

STEPHEN R. KELLER (UPDATED JULY 23 2018)

Department of Plant Biology
111 Jeffords Hall
63 Carrigan Drive
University of Vermont
Burlington , VT 05405

Office: (802) 656-5121
www: <http://www.uvm.edu/~srkeller/index.html>
email: srkeller@uvm.edu

Research Areas: Ecological and population genomics, landscape genetics, molecular ecology and evolution, plant population biology, forest tree responses to climate change, biological invasions, conservation genetics

EDUCATION

- 2008 Ph.D. Biology, University of Virginia, Advisor: Dr. Douglas Taylor
2002 M.S. Biology, University of Alaska Fairbanks, Advisor: Dr. Kent Schwaegerle
1997 B.S. Ecology, Juniata College, Advisor: Dr. Todd Gustafson.

PROFESSIONAL EXPERIENCE

- 2014- Assistant Professor, Department of Plant Biology, University of Vermont

2011-2014 Assistant Professor, Appalachian Laboratory, University of Maryland Center for Environmental Science

2009-2011 Postdoctoral Research Associate, Department of Plant Biology, University of Minnesota. Advisor: Dr. Peter Tiffin

2008-2009 Postdoctoral Research Associate, Department of Biology, University of Virginia. Advisor: Dr. Douglas Taylor

2002-2007 Graduate Assistant, Department of Biology, University of Virginia

1999-2002 Graduate Assistant, Institute of Arctic Biology, University of Alaska Fairbanks

1999 Research Assistant, Rocky Mountain Biological Lab, Gothic, CO
 Advisor: Dr. Alison Brody and Rebecca Irwin

1997-1998 Biological Science Technician, Division of Resource Management, Black Canyon National Park, Gunnison, CO, National Park Service.

GRANTS AND FELLOWSHIPS

Current:

- 2018-2021 National Science Foundation DEB: "SG: Linking above and belowground interactions in highbush blueberry." \$199,528; (Senior Personnel)

- 2017-2020 National Science Foundation DEB: “COLLABORATIVE: Evolutionary responses to climate change at range limits: adaptation, migration and population size at the core, margin, and trailing edge” \$1,209,604 (\$699,960 to UVM); (PI)
- 2017-2022 NSF Division of Graduate Education: “National Research Traineeship: Quantitative & Evolutionary STEM Training (QuEST): An integrative training program for versatile STEM professionals to solve environmental and global health problems” \$2,999,999; (Co-PI).
- 2017-2019 USDA Forest Service Cooperative Agreement: “Seedling propagation for red spruce genealogical study” \$13,008; (PI)
- 2015-2020 USDA-HATCH: “Genomic analysis of climate change responses in northeastern red spruce forests”; \$100,000; (PI).
- 2014-2018 USDA Cooperative Agreement: “Understanding the Role of Population Genetic Structure and Population Dynamics in the Invasion of Knapweeds (Centaurea spp.)”; \$233,298 (including cost-share); (Co-PI)
- 2014-2019 National Science Foundation IOS: “LTREB: Impacts of polyandry over the lifetime of a social mammal”; \$498,695; (Co-PI)
- Previous:*
- 2013-2017 National Science Foundation Plant Genome Research Program: “Combining Genomics, Remote Sensing, and Geospatial Modeling to Understand Adaptation to Growing Season Length in Balsam Poplar”; \$1,495,713; (PI)
- 2015-2017 National Science Foundation Plant Genome Research Program: “Supplement to: Combining genomics, remote sensing, and geospatial modeling to understand adaptation to growing season length in balsam poplar” \$24,948; (PI)
- 2013-2015 Maryland Sea Grant: “From genes to ecosystems: integrating measures of aquatic biodiversity and ecosystem health within urbanizing Bay watersheds”; \$146,560; (PI)
- 2013-2015 Mid-Atlantic Panel on Aquatic Invasive Species: “Environmental DNA Monitoring of the Invasive Freshwater Diatom, *Didymosphenia germinata*, in Mid-Atlantic Waters”; \$13,500; (PI)
- 2013-2015 West Virginia Department of Natural Resources: “A genetic assessment of the population health and connectivity of a keystone species in high elevation Appalachian forest ecosystems: red spruce (*Picea rubens* Sarg.)”; \$10,643; (PI)
- 2013-2015 Maryland Department of Natural Resources: “How representative are wind-

