Sydney E. Everhart

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Education:

Ph.D. 2012 University of Georgia (UGA) in Plant Pathology, M.S. 2007 University of Central Missouri (UCM) in Biology (Ecology), B.S. 2005 University of Iowa in Biology (Spanish Minor)

Research Positions:

2014 –	Assistant Professor/Quantitative Ecologist, Department of Plant Pathology, University of Nebraska (UNL), Lincoln, NE
2016 –	Adjunct Assistant Professor, University of Clemson, Clemson, SC
2012 – 2014	USDA-AFRI-NIFA Postdoctoral Fellow, Department of Botany and Plant Pathology, Oregon State University, Corvallis, OR

Awards and Honors:

2016: Schroth Faces of the Future Award, American Phytopathological Society (APS); Faculty Travel Award UNL; **2015:** Faculty Travel Award, UNL; **2012:** Oömycete Bioinformatics Workshop Travel Award; Oömycete Molecular Genetics Meeting Travel Award; K.E. Papa Outstanding Ph.D. Student, Department of Plant Pathology, UGA; Student Travel Award, Graduate School, UGA; Second Place Oral Presentation, Broadus Browne Competition, UGA; **2011:** 11th I.E. Melhus Graduate Student Symposium Award, APS; Dissertation Completion Award, Graduate School, UGA; Grants-in-Aid-of-Research Award, Sigma Xi; R.J. Tarleton Fellowship, APS,; Student Travel Award, Graduate School, UGA; **2010:** Outstanding Graduate Teaching Assistant, Department of Plant Pathology, UGA; **2009:** C. Lee Campbell Student Travel Award, APS; First Place Student Presentation, Georgia Association of Plant Pathologists; **2008:** First Place Graduate Thesis Award, UCM; **2007:** Microbiology Research Award, Association of Southeastern Biologists; Outstanding Graduate Student, Department of Biology, UCM; Quarterman-Keever Poster Award, Southeastern Ecological Society of America; **2006:** Willard North Graduate Award for Research, UCM; **2005:** Dan Cooper Memorial Scholarship, Iowa State Horticulture Society; **2004:** Midwest Aquatic Plant Management Society; **2000:** "Iowa's Promise…Our Youth" Grant

Invited Seminars and Symposia:

2017: 16th International Sclerotinia Workshop, Uberlandia, Brazil (*two invited talks*)
Department of Plant Pathology, Ohio State University, Wooster, OH (*and workshop*)
Department of Microbiology and Plant Pathology, Iowa State University, Ames, IA
2016: Schroth Faces of the Future Symposium, Epidemiology, APS Meeting, Tampa, FL
Department of Plant Pathology, UNL, Seminar Series, Lincoln, NE
2015: Department of Plant and Environmental Sciences, Clemson University, Clemson, SC
Department of Biology and Agriculture, University of Central Missouri, Warrensburg, MO
2014: Special Session on Genotyping-by-Sequencing, APS Meeting, Austin, TX
2011: 11th I.E. Melhus Graduate Student Symposium, Epidemiology, APS Meeting, Honolulu, HI

Teaching Experience:

- Ecology and Management of Plant Pathogens, UNL, Spring 2016, 2017, 2018
- Plant Diseases Across Nebraska, UNL, Summer 2016, 2017
- Population Genetics and Advanced Epidemiology in R, UNL, Summer 2016
- Disease Dynamics and Evolution, UNL, Spring 2016
- Mycology, Lab TA and guest lecturer, UGA, 2009 and 2010
- Introductory Plant Pathology, Lab TA, UGA, Fall 2008
- Botany, Lab TA, UCM, Fall 2006
- Anatomy and Physiology, Lab TA, UCM, Fall 2006
- Math Learning Center, Tutor, UCM, Spring 2005
- Introductory Algebra, Instructor of 2 sections, UCM, Fall 2004

Workshops in R:

- **Everhart, S.E.**, and Z.N. Kamvar. 2017. Intro to R for Plant Pathologists.
  - 20 attendees, Ohio State University, Wooster, OH, October 17, 2017; https://everhartlab.github.io/IntroR-at-OSU
  - 56 attendees, University of Nebraska, Lincoln, NE, May 24, 2017; https://everhartlab.github.io/IntroR
  - 22 attendees, APS North Central Division Meeting in Champaigne, IL, June 14, 2017; https://everhartlab.github.io/IntroRNCAPS
- Grunwald, N.J., Z.N. Kamvar, and **S.E. Everhart.** 2014. Population Genetics in R. http://grunwaldlab.github.io/Population_Genetics_in_R
  - 40 attendees, Oregon State University, May 2014.
  - 60 attendees, APS National Meeting in Austin, TX, August 2014

Students and Postdoctoral Fellows:

- Postdocs – Margarita Marroquin-Guzman, 2017-**present**; Zhian N. Kamvar, 2017-**present**; B. Sajeewa Amaradasa, 2014-2016; Thomas J.J. Miorini, 2016-2017
- Graduate Students – Edgar Lopez, Ph.D., 2016-**present**; Nikita Gambhir, Ph.D., 2015-**present**
- Undergraduate students – Alex Johnson, 2017-**present**; Anthony Pannullo, 2015-2017; Morgan Thompsen, 2016; Josh Hanson, 2014-2017; Sarah Campbell, 2014-2016; Flavio Nunes da Silva, Brazillian CNPq summer fellowship program, 2015

Professional Service:

- Professional positions – Member of the Annual Meeting Board for the American Phytopathological Society, Associate Editor for *Ciencias Rural* (2014-2015), Chair of the Mycology Committee of APS (2014-2015)
- *Ad hoc* peer reviews for – *Annals of Botany, Crop Protection, Ciencias Rural, European Journal of Plant Pathology, Journal of Phytopathology, Plant Disease, PLOS ONE, Phytopathology, Scientia Agricola, Tropical Journal of Plant Pathology*
- Grant panels – USDA Foundational Program, USDA External Review of Research Plans

Departmental Service:

- Member or co-chair of 10 graduate student committees, 2015-**present**
- Chair of Website Committee for Department of Plant Pathology, 2015-**present**
- Faculty Representative for Plant Pathology Graduate Student Club, 2016-**present**
- Member of Curriculum Committee for Department of Plant Pathology, 2017-**present**
- Staff supervisor for *Digital Communications Liaison*, 2017-**present**
- Review panel member for Department of Entomology 5-year review, 2016

PUBLICATIONS

Peer-Reviewed Publications:

*Co-first author; **Corresponding author, †Undergraduate

1. Dowling, M., G. Schnabel, H. Boatwright†, and **S.E. Everhart****. 2017. Novel gene-sequence markers for isolate tracking within *Monilinia fructicola* lesions. *Pest Management Science*. DOI:10.1002/ps.4544
2. Grunwald, N.J., **S.E. Everhart**, B.J. Knaus, and Z.N. Kamvar. 2017. Best practices for population genetic analyses. *Phytopathology*. 107:1000-1010.
3. Miorini, T.J.J., C.G. Raetano, and **S.E. Everhart****. 2017. Control of white mold of dry bean and residual activity of fungicides applied by chemigation. *Crop Protection.* 94:192-202.
4. Amaradasa, B.S., and **S.E. Everhart****. 2016. Effects of sublethal fungicides on mutation rates and genomic variation in fungal plant pathogen, *Sclerotinia sclerotiorum*. *PLOS ONE.* 11(12): e0168079. DOI 10.1371/journal.pone.0168079
5. de Bem, B.P., A. Bogo, **S.E. Everhart**, R.T. Casa, M.J. Goncalves, J.L. Marcon, L.R. Rufato, F.N. Silva, R. Allebrandt, I.C. da Cunha. 2016. Effect of four training systems on the temporal dynamics of downy mildew in two grapevine cultivars in southern Brazil. *Tropical Plant Pathology.* DOI 10.1007/s40858-016-0110-8.
6. Dowling, M., P.K. Bryson, H. Boatwright†, J.R. Wilson, Z. Fan, G. Schnabel, **S.E. Everhart**, and P. Brannen. 2016. Effect of fungicide application on *Monilinia fructicola* population diversity and transposon movement. *Phytopathology* 106:1504-1512.
7. Dugan, F.M., and **S.E. Everhart**. 2016. Cryptic species: A leitmotif of contemporary mycology has challenges and benefits for plant pathologists. *Plant Health Progress* 17:250-253. DOI10.1094/PHP-RV-16-0046
8. Tabima J.F., **S.E. Everhart**, M.M. Larsen, A.J. Weisberg, Z.N. Kamvar, M.A. Tancos, C.D. Smart, J.H. Chang, and N.J. Grünwald. 2016. Microbe-ID: An open source toolbox for microbial genotyping and species identification. *PeerJ* 4:e2279 DOI 10.7717/peerj.2279
9. Chen, F., **S.E. Everhart***, P.K. Bryson, C.L., X. Song, X.L., G. Schnabel. 2015. Fungicide induced transposon movement in *Monilinia fructicola*. *Fungal Genetics and Biology* 85:38-44.
10. de Bem, B.P., Bogo, A., **S.E. Everhart**, R.T. Casa, M.J. Goncalves, J.L.M. Filho, and I.C. da Cunha. 2015. Effect of Y-trellis and vertical shoot positioning training systems on downy mildew and botrytis bunch rot of grape in highlands of southern Brazil. *Scientia Horticulturae* 185:162-166.
11. **Everhart, S.E.,** and H. Scherm. 2015. Clonal disease foci of *Monilinia fructicola* during brown rot epidemics within peach tree canopies. *Phytopathology.* 105:542-549.

