congress, Quito, Ecuador.
- 2018 **Sessa EB\***. Exploring a paradox of global botanical biodiversity: Why is Africa the "odd man out"? In: *Biodiversity for Sustainable Agriculture in Africa*. Networking seminar at the Finnish Museum of Natural History, Helsinki, Finland.
- 2017 **Sessa EB\***, SM Chambers, and B Baiser. Community phylogenetics of Florida ferns: insights from integrated analyses of trees, traits, and climate data. In: *Taxonomy and conservation of ferns and lycopods*. Symposium at the XIX International Botanical Congress, Shenzhen, China.
- 2017 **Sessa EB\***. Understanding the "Odd Man Out" pattern in African plant: New insights from ferns. In: *Evolution of intercontinental disjunctions in ferns and lycophytes*. Symposium at the XIX International Botanical Congress, Shenzhen, China.
- 2017 Burleigh JG\*, J Breinholt, S Carey, EC Davis, S McDaniel, L Nieves, **EB Sessa**, M von Konrat. GoFlag: A next generation sequencing perspective on flagellate plant phylogeny. In: *Phylogenomic perspectives on flagellate plant evolution*. Symposium at the XIX International Botanical Congress, Shenzhen, China.
- 2017 Marchant DB\*, **EB Sessa**, PG Wolf, PS Soltis, and DE Soltis. Unfurling monilophyte genomics: how polyploidy, transposable elements, and the alternation of independent generations drive fern evolution. In: *Plant genome evolution from the very beginning*. Symposium at the XIX International Botanical Congress, Shenzhen, China.
- 2016 **Sessa EB\***, B Baiser, SM Chambers. Florida ferns: Community phylogenetics and traits. In: *Community Ecology of Florida*. Symposium at ESA, Ft. Lauderdale, FL.
- 2016 Chambers SM\*, **EB Sessa**, B Baiser. Florida ferns: Species' distributions and climatic tolerances. In: *Community Ecology of Florida*. symposium at ESA, Ft. Lauderdale, FL.
- 2016 Trotta LB\*, B Baiser, J Possley, **EB Sessa**. Phylogenetic signal to invasion and rarity in Florida's imperiled Pine Rockland flora. In: *Community Ecology of Florida*. Symposium at ESA, Ft. Lauderdale, FL.
- 2016 **Sessa EB\***, SF McDaniel, EC Davis, P Antonenko, M von Konrat, E Gaus, and JG Burleigh. Building a comprehensive evolutionary history of flagellate plants. In: *Seed-free plants at the genomics scale*. Colloquium at Botany, Savannah, GA.
- 2016 Marchant DB\*, WB Barbazuk, **EB Sessa**, M Kirst, PS Soltis, and DE Soltis. Explorations into the C-Fern genome. Plant & Animal Genome Conference XXIV, San Diego, CA.

- 2015 **Sessa EB\***, P Szovenyi, S Graham, D Stevenson, P Wolf, C Rothfels, F-W Li, G K-S Wong, and J Der. Gametophyte vs. sporophyte dominance and accompanying changes in gene content across land plants. In: *Phylogenomics and the 1000 plants (1KP) initiative*. Colloquium at Botany, Edmonton, Canada.
- 2015 **Sessa EB\***, L Trotta, S Stevens, L Endara, JG Burleigh, B Baiser. Phylogenetic structure and diversity of Florida ferns. In: *The integration of ecological and phylogenetic approaches in pteridology*. Colloquium at Next Generation Pteridology, Washington, DC.
- 2015 Der JP\* and **EB Sessa**. Next-generation technology unfurls new opportunities for the next generation of pteridology. In: *Genomics and Transcriptomics of Ferns and Lycophytes*. Colloquium at Next Generation Pteridology, Washington, DC.
- 2015 Marchant DB\*, **EB Sessa**, K Heo, PS Soltis, and DE Soltis. Delving into the C-Fern genome. In: *Genomics and Transcriptomics of Ferns and Lycophytes*. Colloquium at Next Generation Pteridology, Washington, DC.
- 2015 Wolf PG\*, **EB Sessa**, DB Marchant, F-W Li, CJ Rothfels, EM Sigel, MA Gitzendanner, CJ Visger, JA Banks, DE Soltis, PS Soltis, KM Pryer, and JP Der. Skimming the surface of fern nuclear genomes. In: *Genomics and Transcriptomics of Ferns and Lycophytes*. Colloquium at Next Generation Pteridology, Washington, DC.
- 2015 Zhan SH, CJ Rothfels, A Larsson, S Westrand, D Burge, M Ruhsam, F-W Li, EM Sigel, S Ellis, S Shaw, A Calcedo, T Chen, L DeGironomo, **EB Sessa**, JP Der, MS Barker, J Leebens-Mack, M Deyholos, G K-S Wong, DW Stevenson, and SW Graham\*. Phylotranscriptomics of the seed-free vascular plants. In: *Genomics and Transcriptomics of Ferns and Lycophytes*. Colloquium at Next Generation Pteridology, Washington, DC.
- 2014 Barker MS\* and **EB Sessa**. Increases in plant diversity associated with changes in genome composition and WGDs. Evolution, Raleigh, NC.
- 2011 **Sessa EB\***, Zimmer EA, and Givnish TJ. Phylogeny, physiology, and reticulate evolution: an integrated approach to North American *Dryopteris* (Dryopteridaceae). International Botanical Congress, Melbourne, Australia.
- 2009 **Sessa EB\***. Phylogenetics and physiological ecology of North American *Dryopteris* (Dryopteridaceae). NSF-MORPH Workshop, The Leaf: Integrating Evolution, Development, and Function. University of Colorado, Boulder, CO.
- 2009 **Sessa, EB\***. Relationships of North American *Dryopteris*. Cullowhee Conference: Native Plants in the Landscape, Western Carolina University, Cullowhee, NC.

