

Shea A. Keene, Ph.D.

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Education

University of Florida, Gainesville, FL

January 2018 – December 2022

- Horticultural Sciences, Ph.D. GPA: 4.0/4.0
- Concentration: Environmental Horticulture – Plant Biochemistry and Biotechnology
- Dissertation: Developing biochemical, biotechnological, and horticultural tools for a fragrance-focused breeding program in *Viola*

University of Florida, Gainesville, FL

January 2016 – December 2017

- Horticultural Sciences, M.S. GPA: 4.0/4.0
- Concentration: Environmental Horticulture – Plant Biochemistry and Biotechnology
- Thesis: Consumer preference for toxicity attributes of indoor plants and a survey of the volatile profiles of daylily (*Heemerocallis*) species and hybrids

University of South Florida, Tampa, FL

August 2012 – May 2014

- Psychology, B.A. USF GPA: 3.97/4.0
- Dean's List: Spring 2013, Fall 2013, Spring 2014 Overall GPA: 3.86/4.0

Florida State University, Tallahassee, FL

August 2010 – May 2012

- Major: Psychology GPA: 3.71/4.0
- Dean's List: Fall 2010, Spring 2011; President's List: Spring 2012

Experience

Assistant Professor of Horticulture Science – Florida Southern College, Lakeland, FL August 2025 – Present

- Tenure-track Assistant Professor in the Biology Department. Develop and teach the new courses HRT 2500 Soil Science and Plant Nutrition, HRT 3200 Survey of Fruit Crops and Agricultural Field Management, and HRT 3313 Post-Harvest Practices for the new undergraduate major, Horticulture, Land, and Resource Management. Also teach the courses HRT 2100 Introduction to Horticultural Science and HRT 1000 Plants & Society. Mentor undergraduate students in horticultural research projects.

Postdoctoral Associate – University of Florida, Mid-Florida REC, Apopka, FL

April 2023 – June 2025

- Install, maintain, and coordinate a statewide project focused on nutrient utilization of hemp. Project is funded by the Florida Department of Agriculture and Consumer Services via the Office of Agricultural Water Policy. Develop, implement, and manage experiments to examine the influence of environmental factors on the growth and quality of hemp. Collect and analyze data using statistical software. Write quarterly research progress reports, manuscripts for publication in peer-reviewed journals, and disseminate research findings at outreach Extension events. Mentor undergraduate and graduate students.

Graduate Assistant – University of Florida, Gainesville, FL

January 2018 – December 2022

- Performed field and controlled laboratory experiments with ornamental plants and fruit crops. Collected and analyzed data using statistical software. Wrote manuscripts for publication in peer-reviewed journals. Conducted *in silico* studies on consumer preference for horticultural products and attributes. Mentored undergraduate research assistants.

Graduate Research Assistant – University of Florida, Gainesville, FL

January 2016 – December 2017

- Assisted other professors and graduate students in the laboratory with data collection and analysis in research projects involving petunia, blueberry, strawberry, daylilies, and tomato. Mentored undergraduate research assistants and supervised their projects. Wrote and revised manuscripts for publication.

Gardener – Bok Tower Gardens, Lake Wales, FL

December 2014 – December 2015

- Oversaw the design, planting, and maintenance of expansive swaths of annual and perennial flowerbeds. Supervised more than a dozen volunteers on a weekly basis and delegated tasks based on their skill set. Collaborated with other gardeners to improve other areas of the garden.

Horticultural Intern – National Tropical Botanical Garden, Kalaheo, HI

August 2014 – October 2014

- Collaborated with six other interns to provide maintenance support to the staff at the gardens. Assisted field botanists with outplanting native crops in remote locations. Aided the resident botanist with herbarium work, including sorting specimens and filling voucher descriptions.

Teaching Experience

Graduate Teaching Assistant – University of Florida, Gainesville, FL

Fall 2020

- Provided revisions and feedback on graduate student projects for the course AGR 5266C Field Plot Techniques, with an emphasis on the experimental design and analysis used by the students.

Graduate Teaching Assistant – University of Florida, Gainesville, FL

Summer 2016

- Developed the course schedule and coordinated guest lecturers for the undergraduate course “Plants, Gardening, and You.” Gained experience evaluating course performance by creating all quiz and exam content. Oversaw the design, planning, and implementation of a special out of class project in which students investigated the effects of different wavelength light-emitting diode (LED) lights on the rooting and growth of coleus cuttings. Instructed students directly on the proper method of cutting propagation.