- turbine killed red bats of the broader population in Maryland? An isotopic and genetic assessment”; \$40,000; (Co-PI)
- 2012-2014 Environmental Protection Agency STAR fellowship: “Biological Impacts of Green Energy Development: Assessing Sources of Bat Mortality at Wind Turbine Site Using Stable Isotopes and Population Genetics”; \$34,000; Advisor (awarded to graduate advisee, C. Pylant)
- 2012-2013 Chesapeake Bay Trust: “Citizens Restoring American Chestnut (CRAC)”; \$14,993; (Co-PI)
- 2012-2013 Maryland Department of Natural Resources: “Continuing Isotopic and Genetic Investigations of the Impacts of Wind-Turbine Mortality on Bat Populations in the Central Appalachians”, \$40,000; (Co-PI)
- 2011-2013 Maryland Department of Natural Resources: “A preliminary isotopic and genetic investigation of the impacts of wind-turbine mortality on bat populations in the central Appalachians”, \$40,000; (Co-PI)
- 2011-2012 MPGI Illumina Sequencing Grant: “Comparative evolutionary analysis of mutation rate variability and strength of selection in *Populus*”; \$4000; (PI)
- 2006-2007 National Science Foundation: “DISSERTATION: Separating Stochastic Events From Adaptive Evolution During A Biological Invasion”; \$8,356; (PI)
- 2006-2007 University of Virginia Graduate School of Arts and Sciences Dissertation Year Fellowship; \$22,440.
- 2002-2005 University of Virginia Presidential Fellowship, \$72,000.
- 2001 Ted McHenry Field Biology Research Fund; \$5,000; (PI)
- 2001 Austin-Cooley Talent Grant, \$1,000; (PI)
- 2001 University of Alaska Fairbanks Botany Research Grant; \$500; (PI)

AWARDS AND HONORS

- 2016 Nominated for the UVM Graduate Student Senate Excellence in Teaching Award
- 2008 Fleming Award for outstanding doctoral dissertation, Department of Biology, University of Virginia.
- 2007 Nominated for the Seven Society Graduate Fellowship for Superb Teaching, University of Virginia.
- 2006 Graduate Teaching Assistant Award for excellence in undergraduate instruction, Graduate School of Arts and Sciences, University of Virginia.

- 2004 Kepner Award for excellence in teaching biology, Department of Biology, University of Virginia.
- 1998 Tri-Beta Biological Honor Society, invited Graduate Member.
- 1997 National Park Service Employee Excellence Award.

PUBLICATIONS (TOTAL CITATIONS: 1482; H-INDEX 18; UPDATED JULY 23, 2018) _____

Currently in review for publication:

Gougherty, A.V., **S.R. Keller**, A. Kruger, C.D. Stylinski, A.J. Elmore, and M.C. Fitzpatrick. Estimating tree phenology from high frequency tree movement data. Revised manuscript in review at Agricultural and Forest Meteorology.

Fetter, K.C., S. Eberhardt, R.S. Barclay, S. Wing, and **S.R. Keller**. StomataCounter: a deep learning method applied to automatic stomatal identification and counting. Revised manuscript in review at New Phytologist. *bioRxiv*, p.327494.

Lachmuth, S., J. Molofsky, L. Milbrath, J. Suda, and **S.R. Keller**. Deconvolution of the invasive meadow knapweed hybrid complex (*Centaurea xmoncktonii* C.E. Britton) in eastern North America: associations between genomic ancestry, genome size and capitula morphology. In review at Annals of Botany

Schrieber, K., S. Wolf, C. Wypior, D. Hohlig, **S.R. Keller**, I. Hensen, and S. Lachmuth. Enemy release mitigates inbreeding depression in native and invasive *Silene latifolia* populations: experimental insight into the role of inbreeding \times environment interactions in invasion success. In review at Ecology and Evolution.

