Nicole E. Soltis

Curriculum Vitae
University of California, Davis 95616
Phone: 814-404-9351
Email: nesoltis@ucdavis.edu, ne.soltis@gmail.com

EDUCATION

2013 - present	**Ph.D. Candidate**, UC Davis. Graduate Group: Plant Biology. Research focused on the genetics of a fungal plant pathogen and plant domestication.
2013	**M.S.** Tufts University, MA. Department: Biology. Research focused on plant physiological and biomechanical responses to an invasive insect herbivore.
2010	**B.A.** UC Berkeley. Major: Integrative Biology

RESEARCH EXPERIENCE

2014 - present	**Doctoral Dissertation Research: UC Davis**, Department of Plant Sciences, Advised by Dr. Daniel Kliebenstein • Dissertation Title: The genetics of quantitative plant pathology: *Botrytis cinerea* genetic control of pathogen and host disease phenotypes • Design and conduct randomized detached leaf assay experiments to phenotype pathogenic lesions on varied plant hosts • Develop bioinformatics and imaging methods to understand the genetic basis of variation in a common plant disease, *Botrytis cinerea* • Communicate progress and coordinate projects with advisor, postdoctoral research associates, and fellow graduate students
2011 - 2013	**Master's Thesis: Tufts University**, Department of Biology, Advised by Dr. Colin Orians • Thesis Title: Costs of herbivory: Resource partitioning and biomechanics in Eastern hemlock (*Tsuga canadensis*) under exotic herbivore attack • Designed projects, optimized protocols, and conducted analysis for novel research questions in ecology, biomechanics, and plant physiology • Collaborated with teams of three to ten students and faculty on large field surveys and common garden maintenance of Eastern hemlock trees
2010 - 2011	**Research Associate: Metabolix Inc.** Cambridge MA • Performed sterile technique, DNA isolation, and cloning for propagation of plant materials • Processed, maintained, and organized stocks of plant materials from large field trial experiments
2009 - 2010	**Undergraduate Research Assistant: UC Berkeley,** Integrative Biology Laboratory of Dr. Mimi Koehl.

• Performed digital image analysis to study gliding behavior in arboreal ants
• Strategized novel methods for experiments using robotics and a flow tank to model ant behaviors

2008 - 2010 **Laboratory Assistant: UC Berkeley Integrative Biology Laboratory of Dr. Todd Dawson.**
• Collaborated with eight graduate students for efficient extraction, processing, and data entry of field samples for stable-isotope analyses
• Trained new coworkers in laboratory safety, protocols, and record-keeping

LEADERSHIP EXPERIENCE

2016 – present **Founder and lead organizer**, Sacramento Science Distilled
2017 – 2018 **President**, UC Davis Science Says
2015 **Webmaster**, UC Davis Science Says
2015 **Recruitment chair**, UC Davis Plant Biology Graduate Group
2014 **Member**, UC Davis Plant Biology Graduate Group Seminar committee
2014 **Colloquium chair**, UC Davis Plant Biology Graduate Group
2014 **Student representative**, UC Davis Subcommittee for Graduate Student Success under the Provost's Implementation Advisory Committee for Graduate Education
2011 - 2013 **Social committee chair**, Biology department representative: Tufts Graduate Student Association
2012 **Student representative**, Tufts Graduate Policies and Programs
2012 **New student committee chair**, Tufts Biology Union of Graduate students
2009 **Secretary, caseworker, and planning committee member**, UC Berkeley Suitcase Clinic
2007 **Team leader**, Camp Galileo, Los Altos CA

MENTORSHIP EXPERIENCE

2016, 2018 **Mentor**, Sheldon High School Biotech Academy, 2 students
2014 - 2017 **Mentor**, UC Davis undergraduate projects, 7 students
2015, 2016 **Mentor**, Davis High School interns, 3 students
2011 **Mentor-scientist**, Science Club for Girls, Greater Boston, MA

TEACHING EXPERIENCE

2016, 2017 **Teaching assistant**, Plant Physiology. UC Davis undergraduate course, Plant Biology Department.
2013 **Teaching assistant,** Plants and Humanity. Tufts University undergraduate course, Biology Department.
2012 **Teaching assistant**, Environmental Biology. Tufts University undergraduate course, Biology Department.

2012 **Graduate student lab instructor**, Organisms and Population. Tufts University undergraduate course, Biology Department.
2011 **Graduate student lab instructor**, Cells and Organisms. Tufts University undergraduate course, Biology Department
2009 **Lecturer**, Cal Student Society for Stem-cell Research, UC Berkeley
2008 **Literacy tutor**, Making Waves Academy, Richmond CA
2007 **Tutor**, Oakland Asian Students Educational Services, Oakland CA

PRESENTATIONS

2018 **Soltis NE.** Plant pathology: The study of how plants get sick. Powerhouse Science Center Meet a Scientist Weekend, Sacramento. All-Ages Public Talk.
2018 **Soltis NE**. Selfishness and Survival of Invasive Species. Powerhouse Science Center After Hours Science, Sacramento. Public Talk.
2018 **Soltis NE**. A taste of plant defenses. Sac Science Idol, Sacramento. Public talk.
2017 **Soltis NE**. Plant physiology: How plants eat and drink. Science Distilled, Sacramento. Public talk.
2015 **Soltis NE**, Atwell S, Corwin JA, Shi G, Zhang W, Fordyce R, Gwinner R, Gao D and Kliebenstein DJ. Evolution and domestication in eudicot resistance to *Botrytis cinerea*. 11th US- Japan Scientific Seminar Poster Session: Molecular Contact Points in Host-Pathogen Coevolution, Kagawa, Japan.
2015 **Soltis NE**, Corwin JA, Atwell S, Kliebenstein DJ. Network evolution of quantitative resistance to *Botrytis cinerea* across eudicots. System Biology: Networks Meeting Poster Session, Cold Spring Harbor Lab.
2013 **Soltis NE**. Carbon trade deficit: The role of HWA and EHS as resource stresses on hemlock trees. Graduate Student Research Symposium Talk, Tufts University.
2012 **Soltis NE**, Gomez S, Leisk G, Preisser EL, Orians CM. Mechanics of herbivory: Exotic insect increases branch brittleness of a native tree host. Poster session, 97th annual meeting of the Ecological Society of America.
2012 **Soltis NE**, Gomez S, Orians CM. Biomechanics of Eastern hemlock (*Tsuga canadensis*) under Hemlock woolly adelgid (*Adelges tsugae*) infestation. Poster session, 23rd USDA Interagency Research Forum on Invasive Species.