Leadership, Professional Development, and Service

Environmental Horticulture Graduate Student Association – UF, Gainesville, FL

Fall 2018 – Fall 2022

- Served as President (2019-2020, 2020-2021), Treasurer (2018-2019, 2021-2022), and Faculty Representative (2017-2018) of the professional association. Grew 4,000+ coleus plants from cuttings each spring for annual spring plant sale.
- In March 2020, UF policy required the cancellation of the Annual Spring Plant Sale hosted by EHGSA due to COVID-19. With authorization from UF administration and over the course of three days, coordinated, advertised, and successfully executed the giveaway of 4,000+ coleus plants to UF personnel only from the greater Fifield Hall area and southwest region of campus.
- Planning for the 2021 sale began during the fall 2020 semester. Completely overhauled the sale format to adhere to COVID safety guidelines, developed a pre-order option with contactless pickup and by-appointment-only greenhouse shopping. Designed, set up, and managed websites for both options. Sale profits were the highest in EHGSA’s history.

Graduate Student Council Representative – UF, Gainesville, FL

Fall 2020 – Spring 2021

- Served as the Environmental Horticulture Department’s graduate student representative to the university-wide Graduate Student Council, which serves as a liaison between UF graduate students, administration, and UF Student Government.

Early Career Professional International Exchange Program – IPPS, England

Fall 2019

- Chosen from a pool of applicants across the southern US as the representative of the Southern Region of the International Plant Propagators' Society for a two-week intensive professional development exchange program with the European Region. Toured nurseries and gardens in the south of England, met horticultural professionals from across Europe, attended the European Region's annual meeting in Stratford-upon-Avon, and presented at the conference.

Environmental Horticulture Department Seminar Committee – UF, Gainesville, FL Fall 2018 – Spring 2020

- Selected to serve as a graduate student representative on the committee in fall 2018. Committee planned bi-weekly seminars hosted by the department. Served as **co-chair** from January 2019 onward. Coordinated speakers, reserved space, advertised upcoming seminars, introduced speakers, and performed seminar room setup and cleanup.
- Organized, advertised, and moderated a 3-Minute Thesis competition open to graduate students from any major in CALS. Nine presenters from seven different departments participated in one of the committee's most well-attended events.

CALS Council for Teaching Enhancement and Innovation – UF, Gainesville, FL Fall 2018 – Spring 2019

- Nominated and selected to serve for a year-long term as a graduate student representative on the council. The council advises the CALS dean on topics related to enhancing instruction and incorporating innovative teaching throughout the college.

Accelerate to Industry (A2i) Symposium – UF, Gainesville, FL

Fall 2018

- Selected from pool of applicants to attend the inaugural A2i symposium, a three-day professional development program focused on enhancing graduate student workforce readiness for non-academic and industry careers.

Journal of Undergraduate Research Graduate Student Editor – UF, Gainesville, FL Summer 2018 – 2021

- Served as a graduate student section editor on the Editorial Board for the University of Florida Journal of Undergraduate Research in the areas of the natural and physical sciences.

UF Student Panelist – Tropical Plant International Expo, Fort Lauderdale, FL

January 2018, 2019

- Spoke to a large group of high school students from schools in the greater Fort Lauderdale area about UF and the horticultural sciences. Answered wide-ranging questions posed by students and their teachers.

Faculty Representative – UF, Gainesville, FL

Fall 2017 – Fall 2018

- Elected to serve as liaison between the Environmental Horticulture Graduate Student Association and the faculty of the Environmental Horticulture Department.

GRACE Grows Garden Team – GRACE Marketplace, Gainesville, FL

Fall 2017 – Fall 2019

- Assisted in the construction and maintenance of vegetable beds at GRACE Marketplace, a non-profit homeless shelter that provides bedding, showers, food, and health services to the homeless community.

Professional Development Panelist – UF, Gainesville, FL

Spring 2016 – Spring 2017

- Served on multiple panels for an undergraduate Professional Development course. Graduate student panelists shared their experiences of being in graduate school and fielded questions from undergraduate students.

Vivian Munday Young Horticulture Professional Work Program – IPPS, Virginia Beach, VA Fall 2016

- Program provides young professionals with financial assistance to attend International Plant Propagators' Society – Southern Region annual conference in exchange for working at the meeting and assisting the local site committee to ensure the smooth running of educational programs and tours.

Volunteer Gardener – USF Botanical Gardens, Tampa, FL February 2013 – August 2014

- Designed, planted, and maintained a Pollinator Garden using a variety of plants pollinated by birds, bees, butterflies, and more. Worked at various garden events, including bee-keeping workshops and plant festivals.