Hoogland, J.L., R. Trott, and **S.R. Keller**. Polyandry and Polygyny in a Social Rodent: An Integrative Perspective Based on Social Organization, Copulations, and Genetics. In review at Frontiers in Ecology and Evolution.

Published or accepted and in press:

Chhatre, V.E., L.M. Evans, S.P. DiFazio, and **S.R. Keller**. 2018. Adaptive introgression and maintenance of a trispecies hybrid complex in range-edge populations of *Populus*. *Molecular Ecology*. <https://doi.org/10.1111/mec.14820>

Fitzpatrick, M.C., **S.R. Keller**, and K.E. Lotterhos. 2018. Comment on "Genomic signals of selection predict climate-driven population declines in a migratory bird". *Science* 361, eaat7279 (2018).doi:10.1007/s10584-012-0396-6.

Butnor, J.R., B.M. Verrico, V. Vankus, and **S.R. Keller**. 2018. Ethanol exposure can inhibit red spruce (*Picea rubens* Sarg.) germination. *Seed Science and Technology*. 46: 259-265.

- Keller, S.R.**, V.E. Chhatre, and M.C. Fitzpatrick. 2017. Influence of range position on locally adaptive gene-environment associations in *Populus* flowering time genes. *Journal of Heredity*, 109:47-58.
- Palacio-Lopez, K., **S.R. Keller**, J.M. Molofsky. 2017. Genomic admixture between locally adapted populations of *Arabidopsis thaliana* (Mouse ear cress): Evidence of optimal genetic outcrossing distance. *Journal of Heredity*. 109:38-46.
- Fetter, K.C., P. Gugger, and **S.R. Keller**. 2017. Landscape genomics in angiosperm trees: model systems at the foundations and forefront of the field. *Comparative and Evolutionary Genomics of Angiosperm Trees*, Andrew Groover and Quentin Cronk, eds. Springer, ISBN 978-3-319-49329-9. doi: 10.1007/7397_2016_19
- Keller, S.R.**, R. Hilderbrand, M.K. Shank, and M. Potapova. 2017. Environmental DNA genetic monitoring of the nuisance freshwater diatom, *Didymosphenia geminata*, in eastern North American streams. *Diversity and Distributions*, 23:381-393.
- Colautti, R.I., J.M. Alexander, K.M. Dlugosch, **S.R. Keller**, and S.E. Sultan. 2017. Invasions and extinctions: through the looking glass of evolutionary ecology. *Philosophical Transactions of the Royal Society B*, 372(1712):20160031.
- Keller, S.R.** 2017. A genetic assessment of the population health and connectivity of a keystone species in high elevation Appalachian forest ecosystems: red spruce (*Picea rubens* Sarg.). Final report to the West Virginia Department of Natural Resources (non peer-reviewed). July 20, 2017.
- Sebasky, M. **S.R. Keller**, and D.R. Taylor. 2016. Investigating past range dynamics for a weed of cultivation, *Silene vulgaris*. *Ecology and Evolution*, 6:4800-4811.
- Pylant, C.L., D.M. Nelson, M.C. Fitzpatrick, J.E. Gates, and **S.R. Keller**. 2016. Geographic origins and population genetics of bats killed at wind-energy facilities. *Ecological Applications*, 26:1381. doi:10.1890/15-0541.
- Kazyak, D.C., R.H. Hilderbrand, T.L. King, **S.R. Keller**, and V.E. Chhatre. 2016. Hiding in plain sight: a case for cryptic metapopulations in brook trout. *PLoS ONE* 11(1): e0146295. doi:10.1371/journal.pone.0146295.
- Jaramillo-Correa, J.P., J. Prunier, A. Vazquez-Lobo, **S.R. Keller**, A. Moreno-Letelier. 2015. Molecular signatures of adaptation and selection in forest trees. *Advances in Botanical Research*, Vol. 74, 265-306.
- Fitzpatrick, M.C. and **S.R. Keller**. 2015. Ecological genomics meets community-level modeling of biodiversity: Mapping the genomic landscape of current and future environmental adaptation. *Ecology Letters* 18:1-16.