*Contributed conference presentations (presenter indicated with \*)*

- 2023 Kim E\*, JA Pelosi, WB Barbazuk, and **EB Sessa**. Exploring the fern life cycle: gene expression patterns between gametophytes and sporophytes and sex determination in ferns. Botany 2023, Boise, ID.
- 2023 Pelosi JA\*, B Zumwalde, W Testo, E Kim, and **EB Sessa**. All Tangled Up: Unraveling reticulation and karyotype evolution in the vining ferns *Lygodium*. Botany 2023, Boise, ID.
- 2023 Pelosi JA\*, R Davenport, L-Y Kuo, F-W Li, E Kim, WB Barbazuk and **EB Sessa**. A preliminary report of the genome of the invasive climbing fern, *Lygodium microphyllum*. Botany 2023, Boise, ID.
- 2023 Mwhiki J and **EB Sessa**. The potential distributions of African *Azolla* species and their implications for African wetland ecosystems for the future. Botany 2023, Boise, ID.

- 2022 Krieg C,\* J Watts, **and EB Sessa**. Reconciling patterns of trait and niche evolution in polyploid plants. Botany 2022, Anchorage, AK.
- 2022 Wheatley K\*, JA Pelosi, O Hornysh, B Zumwalde, **and EB Sessa**. Cytology of the invasive climbing fern *Lygodium japonicum* in Florida. Botany 2022, Anchorage, AK. Poster.
- 2022 Kim E\*, JA Pelosi, WB Barbazuk, **and EB Sessa**. Gene expression patterns between gametophyte and sporophyte life phases and the genetic forces that drive sex determination in ferns. Botany 2022, Anchorage, AK. Poster.
- 2022 Pelosi JA\*, E Kim, WB Barbazuk, **and EB Sessa**. Here we go again (and again): repeated rounds of polyploidy and biased gene retention in ferns. Botany 2022, Anchorage, AK.
- 2021 Blais SJ\*, A Harrington, J Blake-Mahmud, **EB Sessa**, JE Watkins, and CJ Visger. Assessing the contemporary and future implications of gametophyte ecogeographic divergence between two polyploid *Dryopteris* and their progenitors. Botany 2021, Virtual.
- 2021 Blake-Mahmud J\*, **EB Sessa**, CJ Visger, and JE Watkins. Putting the dry in *Dryopteris*: transgressive response to drought and temperature stress in allopolyploid ferns. Botany 2021, Virtual.
- 2021 Crowl A\*, G Tiley, P Manos, **EB Sessa**, C Solis-Lemus, A Yoder, and JG Burleigh. Phasing polyploid alleles from target enrichment data. Botany 2021, Virtual.
- 2021 Howard CC\*, CM Tribble, **and EB Sessa**. Modeling the processes that mediate speciation and extinction rates across plants. Botany 2021, Virtual.
- 2021 Howard CC\*, P Kamau, H Väre, L Hannula, A Juslén, J Rikkinen, **and EB Sessa**. Historical biogeography of African *Asplenium* (Aspleniaceae). Botany 2021, Virtual.
- 2021 Pelosi JA\*, WB Barbazuk, **and EB Sessa**. Life without a sporophyte: revisiting the genomic consequences of asexual reproduction and the origin of *Vittaria appalachiana*. Botany 2021, Virtual.
- 2021 Ramírez-Barahona S\*, C Knudson, K Rutschke, **EB Sessa**, and R Zenil-Ferguson. The impact of polyploidy and biome preferences on fern diversification. Botany 2021, Virtual.
- 2021 Riibe LA\*, **EB Sessa**, D Barrington. Revisiting *Polystichum* (Dryopteridaceae) using the GoFlag 451 probe set: problems and prospects in the tropical American clades. Botany 2021, Virtual.
- 2021 Testo W\*, J Suissa, JG Burleigh, **and EB Sessa**. Target enrichment of 360 nuclear loci provide a first look at the evolutionary history of the pantropical fern genus *Oleandra*. Botany 2021, Virtual.
- 2021 Vasco A\*, W Testo, J Loriga, AG Martinez, A Rodriguez, FB Matos, R Moran, G Rouhan, **EB Sessa**, and JG Burleigh. Phylogenomics and historical perspectives in the fern genus *Elaphoglossum* (Dryopteridaceae). Botany 2021, Virtual.
- 2021 Villarreal JC\*, GF Peñaloza-Bojacá, D Bell, DC Cargill, L Endara, A Maciel-Silva, JG Burleigh, F-W Li, S Chantanaorrapint, **EB Sessa**, S Mcdaniel, and K Renzaglia. A 400-gene phylogeny of the hornworts unveils new relationships and new insights on character evolution and diversification. Botany 2021, Virtual.
- 2020 Tiley GP\*, AA Crowl, **EB Sessa**, and JG Burleigh. Phasing alleles improves phylogenetic network inference with allopolyploids. Botany 2020, Virtual.
- 2020 Pelosi JA\*, CP Krieg, D Adelhelm, K Jarnagin, Z Zeller, **and EB Sessa**. Population structure and dynamic fluctuations of effective population size in a polyploid fern complex. Botany 2020, Virtual.