12. Schnabel, G., F. Chen, **S.E. Everhart**, W.C. Bridges and X.L. Liu. 2014. Studies on sensitivity reduction in solo and mixture treatments and fungicide-induced mutagenesis in *Monilinia fructicola*. *In*: H.W. Dehne, H.B. Deising, U. Gisi, B. Fraaije, U. Gisi, D. Hermann, A. Mehl, E.C. Oerke, P.E. Russel, G. Stammler, K.H. Kuck, H. Lyr (Eds). "Modern Fungicides and Antifungal Compounds", Vol. VII, pp 263-268. 2014 Deutsche Phytomedizinische Gesellschaft, Braunschweig, ISBN: 978-3-941261-13-6.
13. **Everhart, S.E.,** A. Askew, L. Seymour, and H. Scherm. 2013. Spatio-temporal patterns of pre-harvest brown rot epidemics within individual peach tree canopies. *European Journal of Plant Pathology* 135: 499–509.
14. **Everhart, S.E.,** A. Askew, L. Seymour, T.C. Glenn, and H. Scherm. 2012. Spatial patterns of brown rot epidemics and development of microsatellite markers for analyzing fine-scale genetic structure of *Monilinia fructicola* populations within peach tree canopies. Online. *Plant Health Progress* doi:10.1094/PHP-2012-0723-04-RS.
15. **Everhart, S.E.,** A. Askew, L. Seymour, I.J. Holb, and H. Scherm. 2011. Characterization of three-dimensional spatial aggregation and association patterns of brown rot symptoms within intensively mapped sour cherry trees. *Annals of Botany* 108: 1195–1202.
16. **Everhart, S.E.** 2010. Collection and identification of grapevines (*Vitis*) from the tree canopy of select forests in the southeastern United States. *Castanea* 75: 141–149.
17. Keller, H.W., and **S.E. Everhart** 2010. Importance of Myxomycetes in biological research and teaching. *Fungi* 3(1): 13–27.
18. **Everhart, S.E.,** J.S. Ely, and H.W. Keller. 2009. Evaluation of tree canopy epiphytes and bark characteristics associated with corticolous myxomycetes. *Botany* 87: 509–517.
19. Keller, H.W., **S.E. Everhart,** M. Skrabal, and C.M. Kilgore. 2009. Tree canopy biodiversity in temperate forests: Exploring islands in the sky. *Southeastern Biology* 56: 52–74.
20. **Everhart, S.E.,** and H.W. Keller. 2008. Influence of bark pH on the occurrence and distribution of tree canopy myxomycete species. *Mycologia* 100: 191–204.
21. **Everhart, S.E.,** and H.W. Keller. 2008. Life history strategies of corticolous myxomycetes: The life cycle, fruiting bodies, plasmodial types, and taxonomic orders. *Fungal Diversity* 29: 1–16.
22. Keller, H.W., and **S.E. Everhart** 2008. Myxomycete species concepts, monotypic genera, the fossil record, and additional examples for good taxonomic practice. *Revista Mexicana de Micologia* 27: 9–19.
23. Keller, H.W., C.M. Kilgore, **S.E. Everhart,** G. Carmack, C. Crabtree, and A. Scarborough. 2008. Myxomycete plasmodia and fruiting bodies: Unusual occurrences and user friendly study techniques. *Fungi* 1: 24–37.
24. Kilgore, C.M., H.W. Keller, **S.E. Everhart,** A. Scarborough, K. Snell, M. Skrabal, C. Pottorff, and J.S. Ely. 2008. Tree canopy research and student experiences using the double rope climbing method. *Journal of Botanical Research Institute of Texas* 2: 1309–1336.