- Kazyak, D.C., R.H. Hilderbrand, **S.R. Keller**, M.C. Colaw, A.E. Holloway, R.P. Morgan III, and T.L. King. 2015. Spatial structure of morphological and neutral genetic variation in Brook Trout *Salvelinus fontinalis*. *Trans. Amer. Fisheries Soc.* 144:480-490.
- Pylant, C.L., D.M. Nelson, and **S.R. Keller**. 2014. Stable hydrogen isotopes record the summering grounds of eastern red bats (*Lasiurus borealis*). *Peer J* 10.7717/peerj.629.
- Molofsky, J., **S.R. Keller**, S. Lavergne, M. Kaproth, and M. Eppinga. 2014. Human-aided admixture may fuel ecosystem transformation during biological invasions: theoretical and experimental evidence. *Ecology and Evolution* 4: 899-910.
- Keller, S.R.**, P. D. Fields, A. E. Berardi, and D. R. Taylor. 2014. Recent admixture generates heterozygosity-fitness correlations during the range expansion of an invading species. *Journal of Evolutionary Biology* 27:616-627.
- Keller, S.R.**, R. Trott, C. Pylant, and D. Nelson. 2013. Genome-wide microsatellite marker development from next-generation sequencing of two non-model bat species impacted by wind turbine mortality: *Lasiurus borealis* and *L. cinereus* (Vespertilionidae). *Molecular Ecology Resources*. 14:435-436.
- Olson, M.S., N. Levens, R. Soolanayakanahally, R. Guy, W. Schroeder, **S.R. Keller**, and P. Tiffin. 2013. The adaptive potential of the dominant boreal forest tree *Populus balsamifera* L. to phenology requirements in a warmer global climate. *Mol. Ecol.* 22:1214-1230.
- Keller, S.R.**, K. J. Gilbert, P. D. Fields, and D. R. Taylor. 2012. Bayesian inference of a complex invasion history revealed by nuclear and chloroplast genetic diversity in the colonizing plant, *Silene latifolia*. *Mol. Ecol.* 21:4721-4734.
- Keller, S.R.**, N. Levens, M.S. Olson, and P. Tiffin. 2012. Local adaptation in the flowering time genetic network of balsam poplar, *Populus balsamifera* L. *Mol. Biol. Evol.* 29:3143-3152.
- Sloan, D.B., **S.R. Keller**, A.E. Berardi, B.J. Sanderson, J.F. Karpovich, and D.R. Taylor. 2011. *De novo* transcriptome assembly and polymorphism detection in the flowering plant *Silene vulgaris* (Caryophyllaceae). *Mol. Ecol. Res.* 12:333-343.
- Keller, S.R.**, N. Levens, P. K. Ingvarsson, M. S. Olson, and P. Tiffin. 2011. Local selection across a latitudinal gradient shapes nucleotide diversity in balsam poplar, *Populus balsamifera* L. *Genetics* doi: 10.1534/geneticsd.111.128041.
- Keller, S.R.**, R. Soolanayakanahally, R. Guy, S. Silim, M. Olson, and P. Tiffin. 2011. Climate-driven local adaptation in ecophysiology and phenology in balsam poplar, *Populus balsamifera* L. (Salicaceae). *American Journal of Botany* 98:99-108.