- 2020 Hornych O\*, WL Testo, **EB Sessa**, JE Watkins, C Company, J Pittermann, L Ekrt. Pheromones largely control sex expression in ferns: a meta-analysis of fern mating via antheridiogens. *Botany* 2020, Virtual.
- 2019 Looy CV\*, CJ Rothfels, D Erwin, J Gross, A Kasameyer, E Gilbert, M von Konrat, **EB Sessa**, K Watson, R Rabeler, MA Sundue, P Sweeney, S Hu, R Burnham, P Gensel, A Weakley, and LB Zhang. Pteridophyte Collections Consortium. North American Paleontological Convention, Irvine, CA.
- 2019 Krieg C\*, K McCulloh, R Guralnick, **and EB Sessa**. Transgressive physiological traits explain broad-scale niche novelty in an allopolyploid fern complex. *Botany*, Tucson, AZ.
- 2019 Riibe L\*, **EB Sessa**, M Sundue, and W Testo. Morphology and sequence data resolve the *Diplazium praestans* mystery. *Botany*, Tucson, AZ.
- 2019 **Sessa EB\***, WL Testo, P Kamau, H Väre, L Hannula, J Rikkinen, and A Juslén. Evolutionary history of *Asplenium* in Africa. *Botany*, Tucson, AZ.
- 2019 Testo WL\*, AR Field, **EB Sessa**, and M Sundue. Phylogenetic and morphological analyses support the resurrection of *Dendroconche* and the recognition of two new genera in Polypodiaceae subfamily Microsoroideae. *Botany*, Tucson, AZ.
- 2019 Testo WL\*, **EB Sessa**, and D Barrington. Into the trees and back again: major ecological shifts drive the radiation of Neotropical *Phlegmariurus*. *Botany*, Tucson, AZ.
- 2019 Elkin L\*, I Mansour\*, L Kollar, P Antonenko, **EB Sessa**, and EC Davis. Web-based modules for teaching flagellate plant morphology. *Botany*, Tucson, AZ.
- 2019 Rothfels CJ\*, C Looy, D Erwin, J Gross, A Kasameyer, E Gilbert, M von Konrat, **EB Sessa**, K Watson, R Rabeler, M Sundue, P Sweeney, S Hu, R Burnham, P Gensel, A Weakley, and L Zhang. The Pteridophyte Collections Consortium: 420 million years in 2 million specimens. *Botany*, Tucson, AZ.
- 2019 Fawcett S\*, D Barrington, MA Sundue, JG Burleigh, **EB Sessa**, and A Smith. A 600-species phylogenomic dataset provides insights into historical global biogeography of the Thelypteridaceae, with special reference to Hawaiian and African taxa. *Botany*, Tucson, AZ.
- 2019 Howard CC\*, CM Tribble, J Martínez-Gómez, J Males, V Sosa, **EB Sessa**, CD Specht, and N Cellinese. Ontologies as a framework to clarify geophyte terminology. *Botany*, Tucson, AZ.
- 2019 Jabaily RS\*, KA Shepherd, A Gardner, **and EB Sessa**. Phylogeny informs the taxonomic revision of *Goodenia sensu lato* (Goodeniaceae). *Botany*, Tucson, AZ.
- 2019 Valle N\*, P Antonenko, L Endara, EC Davis, G Somarriba, **EB Sessa**, F Luo, S Carey, S Dogan, JG Burleigh, M von Konrat, and S McDaniel. Inquiry learning, storytelling or citizen science? Exploring perceptions of learning in an online Biology course. Conference of the American Educational Research Association, Toronto, CA.
- 2018 Luo F\*, N Valle, P Antonenko, DC Davis, **EB Sessa**, JG Burleigh, CL Endara, S McDaniel, S Carey. DELT-Collaborative Design in STEM Education: Developing An Online Tool for Learning Flagellate Plants. AECT (Association for Educational Communications & Technology) International Convention: Learning for All. Kansas City, MO.
- 2018 Molino S\*, JM Gabriel y Galán, **EB Sessa**, P Wasowicz, and P de la Fuente. Historical biogeography of spicantoid Blechnaceae ferns: the genera *Struthiopteris*, *Spicantopsis*, and *Blechnidium* (Blechnaceae, Polypodiopsida). 7th Asian Symposium of Ferns and Lycophytes. Taipei, Taiwan.