Refereed Journal Articles

Cárdenas-Pinto, S., J.E. Gazaleh, D. Budner, **S. Keene**, L.R. Dhoble, A. Sharma, B. Pearson, Z. Jia, B. Zhang, and K.A. Thompson-Witrick. 2024. Influence of ethanol concentration on the extraction of cannabinoid and volatile compounds for dry-hemped beer. *Beverages* 10(3):65.

Keene, S.A., M. Sims, J.Y. Kim, and T.A. Colquhoun. 2024. Temporal, developmental, and comparative characterization of the floral volatile emissions of the famously scented violet species, *Viola odorata*. *HortScience* 59(7):974-985.

Pappo, E., **S. Keene**, H. Smith, Y. Song, T. Colquhoun, C. Wilson, and S. Luke Flory. 2023. Effects of reduced rainfall on coffee quality and volatile composition. *Journal of the Science of Food and Agriculture JSFA*.12949.

Kim, J.Y., K.H. Cho, **S.A. Keene**, and T.A. Colquhoun. 2023. Altered profile of floral volatiles and lignin content by down-regulation of *Caffeoyl Shikimate Esterase* in *Petunia*. *BMC Plant Biology* 23:210.

Ames, Z.R., J.K. Brecht, M.A. Olmstead, T.A. Colquhoun, and **S.A. Keene**. 2022. Using conjoint-based experimental design to assess willingness to purchase Florida peaches. *HortScience* 57(9):1110-1119.

Latimer, S., **S.A. Keene**, L.R. Stutts, A. Berger, A.C. Bernert, E. Soubeyrand, J. Wright, C.F. Clarke, A.K. Block, T.A. Colquhoun, C. Elowsky, A. Christensen, M.A. Wilson, and G.J. Basset. 2021. A dedicated flavin-dependent monooxygenase catalyzes the hydroxylation of demethoxyubiquinone into ubiquinone (coenzyme Q) in *Arabidopsis*. *J. Biol. Chem.* 297(5): 101283.

Soubeyrand, E., S. Latimer, A.C. Bernert, **S.A. Keene**, T.S. Johnson, D. Shin, A.K. Block, T.A. Colquhoun, A.R. Schäffner, G.J. Basset, and J. Kim. 2021. 3-*o*-Glycosylation of kaempferol restricts the supply of the benzenoid precursor of ubiquinone (Coenzyme Q) in *Arabidopsis*. *Phytochemistry* 186:112738.

Keene, S.A., T.S. Johnson, C.L. Sigler, T.N. Kalk, P. Genho, and T.A. Colquhoun. 2020. A survey of the floral volatile profiles of daylily species and hybrids. *Journal of the American Society for Horticultural Science* 145(2):120-130.

Kryger, S., T.A. Colquhoun, P.J. Sarnoski, B.J. Pearson, A.J. MacIntosh, **S.A. Keene**, A.Z. Odabasi, S.M. Baker, and C. Sims. 2020. Sensory and compositional analysis of Florida-grown hops. *MBAA TQ* 57(3):134-141.

Soubeyrand, E., M. Kelly, **S.A. Keene**, A.C. Bernert, S. Latimer, T.S. Johnson, C. Elowsky, T.A. Colquhoun, A.K. Block, and G.J. Basset. 2019. *Arabidopsis 4-COUMAROYL-COA LIGASE 8* contributes to the biosynthesis of the benzenoid ring of coenzyme Q in peroxisomes. *Biochemical Journal* 476:3521-3532.

Dewar, P.E., **S.A. Keene**, T.N. Kalk, D.G. Clark, H.R. Moskowitz, and T.A. Colquhoun. 2016. Identifying the drivers of a foliage plant purchasing decision via contemporary psychophysics. *Journal of Horticulture* 3:177.

Refereed Conference Proceedings

Keene, S.A., and T.A. Colquhoun. 2022. Germination of *Viola odorata*, a genetic resource for fragrance in *Viola* breeding. Combined Proceedings of the International Plant Propagators' Society 72:127-132.

Keene, S.A., T.S. Johnson, C.L. Sigler, T.N. Kalk, P. Genho, and T.A. Colquhoun. 2018. A survey of the volatile profiles of daylily species and hybrids. Combined Proceedings of the International Plant Propagators' Society 68:272-280.

Keene, S.A., T.N. Kalk, D.G. Clark, H.R. Moskowitz, and T.A. Colquhoun. 2017. Indoor plant toxicity concerns some consumers. Combined Proceedings of the International Plant Propagators' Society 67:361-365.