- Jenkins, C.E. and **S.R. Keller**. 2011. A phylogenetic comparative study of preadaptation for invasiveness in the flowering plant genus *Silene* (Caryophyllaceae). *Biological Invasions* 13:1471-1486.
- Keller, S.R.**, and D.R. Taylor. 2010. Genomic admixture increases fitness during a biological invasion. *Journal of Evolutionary Biology* 23:1720-1731.
- Keller, S.R.**, M.S. Olson, S. Silim, W. Schroeder, and P. Tiffin. 2010. Genomic diversity, population structure and migration following rapid range expansion in the Balsam Poplar, *Populus balsamifera*. *Molecular Ecology*, 19:1212- 1226.
- Fields, P.D., **Keller, S.R.**, Ingvarsson, P.K., Pederson, A., and D.R. Taylor. 2010. Isolation and characterization of polymorphic microsatellite loci in the white campion, *Silene latifolia* (Caryophyllaceae). *Molecular Ecology Resources*, 10:232-238.
- Keller, S.R.**, Sowell, D.R., Neiman, M., Wolfe, L.M., and D.R. Taylor. 2009. Adaptation and colonization history affect the evolution of clines in two introduced species. *New Phytologist*, 183:678-690.
- Keller, S.R.**, and D.R. Taylor. 2008. History, chance, and adaptation during biological invasion: separating stochastic phenotypic evolution from response to selection. *Ecology Letters*, 11: 852-866.
- Sloan, D.B., C.M. Barr, M.S. Olson, **S.R. Keller**, and D.R. Taylor. 2008. Evolutionary rate variation at multiple levels of biological organization in plant mitochondrial DNA. *Molecular Biology and Evolution*, 25:243-246.
- Etterson, J.R., **S.R. Keller**, and L.F. Galloway. 2007. Epistatic and cytonuclear interactions govern outbreeding depression in the autotetraploid *Campanulastrum americanum*. *Evolution*, 61:2671-2683.
- Barr, C.M., **S.R. Keller**, P.K. Ingvarsson, D.B. Sloan, and D.R. Taylor. 2007. Variation in mutation rate and polymorphism among mitochondrial genes of *Silene vulgaris*. *Molecular Biology and Evolution*, 24:1783-1791.
- Taylor, D.R. and **S.R. Keller**. 2007. Historical range expansion determines the phylogenetic diversity introduced during contemporary species invasion. *Evolution*, 61:334-345.
- Keller, S.R.** and K.E. Schwaegerle. 2006. Maternal sex and mate relatedness affect offspring quality in the gynodioecious *Silene acaulis*. *Journal of Evolutionary Biology*, 19:1128-1138.

TEACHING

Primary Instructor:

- BCOR101: *Genetics*; 3 credits; Fall 2016, 2017; University of Vermont
- PBIO/BIO381: *Ecological Genomics*; 4 credits; Fall 2015, Spring 2017; Spring 2018; University of Vermont
- PBIO292: *Independent Study in Quantitative Genetics*; 1 credit; Spring 2017; University of Vermont
- MEES608R: *Analysis of Messy Data*; 1 credit; Spring 2013; University of Maryland Center for Environmental Science.
- MEES608R: *Mixed effects models in R*; 1 credit; Fall 2012; University of Maryland Center for Environmental Science.
- BIOL403: *Experimental and Investigative Evolution*; 3 credits; Fall 2007; Department of Biology, University of Virginia.

Teaching Assistantships:

2003 – 2006 Genetics and Evolution Lab (Biol 322), Experimental and Investigative Evolution (Biol 403), Intro to Biology Lab (Biol 203); Department of Biology, University of Virginia.

1999 – 2001 Principles of Evolution (BIOL 481/681), General Ecology (Biol 271), Population Ecology (Biol 471), Principles of Biology (Biol 105); Department of Biology and Wildlife, University of Alaska Fairbanks.

1996 – 1997 Plant Morphology (Biol 342), Vertebrate Zoology (Biol 361); Juniata College.

Graduate Student Mentoring:

Brittany Verrico (Ph.D, 2015-present), Karl Fetter (Ph.D., 2014-present), Cortney Pylant (M.Sc., 2011-2014)

Graduate Student Committees:

Andy Gougherty (PhD, 2015-present), Jordan Harris (PhD, 2015-2016); Federico Lopez (PhD, 2016), Kattia Palacio-Lopez (PhD, 2014-2017), April Makukhov (PhD, 2016-present), Emily Mikucki (PhD, 2016-present), Muhammad Kala (PhD, 2016-present), Lauren Ashlock (2017-present), Aayudh Das (PhD, 2017-present), Melanie Kazenel (PhD, 2017-present), Michael Mariani (PhD, 2017-2018), Peter Clark (2018-present).