- 2018 Molino S\*, JM Gabriel y Galán, **EB Sessa**, and P Wasowicz. A multi-character review of *Struthiopteris*: most of the Asian diversity is better placed in *Spicantopsis* (Blechnaceae, Polypodiopsida). 7th Asian Symposium of Ferns and Lycophytes. Taipei, Taiwan.
- 2018 **Sessa EB\***, AL de Gasper, JM Gabriel y Galán, and W Testo. Historical biogeography of the fern family Blechnaceae. Botany, Rochester, MN.
- 2018 Zeller ZC\*, N Triester, C Krieg, K McCulloh, **and EB Sessa**. Environmental drivers of intra-specific trait variation and adaptation in the fern *Polystichum imbricans*. Botany, Rochester, MN. Poster.
- 2018 Krieg C\*, K McCulloh, R Guralnick, **and EB Sessa**. Niche divergence and novel eco-physiological traits in a North American polyploid fern complex. Botany, Rochester, MN.
- 2018 Pinson JB\*, SM Chambers, **and EB Sessa**. Biogeography of filmy ferns in eastern North America. Botany, Rochester, MN.
- 2018 Pinson JB\*, S Manchester, **and EB Sessa**. *Calcita remberi* sp. nov., a tree fern from the Miocene of northern Idaho. Botany, Rochester, MN.
- 2018 Testo W\*, **EB Sessa**, and DS Barrington. Phylogenetic systematics, morphological evolution, and natural groups in Neotropical *Phlegmariurus* (Lycopodiaceae). Botany, Rochester, MN.
- 2018 Testo W\*, **EB Sessa**, and DS Barrington. The rise of the Andes promoted rapid diversification in Neotropical *Phlegmariurus* (Lycopodiaceae). Botany, Rochester, MN.
- 2018 Marchant DB\*, **EB Sessa**, P Wolf, PS Soltis, DE Soltis. Incorporating a fern genome into land plant evolutionary genomics. Botany, Rochester, MN.
- 2018 Riibe L\* **and EB Sessa**. Phylogeny and biogeography of endemic ferns in a biodiversity hotspot. Botany, Rochester, MN. Poster.
- 2017 **Sessa EB\***, B Baiser, and SM Chambers. Florida ferns: Community phylogenetics and traits. Florida Rare Plant Task Force meeting, Sarasota, FL.
- 2017 Chambers SM\*, B Baiser, **and EB Sessa**. Distributions and environmental divergences of Florida ferns. Florida Rare Plant Task Force meeting, Sarasota, FL.
- 2017 Pinson JB\*, SM Chambers, **and EB Sessa**. Florida's sinkholes and the separation of generations in ferns. Florida Rare Plant Task Force meeting, Sarasota, FL.
- 2016 Pinson JB\*, SM Chambers, **and EB Sessa**. Florida's sinkholes and the separation of generations in ferns. Botany, Savannah, GA.
- 2016 Trotta L\*, B Baiser, J Possely, **and EB Sessa**. Phylogenetic signal of invasion and rarity in Florida's imperiled Pine Rockland flora. Botany, Savannah, GA.
- 2016 Chambers SM\*, B Baiser, **and EB Sessa**. Distributions and environmental divergences of Floridian ferns. Botany, Savannah, GA.
- 2016 Michener P\*, **EB Sessa**, C Bush, and RS Jabaily. Grow a backbone: mitochondrial exome sequencing provides a surprisingly rich source of phylogenetically informative characters in the enigmatic Australian clade *Goodenia* s.l. Botany, Savannah, GA.
- 2016 Jabaily RS\*, AG Gardner, **EB Sessa**, P Michener, E Johnson, and KA Shepherd. Molecules, morphology, and monophyly: revising the enigmatic Australian clade *Goodenia* s.l. (Goodeniaceae) using comprehensive sampling and big data. Botany, Savannah, GA.
- 2016 Marchant DB\*, WB Barbazuk, M Kirst, **EB Sessa**, PS Soltis, and DE Soltis. Gene evolution and specificity underlying the alternation of independent generations in *Ceratopteris richardii*. Botany, Savannah, GA.