Publications *in review* and *in preparation*:

25. Kamvar, Z., Amaradasa, B.S., R. Jhala, S. McCoy, J.R. Steadman, and **S.E. Everhart****. 201X. Population structure and phenotypic variation of *Sclerotinia sclerotiorum* from dry bean in the United States. *PeerJ. In review.* Available at *PeerJ Preprints*: https://peerj.com/preprints/3311
26. Kamvar, Z., and **S.E. Everhart****. 201X. 20 years of mycelial compatibility groups as population genetic markers in *Sclerotinia sclerotiorum*, what do we know now? *Tropical Journal of Plant Pathology. To be submitted November 2017.*

27. Miorini, T.J.J., R. Higgins, C.G. Raetano, J.R. Steadman, and **S.E. Everhart****. 201X. Variation in pathogen aggression and cultivar performance against *Sclerotinia sclerotiorum*. *Tropical Journal of Plant Pathology. To be submitted November 2017.*
28. Pannullo[†], A., Kamvar, Z., Miorini, T.J.J., and **S.E. Everhart****. 201X. Phenotypic and genotypic variation of *Sclerotinia sclerotiorum* from North and South America. *Phytopathology. To be submitted November 2017.*
29. Ajayi, O.O., **S.E. Everhart**, and C. Bradley. 201X. Genetic structure of *Rhizoctonia solani* AG-2-2IIIB from soybean in Illinois, Ohio, and Ontario. *Phytopathology. In preparation.*
30. Bogo, A., C.C. Comparin, R.M.V. Sanhueza, P. Ritschel, R.T. Casa, F.N. Silva, and **S.E. Everhart.** 201X. Characterization of two *Neofabraea* species, *Neofabaea actinidiae* and *N. brasiliensis,* that are causal agents of apple bull's-eye rot in southern Brazil. *Canadian Journal of Plant Pathology. In preparation.*
31. Miorini, T.J.J., E.N. Lopez, N.K. Gambhir, A. Pannullo[†], and **S.E. Everhart****. 201X. Comparison of methods used to assess fungicide sensitivity in *Sclerotinia sclerotiorum*. *Fungal Genetics and Biology*. *In preparation.*
32. Miorini, T.J.J., R. Higgins, J.R. Steadman, and **S.E. Everhart****. 201X. Fungicide sensitivity of *Sclerotinia sclerotiorum* isolates from Brazil, Argentina, and the U.S.A. *Plant Disease. In preparation.*
33. Dale, A.L., N. Feau, **S.E. Everhart**, G. Bilodeau, B. Dhillon, J. Tabima, C. Brasier, N. Grunwald, R.C. Hamelin. 201X. Mitotic recombination and a two-speed genome drive evolution in asexual lineages of the sudden oak death pathogen *Phytophthora ramorum*. *In preparation.*

Books, Chapters, Proceedings, and R Packages:

1. Keller, H.W., **S.E. Everhart,** and C.M. Kilgore. 2017. The Myxomycetes: Biology, life cycle, genetics and reproduction. In: Stephenson, S. and C. Lado (eds) "Myxomycetes: Biology, Systematics, Biogeography and Ecology", Elsevier, Atlanta, GA.
2. Miorini, T.J., A. Pannullo[†], T. Hornby[†], R. Higgins, **S.E. Everhart,** and J.R. Steadman. 2017. Phenotypic and genotypic characterization of relevant *Sclerotinia sclerotiorum* isolates. *Bean Improvement Cooperative.*
3. **Everhart, S.E.,** B.S. Amaradasa, R. Jhala, R. Higgins, and J.R. Steadman. 2016. Population structure and fungicide sensitivity of 366 *Sclerotinia sclerotiorum* isolates from dry common bean. *Bean Improvement Cooperative* 59:131-132.
4. Kamvar, Z.N., Tabima, J.F., **Everhart, S.E.**, Brooks[†], J.C., Krueger-Hadfield, S.A., Sotka, E. and Grunwald, N.J., 2016. Package 'poppr'. https://cran.r-project.org/web/packages/poppr
5. Grunwald, N.J., Z.N. Kamvar, and **S.E. Everhart.** 2015. Population Genetics in R. Online book: http://grunwaldlab.github.io/Population_Genetics_in_R/
6. **Everhart, S.E.,** T.F. Tabima, and N.J. Grünwald. 2014. *Phytophthora ramorum*. In: Dean, R.A., A. Lichens-Park, and C. Kole (eds) "Genomics of Plant Associated Fungi and Oomycetes", Springer, New York, NY. Pp. 159-174.

Poster and Oral Presentations (last 5 years):

[◊] = presenting author and member of Everhart Lab

1. Gambhir[◊], N., Z.N. Kamvar, and **S.E. Everhart.** 2017. Effects of sublethal fungicide stress on genomes of *Sclerotinia sclerotiorum.* APS National Meeting

2. Gambhir[◊], N., Z.N. Kamvar, and **S.E. Everhart**. 2017. Genomic alterations in *Sclerotinia sclerotiorum* after sublethal exposure to a mitosis-inhibiting fungicide. APS North Central Division Meeting
3. Kamvar[◊], Z.N., **S.E. Everhart**, and N. Grunwald. 2017. I think we're a clone now: Factors influencing inference of clonality in diploid populations. APS National Meeting
4. Kodati, S., N. Gambhir[◊], **S.E. Everhart**, and A.O. Adesemoye. 2017. Prevalence and pathogenicity of *Rhizoctonia* spp. from soybean in Nebraska. APS National Meeting.
5. Miorini[◊], T.J., A. Pannullo[†], J.R. Steadman, and **S.E. Everhart.** 2017 Fungicide sensitivity and population structure of *Sclerotinia sclerotiorum* isolates from Argentina, Brazil, and USA. APS National Meeting
6. Miorini[◊], T.J.J., **S.E. Everhart**, and J. Steadman. 2017. Fungicide sensitivity of *Sclerotinia sclerotiorum* isolates from Brazil, Argentina, and the USA. APS National Meeting
7. Nieto-Lopez[◊], E.H., and **S.E. Everhart**. 2017. Fungicide sensitivity of *Sclerotinia sclerotiorum* from soybean in the North Central United States. APS North Central Division Meeting
8. Pannullo[◊], A., T.J.J. Miorini, Z. Kamvar, and **S.E. Everhart**. 2017. Population genetic diversity of *Sclerotinia sclerotiorum* populations from Brazilian soybean. APS North Central Division
9. Stengel, A., S. Ramirez II, E.S. Jeske, V.L. Jin, J. Cui, **S. Everhart**, J. Herr, and R Drijber. 2017. Nitrogen and crop rotation as drivers of the maize-associated soil microbiome. *Argonne Soil Metagenomics Meeting,* Chicago, IL
10. Amaradasa[◊], B., and **S.E. Everhart**. 2016. Sub-lethal fungicides induce microsatellite mutation in *Sclerotinia sclerotiorum. Phytopathology* 106:S4.139.
11. Amaradasa[◊], B.S., and **S.E. Everhart**. 2016. Sub-lethal fungicides induce microsatellite and AFLP marker mutation in *Sclerotinia sclerotiorum*. *Phytopathology* 106:S4.184.
12. Dowling, M., H. Boatwright[†], G. Schnabel, P. Bryson, J. Wilson, Z. Fan, **S.E. Everhart**, and P. Brannen. 2016. Effect of fungicide applications on *Monilinia fructicola* population diversity and transposon movement. *Phytopathology* 106:S4.62.
13. **Everhart[◊], S.,** and B. Amaradasa. 2016. Fungicide stress induces genome mutation in *Sclerotinia sclerotiorum. Phytopathology* 106:S4.169.
14. **Everhart[◊], S.,** R. Higgins, and J.R. Steadman. 2016. "Sources of white mold resistance derived from wide crosses in common bean and progress in characterization of relevant pathogen isolates. National Sclerotinia Initiative Meeting.
15. Gambhir[◊], N., A. Pannullo[†], S. Campbell[†], B.S. Amaradasa, R. Jhala, J. Steadman, and **S.E. Everhart**. 2016. Comparison of four methods for fungicide sensitivity determination of *Sclerotinia sclerotiorum*. *Phytopathology* 106:S4.188.
16. T.J. Miorini[◊], C.G. Raetano, and **S.E. Everhart**. 2016. Residual effect of fungicides applied by chemigation for white mold control in dry bean. *Phytopathology* 106:S4.190.
17. T.J. Miorini[◊], R. Werle, A. Stavievski, C.G. Raetano, and **S.E. Everhart**. 2016. Evaluation of residual fungicide in soybean leaves using analytical chemical quantification and *Sclerotinia sclerotiorum* bioassay. *Phytopathology* 106:S4.189.
18. Amaradasa[◊], B.S., and **S.E. Everhart**. 2015. Sub-lethal doses of fungicide induce resistance emergence in *Sclerotinia sclerotiorum*. *Phytopathology.* 105:S4.7.
19. **Everhart[◊], S.E.**, R. Jhala, B.S. Amaradasa, R. Higgins, J.R. Steadman. 2015. Worldwide population structure of *Sclerotinia sclerotiorum* from cultivated common bean. *Phytopathology.* 105:S4.41.
20. **Everhart, S.E.,** B.J. Knaus, A. Kanaskie, W. Sutton, P. Reeser, A.L. Dale, R.C. Hamelin, E. Hansen, and N.J. Grunwald. 2014. Exploring the use of genotyping-by-sequencing to characterize the forest epidemic of *Phytopthora ramorum* in Oregon. *Phytopathology* 104:S3.153