Undergraduate Student Research Mentoring:

Rachel Prunier (2003), Allen Gunn (2003-4), Jennifer Howenstine (2003-4), Charles Farnum (2004-5), Tara Poole (2006-7), Christina Jenkins (2006-7), Constance Armanda Roco (2008-2009), Alice Vislova (2009-2010), Callistus Ditah (2009-2010), Britta Herzan (2010), Katy Limpert (2013), Madie Hassett (2014-2015), Molly Estabrook (2014-2015), Maddi Sorrentino (2015-2016), Christine Nolan (2016-2017), Ethan Thibault (2016-2018), Jamie Waterman (2016-2018), Jeremy Weiland (2017-2018), Eva Murray (2017), Helena Munson (2018), Corey Davis (2018).

INVITED SYMPOSIA TALKS AND SEMINARS

- 2018 *Invited Symposia:*
EEdays 2018: “Predicting Outcomes of Species Interactions. Linking ecology and evolution with demography and spread”, invited keynote speaker (September 2018; Fribourg, Switzerland)
- 2017 *Invited Symposia:*
POP BIO 2017: “Population Biology in a Changing World”, invited keynote speaker (May 2017; Halle, Germany)
- Invited Seminars:*
Penn State University (April 2017); Amherst College (Feb 2017)
- 2016 *Invited Symposia:*
American Genetic Association President’s Symposium (“Local adaptation: from phenotype to genotype to fitness”); invited plenary speaker
- Invited Seminars:*
Harvard University Arnold Arboretum; Buffalo State University; Castleton State University
- 2015 *Invited Symposia:*
20th Penn State Plant Biology Symposium (“Plant Stress-Omics in a Changing Climate”)
- Ecological Society of America Symposium (“Integrating Genetics into Strategies for Mitigating Global Change Problems”)
- National Science Foundation Plant Genome Research Program PI Meeting (“Approaches to Broader Impacts”)
- Invited Seminars:*
University of Vermont (RESNR, Biology)
- 2014 Virginia Commonwealth University; University of Vermont (Plant Biology)
- 2013 West Virginia University; UMCES Institute of Marine and Environmental Technology; UMCES Chesapeake Bay Biological Laboratory; National Park Service Center for Urban Ecology
- 2012 University of Virginia; Franklin and Marshall College; Maryland Native Plant Society
- 2011 Central Appalachian Spruce Restoration Initiative; UMCES Horn Point Laboratory

- 2010 Haverford College; Rhodes College; University of Maryland Center for Environmental Science; University of Virginia; Williams College; St. Olaf College;
- 2009 University of Wisconsin-Green Bay; University of Minnesota; Carleton College; Washington and Lee University

CONFERENCE PRESENTATIONS

- 2018 Chhatre, V.E., K.C. Fetter, A.G. Gougherty, M.C. Fitzpatrick, and **S.R. Keller**. “*Is standing genetic variation for local adaptation concentrated in rear edge populations? A test of range limit theory in Populus balsamifera.*” Second Joint Conference on Evolutionary Biology, Montpellier, France.
- S.R. Keller**, V.E. Chhatre, and M.C. Fitzpatrick. *Genomic prediction and phenotypic validation of climate change maladaptation in Populus balsamifera.* Second Joint Conference on Evolutionary Biology, Montpellier, France.
- 2017 Fetter, K.C. and **S.R. Keller**. “Natural hybridization in poplars reveals new genomic architectures of disease resistance” *Society for the Study of Evolution*
- Verrico, B.M. and **S.R. Keller**. “Microgeographic analysis of gene flow across an elevational gradient in northeastern red spruce forests” *Society for the Study of Evolution*
- Gougherty, A., Chhatre, V.E., **Keller, S.R.**, and Fitzpatrick, M.C. (Aug 2017) “Integrating genetic information and spatial modeling to estimate migration speeds through past and future climates” *Ecological Society of America*.
- 2016 Gougherty, A., Chhatre, V.E., **Keller S.R.**, and M.C. Fitzpatrick. “How did past climate change and current range patterns shape genetic patterns of balsam poplar (*Populus balsamifera*)” *Ecological Society of America*
- Verrico, B.M. and **S.R. Keller**. “Microgeographic analysis of local adaptation and gene flow across an elevational gradient in northeastern red spruce forests” *American Genetic Association President’s Symposium*.
- Fitzpatrick MC, **S.R. Keller**, and V.E. Chhatre. “Incorporating climate adaptation into biogeographical models of species responses to climate change.” *International Biogeography Society*
- Keller, S.R.**, Molofsky, J., Palacio-Lopez, K., Suda, J., and L. Milbraith. “Genome size and invasiveness traits in the hybrid meadow knapweed complex (*Centaurea x. moncktonii*) in eastern North America. *NEBIOTA*