- 2016 Jabaily RS\*, A Gardner, KA Shepherd, **EB Sessa**, and DG Howarth. Phylogenetics and floral symmetry evolution of the core Goodeniaceae. Evolution, Austin, TX.
- 2016 Michener P\*, **EB Sessa**, and RS Jabaily. Utilizing genome skimming of the mitochondria, chloroplast, and nuclear genomes to resolve the recalcitrant *Goodenia* Clade C backbone. Evolution, Austin, TX. Poster.
- 2015 **Sessa EB\***, M Vicent, and JM Gabriel y Galán. Exploring potential asymmetric hybridization in a Mediterranean fern complex: the *Asplenium obovatum* group. Botany, Edmonton, Canada. *I received the Edgar T. Wherry award for this talk.*
- 2015 Marchant DB\*, **EB Sessa**, K Heo, PS Soltis, and DE Soltis. Transcriptomic and genomic investigations of the homosporous fern, *Ceratopteris richardii*. Botany, Edmonton, Canada.
- 2015 Berger B\*, V Ricigliano, **EB Sessa**, A Gardner, K Shepherd, J Han, RS Jabaily, and DG Howarth. Using genome skimming to uncover coding and regulatory sequences of floral symmetry genes in Core Goodeniaceae. Botany, Edmonton, Canada. Poster.
- 2015 Link-Pérez MA\*, TG Ludwig, **EB Sessa**. Investigating reticulate evolution in *Adiantopsis* using nuclear data: first glimpses. Next Generation Pteridology, Washington, D.C.
- 2015 Der JP\*, **EB Sessa**, DB Marchant, F-W Li, CJ Rothfels, EM Sigel, JA Banks, MA Gitzendanner, CJ Visger, DE Soltis, PS Soltis, KM Pryer, and PG Wolf. Comparative exploration of fern genome space. Plant & Animal Genome XXIII, San Diego. Poster.
- 2015 Zhan SH, CJ Rothfels, Z Xi, F-W Li, **EB Sessa**, MS Barker, JP Der, M Ruhsam, A Larsson, D Burge, L DeGironimo, S Ellis, CC Davis, PG Wolf, J Leebens-Mack, M Deyholos, G K-S Wong, DW Stevenson, SW Graham\*. Phylotranscriptomics of ferns and lycophytes, two key lineages in land-plant evolution. Plant & Animal Genome XXIII, San Diego. Poster.
- 2014 Gardner A\*, K Shepherd, DG Howarth, J Fitz Gerald, **EB Sessa**, and RS Jabaily. In the Goodeniaceae, broad and deep sequencing facilitates taxonomic revision and development of the floral symmetry evolution model. Goodeniaceae Working Group Mini-Symposium, Western Australian Herbarium, Perth, Australia.
- 2014 **Sessa EB\***, W Testo, R Momin, and JE Watkins, Jr. Mating systems in ferns: frequencies, functional significance, and phylogenetic signal. Botany, Boise, ID.
- 2014 Marchant DB\*, **EB Sessa**, WB Barbazuk, PG Wolf, DE Soltis, and PS Soltis. Delving into the C-Fern genome. Botany, Boise, ID. Poster.
- 2014 Gardner AG\*, **EB Sessa**, P Michener, KA Shepherd, and RS Jabaily. Leveraging the power of next-generation sequencing to resolve the phylogenetic backbone of Core Goodeniaceae. Botany, Boise, ID.
- 2013 **Sessa EB\***, TJ Givnish, and MS Barker. Sequencing a Lazarus transcriptome: reconstructing "*Dryopteris semicristata*". Botany, New Orleans, LA.
- 2013 **Sessa EB\***, MS Barker. Absolute dosage and functional diversification drive the majority of gene retention following polyploidy in the Compositae. Botany, New Orleans, LA.
- 2013 **Sessa EB\***, MS Barker. Absolute dosage and functional diversification drive the majority of gene retention following polyploidy in the Compositae. Evolution, Snowbird, UT.
- 2012 **Sessa EB\***, TJ Givnish. Leaf form and photosynthetic physiology of eastern North American *Dryopteris* (Dryopteridaceae). Botany, Columbus, OH.
- 2010 Gardner A\*, **EB Sessa\***, B Sidoti\*, and EW Williams\*. Ecological cladogenesis: Searching for adaptation on several scales. UW-Madison Evolution Seminar Series.

