

# MARTHA BURFORD REISKIND, Ph.D.

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## EDUCATION

- 2007**                    **Ph.D.** Ecology & Evolutionary Biology, University of California Santa Cruz  
Area of specialization: Molecular Ecology and Evolution  
Dissertation: *Phylogeny and genetic analysis of adult and juvenile blue rockfish (Sebastes mystinus) and other members of the subgenus Sebastosomus*
- 2001**                    **M.A.** Marine Biology, San Francisco State University  
Area of Specialization: Population Genetics  
Thesis: *Population structure and year-class formation in blue rockfish using microsatellite loci*
- 1995**                    **B.A.** (Honors) in Integrative Biology, University of California Berkeley  
Concentration: Plant Ecology  
Senior Thesis: *Succession on reef islands (motu) and guide to the nearshore plant community of Moorea, French Polynesia*

## PRESENT AND PAST ACADEMIC POSITIONS

- 2019 - present**            **Research Assistant Professor and Director of the Genetics & Genomics Scholars graduate program:** Dept. of Biological Sciences, North Carolina State University
- 2017 - 2019**            **Faculty advisor for the Global Change Fellows:** SE Climate Science Center, North Carolina State University
- 2012 - 2019**            **Research Assistant Professor and Coordinator of Academic Programs:** Dept. of Applied Ecology, North Carolina State University
- 2014 - 2019**            **Faculty advisor to the Applied Ecology Minor students:** Dept. of Applied Ecology, North Carolina State University – 2014 to 2019
- 2011- 2012**            **Assistant Professor (Tenure Track):** Dept. of Biology, University of Central Oklahoma
- 2010 - 2011**            **Adjunct Professor:** Dept. of Natural Resources, Oklahoma State University
- 2008 - 2010**            **Postdoctoral Associate:** Dept. of Natural Resources, Cornell University
- 2007 - 2008**            **Lecturer:** Dept. of Ecology & Evolutionary Biology, UC Santa Cruz

## RESEARCH INTERESTS: THE EVOLUTIONARY TRAJECTORY OF SPECIES

- Rapid evolution and adaptation to environmental change
- Population genomics, conservation & ecological genetics
- Genomics of invasive species, introgression & hybridization
- Conservation Science
- Molecular evolution and ecology of invertebrate and vertebrate animals
- Population demography and ecology
- Phylogeny & phylogeography

## PUBLICATIONS

### REFEREED ARTICLES (20)

- Wallace E\*\*, Aguilar A, Reiskind MH, **Burford Reiskind MO** (Revise & resubmit) Next generation sequencing approach to the phylogenetic relationship among members of the rockfish subgenus *Sebastesomus*. *Molecular Phylogeny and Evolution*
- Maurer AS\*, Seminoff JA, Godfrey MH, **Burford Reiskind MO**, Stapleton SP (2021) The Atlantic Sargassum 'invasion' impedes beach access for nesting sea turtles. *Climate Change Ecology*
- Gabor CR, Kivlin SN, Hua J, Bickford N, **Burford Reiskind MO**, Wright TF. (2021) Understanding organismal capacity to respond to anthropogenic change: Barriers and solutions. *Integrative & Comparative Biology* Doi.org/10.1093/icb/icab162
- Maurer AS\*, Seminoff JA, Layman CA, Stapleton SP, Godfrey MH, **Burford Reiskind MO** (2021) Population viability of sea turtles in the context of global warming. *BioScience* <https://doi.org/prox.lib.ncsu.edu/10.1093/biosci/biab028> (**Editor's pick for this issue**)
- Burford Reiskind MO**, Moody ML, Bolnick DI, Hanifin CT, Farrior CE (2021) Nothing in evolution makes sense (is predictable) except in the light of biology. *BioScience* DOI: <https://doi.org/10.1093/biosci/biaa170> (**Editor's pick for this issue**)
- Levis NA\*, Reed EMX\*, Pfennig DW, **Burford Reiskind MO** (2020) Identification of candidate loci for adaptive phenotypic plasticity in natural populations of spadefoot toads. *Ecology & Evolution* DOI: 10.1002/ece3.6602
- Reed EMX\*, Serr M\*, Maurer AS\*, **Burford Reiskind MO** (2020) Gridlock and beltways: the genetic context of urban invasion. *Oecologia*. DOI: <https://doi.org/10.1007/s00442-020-04614-y>
- Henry EH, **Burford Reiskind MO**, Land A, Haddad NH. (2019) Maintaining historic disturbance regimes increases species' resilience to catastrophic hurricanes. *Global Change Biology* 26:798-806
- Hopperstad K\*, Reiskind MH, Labadie P, **Burford Reiskind MO** (2019) Pattern of genetic divergence among populations of *Aedes aegypti* in SE United States. *Parasites and Vectors* 12, 511 <https://doi.org/10.1186/s13071-019-3769-0>
- Burford Reiskind MO**, Reed EMX\*, Giacomini J\*, McNear A\*\*, Nieuwsma J, Parker G\*, Rossi R\*, Stephenson C\*, Roberts RB, Stephenson, J\*\* (2019) The genomics of invasion:

characterization of the red lion fish from its native and introduced range. *Biological Invasions* 21:2471-2483\*\*\*

**Burford Reiskind MO**, Labadie P, Bargielowski I\*, Lounibos LP, Reiskind MH (2018) Rapid evolution and the genomic consequences of selection against interspecific mating – *Molecular Ecology*

**Burford Reiskind MO**, Coyle K\*, Daniels HV, Labadie P, Reiskind MH, Roberts NB, Roberts RB, Schaff J, Vargo EL (2016) Application of a modified double digest RAD sequencing approach to non-model, ecologically important taxa. *Mol Ecol Resources* 16: 1303-1314<sup>††</sup>

**Burford MO**, Cook BJ\*\*, Scarpa J, Hare MP (2014) Local adaptation of a marine invertebrate with a high dispersal potential: evidence from a reciprocal transplant experiment. *Marine Ecological Progress Series*. Vol. 505: 161-175

Hare MP, Nunney L, Schwartz M, Ruzzante D, **Burford M**, Waples RS, Ruegg K, Palstra F (2011) Effective population size: opportunities and challenges for practical application in marine conservation and management. *Conservation Biology* 25: 438-439<sup>†</sup>

**Burford MO**, Carr MH, Bernardi G (2011) Age-structured analysis of the genetic structure of blue rockfish (*Sebastes mystinus*) reveals geographic variation within and between distinct lineages. *Marine Ecological Progress Series* 442: 201-215

**Burford MO**, Bernardi G, Carr MH (2011) Analysis of individual year-classes of a marine fish reveals little evidence of first-generation hybrids between cryptic species in sympatric regions. *Marine Biology*. 158: 1815-1827

**Burford MO** (2009) Demographic history, geographic distribution, and reproductive isolation of distinct lineages of the blue rockfish (*Sebastes mystinus*), a marine fish with a high dispersal potential. *Journal of Evolutionary Biology* 22: 1471-1486.

Vagelli A, **Burford M**, Bernardi G (2009) Fine-scale dispersal in Banggai Cardinalfish, *Pterapogon kauderni*, a coral reef species lacking a pelagic phase. *Marine Genomics* 1: 129-134.

**Burford MO**, Bernardi G (2008) Incipient speciation within a subgenus of rockfish (*Sebastosomus*) provides evidence of recent radiations within an ancient species flock. *Marine Biology* 154: 701-717.

**Burford MO**, Larson RJ (2007) Genetic heterogeneity in a single year-class from a panmictic population of adult blue rockfish (*Sebastes mystinus*). *Marine Biology* 151: 451-465.