- 2015 Fetter, K.C., Chhatre, V.E., and **S.R. Keller**. "Selection scans identify genomic regions associated with adaptation to environment in *Populus balsamifera* (L.)" *Ecological Genomics Symposium*
- Fetter, K.C., Chhatre, V.E., and **S.R. Keller**. "Local adaptation to environment is observed from genome-wide SNP data in *Populus balsamifera* (L.)" 35th *New Phytologist Symposium: The genomes of forest trees: new frontiers of forest biology*
- Chhatre, V.E., Fitzpatrick, M.C., and **S.R. Keller**. "Detecting local selection in spatially heterogeneous environments: clues from simulations and empirical data from a widespread boreal tree, *Populus balsamifera*", 35th *New Phytologist Symposium: The genomes of forest trees: new frontiers of forest biology*
- Chhatre, V.E., Fitzpatrick, M.C., and **S.R. Keller**. "Understanding Climate Adaptation through Genome-Wide Patterns of Differentiation and Local Selection in *Populus balsamifera*. How Important Are Peripheral Populations?" *Plant and Animal Genome Conference XXIII*
- Keller, S.R.**, Chhatre, V.E., and Fitzpatrick, M.C. "Adaptive gene-environment associations in *Populus* flowering time genes: new insights from the southern range edge of balsam poplar. *Plant and Animal Genome Conference XXIII*
- 2014 Styliniski, C.D., **Keller, S.R.**, Elmore, A.J., Fitzpatrick, M.C. "Scientists and volunteers partner to explore poplar phenology and vulnerability to climate change" *Ecological Society of America*
- Fitzpatrick, M.C. and **S.R. Keller**. "Using community-level modeling to understand and map current and future spatial patterns of adaptive genetic variation" *Ecological Society of America*
- Pylant, C., Nelson, D.M., and **Keller, S.R.** "Stable isotope and genetic tools for investigating the impacts of wind-turbine mortality on Lasiurine tree bats" *Wind Wildlife Research Meeting X*
- 2013 Fitzpatrick, M.C. and **S.R. Keller**. "Spatial analysis and predictive mapping of adaptive genetic variation using novel modeling approaches." *International Biogeography Society*
- Pylant, C.L., D.M. Nelson, **S.R. Keller**, M.C. Fitzpatrick, and J.E. Gates. "Assessing regional sources of bat mortality at wind turbine sites using stable isotopes and population genetics", *Ecological Society of America*
- Sebasky, M.E., **S.R. Keller**, B.K. Blackman, and D.R. Taylor. "Testing the sensitivity of species distribution models", *Ecological Society of America*