- 2010 **Sessa EB\***, TJ Givnish, and EA Zimmer. Relationships of New World *Dryopteris*. Botany, Providence, RI.
- 2010 **Sessa EB\***. Phylogenetics of North American *Dryopteris* (Dryopteridaceae). University of Wisconsin-Madison Biology Colloquium.
- 2009 **Sessa EB\***, TJ Givnish, and EA Zimmer. Relationships of North American *Dryopteris* based on plastid and nuclear sequences. Botany, Snowbird, UT.
- 2008 Pryer KM\*, **EY Butler**, D Farrar, R Moran, JJ Schneller, E Schuettpelz, JE Watkins, Jr., and MD Windham. On the importance of portraying the plant life cycle accurately: ferns as a case study. Botany, Vancouver, British Columbia.
- 2008 **Butler EY\***, TJ Givnish. In the light of evolution: A proposal to integrate phylogeny and ecophysiology in New World *Dryopteris*. Botany, Vancouver, British Columbia. Poster.
- 2005 **Butler EY\***. Effects of the presence of a bryophyte layer on AMF colonization and phosphorus uptake in wetland vascular plants. Honors thesis symposium, Department of Natural Resources, Cornell University.

#### VIII. AWARDS & FELLOWSHIPS

- 2019 Emerging Leader Award, Botanical Society of America
- 2017 Faculty development trip to South Africa & Swaziland, UF International Center
- 2016 UF Faculty Teaching Award (nominated but ineligible)
- 2015 Global Fellows Program, UF International Center
- 2015 Edgar T. Wherry Award, Botanical Society of America
- 2012 Exceptional Service Teaching Assistant Award, University of Wisconsin
- 2011 ON & EK Allen Memorial Fellowship, Botany Department, University of Wisconsin
- 2011 Graduate Student Research Fellowship, Torrey Botanical Society
- 2009 Davis Summer Fellowship, Botany Department, University of Wisconsin
- 2009 Honorable Mention, Graduate Research Fellowship (GRF), NSF
- 2008 Graduate Research Fellowship, National Museum of Natural History, Smithsonian Inst.

#### IX. TEACHING (AT UNIVERSITY OF FLORIDA)

##### *Full courses*

- BOT 2710: Practical Plant Taxonomy (3 credits)
- BOT 4851: Medical and Forensic Plant Biology (3 credits)
- BOT 6726: Principles of Systematic Biology (4 credits)
- BOT 6276: Phylogenomics (3 credits)
- BOT 5725: Taxonomy of Vascular Plants (4 credits)
- BSC 2011: Integrated Principles of Biology II (3 credits)

##### *Seminar courses*

- BOT 6935/ZOO 6927: Special Topics: Phylogenetic Systematics Seminar (1 credit). Every fall.
- BOT 6935/ZOO 6927: Special Topics: On the Origin of Species Reading Group (1 credit). Spring 2018.
- BOT 6935: Special Topics: Ecophylogenetics Seminar (1 credit). Fall 2016.
- BOT 6935: Special Topics: Plant Physiology Reading Group (1 credit). Spring 2016.
- BOT 6935/BOT 4935: Special Topics: Variation & Evolution in Plants (1 credit). Spring 2014.
- BOT 6935/BOT 4935: Special Topics: Genome Doubling (1 credit). Fall 2013.

## X. MENTORING (AT UNIVERSITY OF FLORIDA)

### *Tenure/Promotion Mentoring*

2019–2022      **Dr. Melissa Meadows.** Lecturer in the UF Biology Department.

### *Postdoctoral Researchers*

2020–2022      **Dr. Cody Howard.** Postdoc on NSF DEB 1844930, CAREER: Resolving a paradox of global botanical biodiversity: Why is Africa the “odd man out”? Cody is now an Assistant Professor in the Department of Plant Biology, Ecology, and Evolution at Oklahoma State University.

2018–2020      **Dr. Weston Testo.** Postdoc on NSF DEB 1541506, Collaborative Research: Building a comprehensive evolutionary history of flagellate plants. Weston is now Assistant Curator of Pteridophytes at the Field Museum in Chicago.

2014–2017      **Dr. Sally Chambers.** Sally is now an Assistant Professor in the Department of Biological Sciences at Eastern Kentucky University.