21. **Everhart, S.E.**, M.M. Larsen, A. Kanaskie, and N.J. Grunwald. 2014. Early detection of *P. ramorum* lineages in Oregon forests using genetic markers. *USDA Forest Health Management Working Group Meeting*, Jacksonville, FL.
22. Dale, A.L., **S.E. Everhart**, N. Feau, G.L. Bilodeau, N.J. Grunwald, and R.C. Hamelin. 2013. Genome-wide patterns of diversity in four lineages of the sudden oak death pathogen, Phytophthora ramorum. *Phytopathology.* 103:S2.32.
23. **Everhart, S.E.** 2013. Phytophthora ramorum blight: where is it now? *Conference on Soil Borne Plant Pathogens*, Corvallis, OR.
24. **Everhart, S.E.** and Scherm, H. 2013. Clonal population foci of Monilinia fructicola during epidemics within peach tree canopies. (Abstr.). *Acta Phytopathologica Sinica* 43:173.
25. **Everhart, S.E.,** M.M. Larsen, N.J. Grunwald. 2013. Where is *Phytophthora ramorum* now? An update on clonal populations in the U.S. Phytopathology. 103:S2.41
26. Scherm, H., and **Everhart, S.E.** 2013. Spatial, temporal, and population aspects of epidemics in fruit tree canopies. Pages 14-15 in: *Proceedings of the 4th Brazilian Workshop of Plant Disease Epidemiology*, Fed. Univ. Parana, Curitiba, Brazil.
27. Tabima, J.F., **S.E. Everhart,** M.M. Larsen, Z.N. Kamvar, and N.J. Grunwald. 2013. Phytophthora-ID 2.0: Novel open source tools for genotype and species identification of *Phytophthora* spp. *Center for Genome Research and Biocomputing Conference*, Corvallis, OR.