PEER REVIEWED PUBLICATIONS

2019 **Soltis NE**, Atwell S, Shi G, Fordyce R, Gwinner R, Gao D, Shafi A, Kliebenstein D. Interactions of tomato and *Botrytis* genetic diversity: parsing the contributions of host differentiation, domestication, and pathogen variation. The Plant Cell (in press).

2018 Fordyce R, **Soltis NE**, Caseys C, Gwinner R, Corwin J, Atwell S, Copeland D, Feusier J, Subedy A, Eshbaugh R, Kliebenstein D. Digital imaging combined with genome-wide association mapping links loci to plant-pathogen interaction traits. Plant Physiology 178(3), 1406-1422.

2017 Schaeffer R, **Soltis NE**, Martin J, Brown A, Gomez S, Preisser E, Orians C. Herbivory alters seasonal nitrogen cycling in a threatened conifer. AoB Plants 9, no. 2 (2017).

2016 Bethke G, Thao A, Xiong G, Li B, **Soltis NE**, Hatsugai N, Hillmer RA, Katagiri F, Kliebenstein DJ, Pauly M, Glazebrook J. Pectin biosynthesis is critical for cell wall integrity and immunity in *Arabidopsis thaliana*. The Plant Cell (2016): 537-556.

2015 **Soltis NE** and Kliebenstein DJ. Natural variation of plant metabolism: genetic mechanisms, interpretive caveats, evolutionary and mechanistic insights. Plant physiology, 169 (2015): 1456-1468.

2015 Atwell S, Corwin JA, **Soltis NE**, Subedy A, Denby KJ and Kliebenstein DJ. Whole genome resequencing of *Botrytis cinerea* isolates identifies high levels of standing diversity. Frontiers in microbiology, 6 (2015).

2015 **Soltis NE**, Gómez S, Gonda-King L, Preisser EL and Orians CM. Contrasting effects of two exotic invasive hemipterans on whole-plant resource allocation in a declining conifer. *Entomologia Experimentalis et Applicata*, 157.1 (2015): 86-97.

2015 Gómez S, Gonda-King L, Orians CM, Orwig DA, Panko R, Radville L, **Soltis NE**, Thornber CS, and Preisser EL. Interactions between invasive herbivores and their long-term impact on New England hemlock forests. Biological Invasions, 17.2 (2015): 661-673.

2014 **Soltis NE**, Gomez S, Leisk GG, Sherwood P, Preisser EL, Bonello P, Orians CM. Failure under stress: The effect of the exotic herbivore *Adelges tsugae* on biomechanics of *Tsuga canadensis*. Annals of Botany, 113.4 (2014): 721-730.

MANUSCRIPTS IN REVIEW

- Caseys C, Shi G, **Soltis NE**, Gwinner R, Corwin J, Atwell S, Kliebenstein D. A generalist pathogen view of plant evolution.
- Atwell S, Corwin J, **Soltis NE**, Zhang W, Copeland D, Feusier J, Eshbaugh R, Kliebenstein DJ. Resequencing and association mapping of the generalist pathogen *Botrytis cinerea*.
- Jing B, Isikawa T, **Soltis NE**, Inada N, Liang Y, Murawska G, Andeberhan F, Yu X, Baidoo E, Kawai-Yamada M, Loque D, Kliebenstein DJ, Dupree P, Mortimer J. GONST2 transports GDP-Mannose for sphingolipid glycosylation in the Golgi apparatus of *Arabidopsis*.

SCIENCE WORKSHOPS & TRAINING

2018	UC Davis Health Science Communication Fellowship
2017	Evolutionary Quantitative Genetics Workshop: University of Washington
2013 - 2017	Affiliate: UC Davis Center for Population Biology
2014	Summer Institute in Statistical Genetics: University of Washington
2012	Tufts Environmental Literacy Institute: Tufts Institute of the Environment
2009	UC Education Abroad Program: Costa Rica Tropical Ecology

FELLOWSHIPS & AWARDS

2018	Student Travel Award, Science Talk 2018 $280
2018	Travel Award, FUTURE Career Exploration $300
2018	Semifinalist, AAAS Mass Media Fellowship
2014 - 2018	Plant Sciences Departmental Graduate Student Research Award $187,070
2014, 2015, 2017	Henry A. Jastro Research Scholarship Award $9000
2016	Thomas and Mary Whitaker Scholarship
2015	Travel Scholarship, 11th US-Japan Scientific Seminar $244
2014	Summer Institute in Statistical Genetics Scholarship $1650
2014	Honorable Mention, Ford Foundation Fellowship Predoctoral Award
2014	Northern California Botanists Symposium Student Stipend $200
2012	Tufts Institute of the Environment Graduate Student Research Fellowship $3300
2013	NSF Graduate Research Fellowship Program: Honorable Mention
2012	Tufts Institute of the Environment Travel Award $500
2012	Tufts Graduate School of Arts and Sciences Travel Award $400