### *Graduate Students*

2021–present      **John Mwihaki,** PhD Student. Phylogenetics of African ferns.

2019–present      **Jessie Pelosi,** PhD Candidate. Fern genomics and population genetics.

- Michael May Research Grant (2020)
- Earl Core Student Research Award (2020)

2017–2021      **Lindsey Riibe,** M.S. Thesis: *Bringing Rare Tropical Ferns into Focus: Using Sequence Data to Address Questions of Species Identity and Conservation Status.*

- Honorable Mention, NSF Graduate Research Fellowship (2019)
- American Society of Plant Taxonomists Student Research Grant (2019)
- Organization for Tropical Studies Scholarship (2019)
- American Fern Society Travel Award (2018, 2019)
- Society of Systematic Biologists Graduate Student Research Award (2018)
- Botanical Society of America Graduate Student Research Award (2018)
- International Center for Tropical Botany Scholarship (2018)
- American Society of Plant Taxonomists Travel Award (2018)

2015–2019      **Christopher Krieg,** Ph.D. Thesis: *Physiological and Ecological Adaptation in a Polyploid Fern Complex.*

- NSF Postdoctoral Fellowship (awarded 2019)
- NSF Graduate Research Opportunities Worldwide (GROW) (2018–2019)
- Australia-Americas Research Internship, Australia Acad. of Sciences (2018)
- Botanical Society of America Graduate Student Research Award (2018)
- Montgomery Botanical Center’s Kelly Botanical Research Fellowship (2018)
- Gordon Research Conference Student Travel Award (2018)
- Torrey Botanical Society Graduate Student Training Grant (2018)
- NSF Graduate Research Fellowship (2016–2019)

2014–2020      **Jerald Pinson,** Ph.D. Thesis: *The Separation of Generations: Biology and Biogeography of Long-Lived Sporophyteless Fern Gametophytes.*

- AAAS Mass Media Science & Engineering Fellowship (2019)



- NSF Doctoral Dissertation Improvement Grant (2017-2019)
  - Florida Native Plant Society Research Award (2016)
  - Winner of the UF's 3-Minute Thesis Competition (2015)
  - Sigma Xi Research Award (2015)
- 2014–2016 **Lauren Trotta**, M.S. Thesis: *Phylogenetic Signal of Invasion and Rarity in Florida's Imperiled Pine Rockland Flora*.
- Florida Native Plant Society Research Award (2016)

*In addition to my own students, I have served on the committees of 23 other PhD students at the University of Florida, including in the Florida Museum of Natural History, the Genetics & Genomics Interdisciplinary Graduate Program, and the Departments of Biology, Plant Pathology, and Entomology.*

*Undergraduate Researchers (names are in bold for the year when the student joined the lab).*

- 2021–2022 **Kayla Wheatley**, Botany '22; **Haiden Burrichter**, Environmental Science '23; **Emily Kim**, Microbiology & Cell Sciences '24.
- 2020–2021 No new students this year due to COVID-19 restrictions and sabbatical.
- 2019–2020 David Adelhelm, Kerianne Jarnagin, Zachary Zeller.
- 2018–2019 **Kerianne Jarnagin**, Biology '21; **Zachary Zeller**, Biology '20. David Adelhelm. Summer REU students: **Isabel Mansour**, Colorado College '22; **Lucy Elkin**, Washington & Jefferson College '20.
- 2017–2018 **Andrea Hammer**, Botany '18; **David Adelhelm**, Botany '20.
- 2016–2017 Rodrigo Rivero; Emily Lockwood; Samantha Chavez.
- 2015–2016 **Rodrigo Rivero**, Botany '17 (2016 UF University Scholar); **Emily Lockwood**, Biology '18; **Samantha Chavez**, Nutritional Sciences '18; **Matthew Richardson**, Biology '18; **Maria Rodriguez**, Biology '18; Allan Gonzalez.
- 2014–2015 **Allan Gonzalez**, Wildlife Ecology & Conservation '16; **Kaitlynn Zemaitis**, Chemical Engineering '14; Naomi Senehi; Mary Regan; Ashley Hale.
- 2013–2014 **Naomi Senehi**, Environmental Engineering '17; **Mary Regan**, Agricultural and Biological Engineering '16; **Ashley Hale**, Chemical Engineering '16.

