NIKISHA R. PATEL

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EDUCATION:

2017 Ph.D, Botany, Department of Plant Biology, University of Vermont, Burlington, VT.

2012 B.S., Biological Sciences, *summa cum laude,* Phi Beta Kappa, Department of Biology, University of CT, Storrs, CT

RESEARCH EXPERIENCE:

2012-Present Graduate Researcher, University of Vermont, Department of Plant Biology
Evolution of apomixis in the fern genera *Phegopteris* and *Polystichum.*

2015, Summer Research Fellow, Nanjing Institute of Geology and Palaeontology
Hybridization and species biodiversity in Chinese endemic *Polystichum*

2012, Summer Research Assistant, University of Vermont, Department of Plant Biology
Variation in Nitrogen uptake among invasive members of the genus *Phalaris*

2011-2012 Laboratory Technician, University of Connecticut, Department of Ecology and Evolution
Reproductive biology and evolution of new world *Solanum*

2011, Summer Field Assistant, University of Connecticut, Cape Town, South Africa
Evolutionary radiations of genera *Protea* and *Pelargonium* in the Greater Cape Floristic Region

2009-2012 Undergraduate Researcher, University of Connecticut, Department of Ecology and Evolution
Reproductive Biology of rare, endemic *Solanum conocarpum* and *Solanum vespirtilio*

PUBLICATIONS:

2017 **Patel, N.R**., Li, C.X., Zhang, L.B., Barrington, D.S. (In Review). Biodiversity and apomixis: insights from the East-Asian holly ferns in *Polystichum* section *Xiphopolystichum*. *Molecular Phylogenetics and Evolution.*

2016 Li, C.X., **Patel, N.R**., Zhang, L.B. Polystichum clarinervium (subg.Haplopolystichum; Dryopteridaceae), a new fern from Emei shan, China. *280*(3), 271-277

2015 Anderson, G. J., Anderson, M. K., & **Patel, N**. The ecology, evolution, and biogeography of dioecy in the genus *Solanum*: With paradigms from the strong dioecy in *Solanum polygamum*, to the unsuspected and cryptic dioecy in *Solanum conocarpum*. *American journal of botany*, *102*(3), 471-486.

PRESENTATIONS AND PUBLISHED ABSTRACTS:

2016 Patel, N.R., and D. Barrington. Apomixis and reticulate evolution in Chinese *Polystichum* section *Xiphopolystichum*. Botanical Society of America annual meeting, Savannah, GA.

2015 Patel, N.R., and D. Barrington. Apomixis and biodiversity: insight from holly fern subgroup *Xiphopolystichum* in China. Next Generation Pteridology, Washington D.C.

2014 Patel, N. R., and D. Barrington. Origins of the undescribed North American tetraploid *Phegopteris* (Thelypteridaceae). Botanical Society of America annual meeting, Boise, ID.

INVITED TALKS:

2015 Patel, N.R., and D. Barrington. Biogeographic history of holly fern subgroup *Xiphopolystichum* in the Sichuan Basin, Shanghai Chenshan Plant Science Research Center, Shanghai, China.

EDUCATIONAL TRAINING:

2015-2017 Graduate Teaching Program Participant, Center for Teaching and Learning, University of Vermont

TEACHING EXPERIENCE:

2016 Guest Lecturer: University of Vermont, Department of Plant Biology
Introductory Genetics, Topic: Heritability and Mendelian Genetics

2012-Present Teaching Assistant: University of Vermont, Department of Plant Biology
Genetics: BCOR 101, Fall 2012, 2013, 2014, 2015, 2016
Ecology and Evolutionary Biology: BCOR 102, Spring 2012, 2013
Introduction to Botany: PBIO 4, Spring 2014, 2015

2014, Summer University of Vermont, Guest Biodiversity Instructor, Upward Bound
Instructed 20 high school students during summer course
Designed curriculum for field instruction on plant biodiversity

SOFTWARE AND COMPUTATIONAL SKILLS:

Tree building software (Mr. Bayes, RaxML, PAUP, TNT, GARLI, BEAST)
R (Phytools, Maxent, ENMeval, ENMTools, Mclust, STATS)

INTERNATIONAL AND DOMESTIC FIELD EXPERIENCE:

2015 Field Collection, Sichuan, China
Two months collecting specimens in the genus *Polystichum* for dissertation research in systematics.

2015 Tropical Ferns and Lycophytes Course, Organization for Tropical Studies, La Selva Station, Costa Rica
Field course surveying diversity of tropical ferns and lycophytes with a focus on identification and cytology of plants.

2014 Tropical Plant Systematics Course, University of Vermont, San Jose, Costa Rica
Field course surveying diversity of tropical plants with a focus on identification and phylogenetic relationships

2014 Ferns and Lycophytes of New England Course, Eagle Hill Biological Station, Steuben, ME
Field course focused on identification and ecology of New England ferns and Lycophytes

2011 Field assistant, University of Connecticut, Cape Town, South Africa,
Three months collecting specimens and data analysis on the evolutionary radiations of *Protea* and *Pelargonium*

2009 Field Assistant, University of Connecticut, Storrs, CT
One month of field observation of the reproductive biology of introduced New England *Solanum triflorum*

SCIENCE COMMUNICATION & OUTREACH:

2014-2015 Planting Science Mentor, Ecology and Evolution for middle and high school students

2013 Biology Tutor, King Street Center, Burlington, VT
Tutored middle and high school students in natural sciences courses

UNDERGRADUATE STUDENT MENTORING:

2016 Morgan Southgate, University of Vermont, Department of Plant Biology
Histological development in apomictic gametophytes

2015 Jacob Suissa, University of Vermont, Department of Plant Biology
Hybridization and reticulate evolution among Chinese *Polystichum*

2015 Melita Schmeckpeper, University of Vermont, Department of Plant Biology
Evolution of *Polystichum* hybrids in California
University of Vermont Honors Thesis

2014 Sylvia Kinosian, University of Vermont, Department of Plant Biology
Hybridization history of polyploid members of the genus *Polystichum* in Hawaii
2015 Next Generation Pteridology Conference: Poster presentation

RESEARCH FUNDING:

2016 American Society of Naturalists: Graduate Student Research Award ($2,000)
"Next generation sequencing applications in understanding hybridization among East Asian Pteridophytes"

2015 American Society of Plant Taxonomists: W. Hardy Eshbaugh Graduate Student ($1,000)
"The contribution of apomixis to biodiversity: insight from the holly fern subgroup *Xiphopolystichum* in China"

2015 National Science Foundation, East Asia South Pacific Institute ($8,000)
"The contribution of apomixis to biodiversity: insight from the holly fern subgroup *Xiphopolystichum* in China"

2011 University of Connecticut, Summer Undergraduate Research Grant ($3,500)
"The effect of elevation on species diversity in the genus *Protea* in the Greater Cape Floristic Region"

2010 University of Connecticut, Office of Undergraduate Research Grant ($800)
"Using Scanning Electron Microscopy to study pollen morphology variation among dioecious and cryptically dioecious members of the genus *Solanum*"

DEPARTMENTAL AND UNIVERSITY SERVICE:

2014-2017 Board of Trustees for Budget and Finance, Graduate student representative

2013-2014 Department of Plant Biology Faculty Meetings, Graduate student representative