<sup>†</sup>After 1<sup>st</sup> author, name order was decided by lottery, <sup>††</sup>After 1<sup>st</sup> author, name order was decided by alphabetical order, # Author order was decided by lottery \*graduate student, \*\* undergraduate student, \*\*\*Conservation Genetics Course projects

## FIELD GUIDES

**Burford MO** (1995) Field Guide to Reef Island Vegetation in French Polynesia. UC & Jepson Herbarium.

## ARTICLES IN PREPARATION (6, ALL ANALYSES COMPLETED & PREPPING FOR SUBMISSION)

Reed EMX\*, Reiskind MH, **Burford Reiskind MO**. Fine-scale landscape genomic analysis of a nonnative, cosmopolitan mosquito species. Target Journal – *Molecular Ecology*, Target Date – Jan 15<sup>th</sup> 2022

Reed EMX\*, Reiskind MH, **Burford Reiskind MO**. Patterns of population genetic diversity, connectivity, and abundance of anthropophilic mosquito in two United States counties. Target Journal – *Biological Invasions*, Target Date – *Spring 2022*

Scholten B\*, Dillon M\*, Reed E\*, Wallace E\*\*, Carlson K\*, Reiskind MH, **Burford Reiskind MO**. Genomic divergence in sympatry and allopatry of a cryptic species along an ecological marine gradient. Target journal – *Mol Ecol*, Target date – *Spring 2022*

Cove M, **Burford Reiskind MO** et al. Evidence of recent expansion of the Key Largo woodrat after conservation efforts. Target journal – *J of Applied Ecol* Target date – *Spring 2022*

**Burford Reiskind MO**, Scarpa J, Hare MP. A reciprocal transplant of genetic crosses of the northern and southern eastern oyster (*Crassostrea virginica*) reveals evidence of hybrid vigor along a latitudinal ecotone in eastern Florida. Target journal – *MEPS*, Target date – *Spring 2022*

**Burford Reiskind MO**, Hare MP. Environmental associations and regional differences in *Perkinsus* infection of juvenile oysters along an ecotone in eastern Florida. Target journal – *Journal of Shellfish Biology*, Target date – *Spring 2022*

### ARTICLES IN PREPARATION (3, IN DATA ANALYSIS PHASE)

Mothes C\*\*, Wallace E\*\*, **Burford Reiskind MO**. Population genomics of the southern flounder (*Paralichthys lethostigma*). Target Journal *Marine Ecological Progress Series*, Target date – *Summer 2022*

Mothes C\*, Wallace E \*, Roberts RB, Roberts NB, **Burford Reiskind MO**. Outlier loci reveal genomic signatures of sex determination in wild juvenile southern flounder (*Paralichthys lethostigma*) in North Carolina. Target Journal *Mol Ecol*, Target date – *Fall 2022*

Roberts RB, Roberts NB, Coyle K\*, **Burford Reiskind MO**. QTL ddRAD sequencing mapping of the southern flounder (*Paralichthys lethostigma*) provides evidence of sex determination linkage groups. Target Journal – *Molecular Ecology*, Target date – *Fall 2022*

### RECEIVED GRANTS / FELLOWSHIPS (\$628,567 / \$30,000)

2021	NIH T32 GM133366 Supplement, MBTP program   Key Pers	\$80,000
2021	OUR Summer Research Award to Emma Wallace NCSU   PI	\$2000
2019	Faculty Research & Professional Development Grant NCSU   PI	\$2000
2018-2019	Faculty Research & Professional Development Grant NCSU   Co-PI	\$6,400
2018-2021	National Park Service Grant   PI	\$259,381
2018-2019	NSF RAPID   PI	\$140,000
2015	RISF Grant   Co-PI	\$15,000
2014-2016	Wynne Innovation Grant + Matching Funds from Entomology  PI	\$50,000
2014-2018	US Fish & Wildlife Service   Co-PI	\$56,092
2006	Marilyn C. Davis Research Grant	\$1000
2005-2006	California Environmental Quality Initiative Fellowship	\$30,000
2002	Friends of the Long Marine Lab (Highest Honors)	\$1000
2000, 2002	PADI Foundation Research Grant	\$9190
2000, 2002	Myers Trust Grant	\$2900

2002	ASIH Raney Fund	\$1000
2001	Nelson Fellowship for Research in Conservation Biology	\$1000
2000	Sigma Xi Grants-in-Aid of Research	\$775