Published Abstracts

Keene, S.A., B. Pearson, J. Bhadha, H. Singh, W. Griffin, H. Shellenbarger, L. Sharma, T. Serrano, A. Williams, and Z. Brym. 2024. Field evaluation of controlled release fertilizer in support of best management practices for industrial hemp in Florida. HortScience. (In press. Conference program showing abstract was accepted is available at <https://ashs.org/page/conferenceprogram>).

Cárdenas-Pinto, S., J. Gazaleh, D. Budner, **S. Keene**, L.R. Dhoble, B.J. Pearson, A. Sharma, Z. Jia, B. Zhang, and K. Thompson-Witrick. 2024. Influence of ethanol concentration of the extractability of chemical compounds from industrial hemp (*Cannabis sativa*). ASBC Annual Meeting Program Book.

Keene, S.A., and T.A. Colquhoun. 2020. A forgotten fragrance: Identifying the floral volatile constituents of sweet violets and other violas. HortScience 55(9):S215.

Magazine Articles

Keene, S.A. "Why the Horticulture Industry Must Overcome its Generational Divide." *Greenhouse Grower*. 31 December 2018: 32-33. Print and Online. (Popular Press)

Oral and Poster Presentations

Keene, S.A., B. Pearson, J. Bhadha, H. Singh, W. Griffin, H. Shellenbarger, L. Sharma, T. Serrano, A. Williams, and Z. Brym. 2024. Field evaluation of controlled release fertilizer in support of best management practices for industrial hemp in Florida. American Society for Horticultural Science Annual Conference. Honolulu, HI, September 23-27 (upcoming). (Refereed, Oral)

Keene, S.A. 2024. Evaluation of CRF in support of BMPs for industrial hemp – Year 1 takeaways. 2024 Hemp Field Day. University of Florida, Plant Science Research and Education Unit, Citra, FL, August 13. (Invited, Oral)

Keene, S.A. 2023. Field evaluation of CRF in support of BMPs for industrial hemp – Apopka update. BMP Summit 2023. University of Florida, Plant Science Research and Education Unit, Citra, FL, August 10-11. (Invited, Oral)

Keene, S.A. and T.A. Colquhoun. 2020. A forgotten fragrance: Identifying the floral volatile constituents of sweet violets and other violas. American Society for Horticultural Science Annual Conference. Virtual/online format due to COVID-19, August 9-13. (Refereed, Poster)

Keene, S.A., T.S. Johnson, C.L. Sigler, T.N. Kalk, P. Genho, and T.A. Colquhoun. 2018. A survey of the volatile profiles of daylily species and hybrids. International Plant Propagators' Society – Southern Region Annual Conference. Chattanooga, TN, October 21-24. (Refereed, Oral and Poster)

Keene, S.A., T.N. Kalk, D.G. Clark, H.R. Moskowitz, and T.A. Colquhoun. 2017. Consumer preference for toxicity attributes of indoor plants. International Plant Propagators' Society – Southern Region Annual Conference. Fort Worth, TX. October 29-31, 2017. (Refereed, Poster).

Achievements, Honors, and Awards

Edgard A. Martin Scholarship	Fall 2021
Environmental Horticulture Scholarship	Fall 2021
Orlando Garden Club Fellowship	Summer 2020, Fall 2022
Muriel Rumsey Foundation Scholarship	Fall 2019, Fall 2020
James H. Davis Memorial Scholarship	Spring 2019, Spring 2020
Charlie Parkerson Student Research Competition – 1st Place	Fall 2018
Proven Winners® Innovations in Horticultural Marketing Scholarship	Fall 2018
Richard T. Meister Scholarship	Fall 2018
William C. and Bertha M. Cornett Fellowship	Summer 2018
Accelerate to Industry (A2i) Scholarship	Summer 2018
Sidney B. Meadows Scholarship	Fall 2017
Charlie Parkerson Student Research Competition Travel Grant	Fall 2017
Bloom and Grow Garden Society Graduate Scholarship	Fall 2016
Vivian Munday Young Horticulture Professional Work Program Scholarship	Fall 2016

Extracurricular Activities

Environmental Horticulture Graduate Student Association	Fall 2016 – Fall 2022
University of Florida Equestrian Club	Fall 2017 – Spring 2019

Memberships

American Society for Horticultural Science	Summer 2018 – Summer 2025
International Plant Propagators' Society – Southern Region	Fall 2016 – Present

References

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