## XI. SERVICE & OUTREACH

### *Service for the Profession*

- 2023–present **Member, Board of Directors**, Natural Science Collections Alliance (NSCA)
- 2023–present **External member**, Appointment Committee for Assistant Professorship in Plant Diversity and Macroevolution, University of Zurich.
- 2023–present **Member**, Organizing Committee for Envisioning a Biological Collections Action Center
- 2019–present **Director-at-Large for Publications**, Botanical Society of America
- 2019–2020 **Local host and primary organizer** of SSB 2020: Systematics in the Swamp, a standalone meeting of the Society of Systematic Biologists (213 attendees)
- 2019 **Member**, NSF Biological Sciences Advisory Committee's ad hoc subcommittee to assess the impact of policy changes for submission deadlines
- 2018–present **Past President**, American Fern Society (served as President Elect from 2018–2020 and President from 2020–2022)
- 2019–2021 **Council Member**, Society of Systematic Biologists

- 2017–present **Doctoral Thesis Examiner** for: Monash University, Australia (2017); Universität Zürich, Switzerland (2019)
- 2014–2017 **Communications Coordinator**, American Society of Plant Taxonomists
- 2014–present **Proposal review** (panel chair, panelist, or ad hoc) for: NSF, NASA, Fonds de recherche du Québec, Deutsche Forschungsgemeinschaft
- 2010–present **Associate Editor** for:
- *Kew Bulletin* (2019–present)
  - *American Journal of Botany* (2015–present)
  - *American Fern Journal* (2010–present)
- 2009–present **Peer reviewer** for: *Acta Ecologica Sinica*, *American Fern Journal*, *American Journal of Botany*, *AOB Plants*, *BMC Biology*, *Botanical Journal of the Linnean Society*, *Conservation Genetics*, *Ecological Indicators*, *Evolution*, *Genome Biology & Evolution*, *Genome*, *International Journal of Plant Sciences*, *Journal of Biogeography*, *Journal of Plant Research*, *Journal of Systematics and Evolution*, *Molecular Phylogenetics and Evolution*, *New Phytologist*, *Oxford Bibliographies*, *Phytotaxa*, *Plant Systematics and Evolution*, *PLOS One*, *Systematic Botany*, *Taxon*.

#### *Service for the University of Florida*

- 2019 Proposed two **new committees** for the Biology Department, on Mentorship and Diversity, Equity, and Inclusion (DEI). Both were unanimously approved.
- 2018–2020 **Member**, CLAS International Committee
- 2017 **Represented UF** at SACNAS Diversity in STEM conference, Salt Lake City, UT
- 2017–2020 **Member**, Harn Art Museum Faculty Council
- 2017–2019 **Member**, Natural Areas Advisory Committee
- 2017 **Reviewer**, Research Abroad for Doctoral Students (RADS) Program (UFIC/OGRE)
- 2013–2020 **Faculty advisor** for student organizations:
- WISE (Women in Science & Engineering), graduate student club (2013–2020)
  - GROW Botany (Gators Reaching Out With Botany), undergraduate club (2013–2017)
- 2013–2022 **Member**, Biology Department committees:
- Bylaws Committee (2019–2020). Served as committee chair
  - Mentorship Committee (2019–2020). Served as committee chair
  - Graduate Admissions Committee (2017–2022)
  - Introductory Biology Curriculum Committee (2017–2022)
  - Strategic Planning Committee (2014–2017)
  - Greenhouse Committee (2013–2022)
  - Botany Major Review Committee (2013)
- 2013–2022 **Member**, UF Search Committees:
- CLAS, Director of CLAS Learning Resources (2019)
  - Biology Department, Plant Physiology (2018)
  - FLMNH, Herbarium Keeper, external search committee member (2017)
  - Biology Department, Evolutionary Developmental Biology (2017)
  - Biology Department, Plant Genomics Preeminence position (2014)
  - Biology Department, Chair (2013)

### *Outreach activities*

- 2022–present I regularly lead walks and workshops on fern biology and natural history for the New York Botanical Garden.
- 2021 **Invited moderator**, *Women in Evolutionary Biology* virtual panel discussion hosted by the Paleontological Research Institution
- 2018 **Invited scientist**, *Talk Science With Her* event in celebration of the U.N. International Women and Girls in Science Day
- 2017 **Invited scientist**, *She's a Scientist* event for Girl Scouts at the Florida Museum of Natural History
- 2015–present Active development of **web-based and hands-on activities** for K-12 and college students focused on plant diversity, available at: <http://flagellateplants.org>
- 2009–2013 **PlantingScience mentor** and member of Master Plant Science Team (2009-2011)
- 2008–2019 Maintained blog about fern biology, plant science: <http://noseeds.blogspot.com>
- 2007–present Public walks, talks, and workshops about fern biology and natural history

### **XII. PROFESSIONAL AFFILIATIONS**

500 Women Scientists, American Fern Society, American Society of Plant Taxonomists, Botanical Society of America, International Association of Plant Taxonomists, International Association of Pteridologists, International Biogeography Society, Society of Herbarium Curators, Society for the Study of Evolution, Society of Systematic Biologists.