- Crimmins, T.M., A.J. Elmore, A. Huete, **S.R. Keller**, E. Levetin, J. Luvall, O. Myers, C. Styliniski, P.K. Van de Water, and A. Vukovic. "Research-driven campaigns engage *Nature's Notebook* participants in scientific data collection", *Ecological Society of America*
- 2011 Gilbert, K.J., **S.R. Keller**, P.D. Fields, and D.R. Taylor. "Inferred invasion history of *Silene latifolia* into North America utilizing population genetic data and approximate Bayesian computation", *European Society for Evolutionary Biology*
- 2010 **Keller S.R.**, N. Levens, M. Olson, and P. Tiffin. "The scale of adaptation in poplar phenological genes: species-wide sweeps versus local selection", *Society for the Study of Evolution. Portland Oregon.*
- Vislova, A., **S.R. Keller**, and P. Tiffin. "The role of hybridization between *Silene vulgaris* and *Silene csereii* in invasion and range expansion", *Society for the Study of Evolution. Portland Oregon*
- 2009 **Keller, S.R.**, N. Levens, M. Olson, S. Salim, W. Schroeder, and P. Tiffin "Population genomics of post-glacial range expansion in *Populus balsamifera* and diversity in candidate genes for phenological adaptation", *Ecological Genomics Symposium. Kansas City, Missouri.*
- 2008 **Keller S.R.** and D.R. Taylor. "The postglacial history of *Silene vulgaris*: population structure and cytonuclear disequilibria in the native and introduced ranges", *Society for the Study of Evolution. Minneapolis, Minnesota.*
- 2007 **Keller S.R.** and D.R. Taylor. "Separating stochastic events from adaptive evolution during the process of species invasion", *Society for the Study of Evolution. Christchurch, New Zealand.*
- Jenkins, C.E. and **S.R. Keller**. "A phylogenetic comparative analysis of invasiveness in the flowering plant genus *Silene* (Caryophyllaceae)", *National Conference on Undergraduate Research. Dominican University of California, San Rafael, CA.*
- Poole, T.B. and **S. R. Keller**. "Escaping enemies during invasion: genes or just luck?", *National Conference on Undergraduate Research. Dominican University of California, San Rafael, CA.*
- 2006 D.R. Taylor, **S.R. Keller**, D.R. Sowell, M.B. Neiman & L.M. Wolfe. "Geneological history, chance and adaptation in two invasive plant species", *An evolutionary perspective of biological invasions. University of Fribourg, Switzerland.*
- 2004 **Keller, S.R.** "Offspring quality in a long-lived gynodioecious plant: inbreeding, outbreeding, and maternal sex effects", *Society for the Study of Evolution. Fort Collins, CO.*

SERVICE

Associate Editor: Biological Invasions (2011-present), American Journal of Botany (2017-present)

Peer Review (I review approximately 10 manuscripts per year): American Journal of Botany, Annals of Botany, Axios, Biological Invasions, Biology Letters, Conservation Genetics, Current Biology, Ecology, Ecology Letters, Evolution, Evolutionary Applications, Functional Ecology, Genetica, Heredity, International Journal of Plant Science, Journal of Applied Ecology, Journal of Biogeography, Journal of Ecology, Journal of Evolutionary Biology, Molecular Ecology, Nature Ecology and Evolution, New Phytologist, Oecologia, PLoS Pathogens, PLoS One, Tree Genetics and Genomes, Trees -- Structure and Function, Trends in Ecology and Evolution.

Proposal Panelist: National Science Foundation Plant Genome Research Program, National Science Foundation DEB

Ad-hoc Proposal Reviews: Swiss National Science Foundation, Army Corps of Engineers, Grant Agency of the Academy of Sciences of the Czech Republic, National Science Foundation Plant Genome Research Program, National Science Foundation DEB.

Outside PhD Examiner: Universidad de Valladolid, Spain.

University of Vermont Service Committees: Faculty Senate Research Scholarship and Creative Arts Committee (2018-present); Crop Geneticist Faculty Search Committee (2016-2017); Plant Biology Graduate Admissions Committee (2014-present).

University of Maryland Service Committees: Ecological Genetics Faculty Search Committee (2013), Seminar Chair (Spring 2013), Faculty Retreat Committee (2012), Safety Committee (2011-present), Facilities Master Plan Committee (Fall 2011)

Public Science Outreach: "PopClock" citizen science phenology monitoring project (co-coordinator), "Stream Microbial Diversity" citizen science project (co-coordinator), Keynote Speaker at the Home Ground Annual Banquet (2013), Richard A. Johnson Environmental Education Award Keynote Address (2013), Citizens Restoring American Chestnuts (multiple presentations during Spring and Fall 2013), Volunteer at the Annual Meeting of the National Association of Biology Teachers (2010).