## PRESENTATIONS

### PANELS

- *The Risks and Rewards of Science Advocacy* Panelist in the SE Climate Science Center's Global Change Fellows Seminar Series, April 2018
- *Graduate Women in Science* Research Triangle Chapter Panelist in "Fall Career Development Panel: Moving beyond #Distractinglysexy." October 2015

### PODCASTS

- *This Week in Science* Entomological Society Meeting podcast of underrepresented individuals in entomology, Denver, Colorado November 6<sup>th</sup>, 2017

### INVITED RESEARCH PRESENTATIONS

**Burford Reiskind, MO** 2019 Ecology & Evolution in Changing Environments. Applied Ecology Departmental Seminar, NC State. Raleigh, NC

**Burford Reiskind, MO** 2018. Evolution in changing environments. Biology Department Seminar, Eckerd College. St. Petersburg, FL

**Burford Reiskind, MO** 2013. Evolution of marine species. NOAA Seminar Series. Beaufort, NC

**Burford Reiskind, MO** 2012. Evolutionary trajectories of marine species. Biology Departmental Seminar, North Carolina State University

**Burford, MO** 2011. Evolutionary trajectories of aquatic species. Biology Department Seminar, University of Central Oklahoma.

**Burford, MO** 2009. Cryptic speciation in blue rockfish (*Sebastes mystinus*), a marine fish with a high dispersal potential. Smithsonian Marine Station, Fort Pierce, Florida.

**Burford, MO** 2008. Phylogeographic case-studies and how they contribute to our understanding of biodiversity. Biodiversity Seminar at Oklahoma State University, Stillwater, Oklahoma.

**Burford, MO** 2007. Geographic pattern of genetic structure in the blue rockfish (*Sebastes mystinus*). Marine Connectivity meeting at UC Santa Barbara, California.

**Burford, MO** 2006. Genetic structure in a marine fish with an extended pelagic larval phase: an analysis of both the juvenile and adult populations of blue rockfish (*Sebastes mystinus*). Center for Population Biology Departmental seminar, UC Davis, California.

### RESEARCH PRESENTATIONS AT PROFESSIONAL MEETINGS

**Burford Reiskind, MO**, 2019. Rapid evolution of selection against interspecific mating in female mosquitoes. Annual Evolution Meeting for the SSE, Providence, RI.

**Burford Reiskind, MO** 2018. Rapid evolution and the genomic consequences of selection

against interspecific mating. The Population, Evolutionary, Quantitative Genetics Conference, Madison, WI.

**Burford Reiskind, MO** 2017. Genomic evidence of selection against female *Aedes aegypti* interspecific mating. Entomological Society Meeting, Denver, Colorado.

**Burford Reiskind, M** 2014. Local adaptation of a marine invertebrate: evidence from a reciprocal transplant experiment of the eastern oyster *Crassostrea virginica*. Annual Evolution Meeting for the SSE, Raleigh, North Carolina.

**Burford, MO** 2011. The genetic structure of blue rockfish (*Sebastes mystinus*) reveals little evidence of first-generation hybrids between cryptic species in sympatric regions. Annual Evolution Meeting for the SSE, Norman, OK.

**Burford, M** 2010. Reciprocal transplant of genetic crosses of the eastern oyster (*Crassostrea virginica*) along a latitudinal ecotone in eastern Florida. Annual Evolution Meeting for the SSE, Portland, OR

**Burford, MO** 2009. Analysis of the genetic structure of blue rockfish (*Sebastes mystinus*) reveals geographic and temporal variation within and between two cryptic species. Annual Evolution Meeting for the SSE, Moscow, Idaho.

**Burford, MO** 2009. Co-coordinator of a Symposium on Effective Population Size in Marine Populations. Annual Meeting for the Conservation Biology, Washington, DC.

**Burford, MO** 2007. Geographic pattern of genetic structure in the blue rockfish (*Sebastes mystinus*). 42<sup>nd</sup> Annual Meeting for the Ecological Society of America, San Jose, CA.

**Burford, MO** 2006. Genetic structure in a marine fish with an extended pelagic larval phase: an age-structured analysis of blue rockfish (*Sebastes mystinus*). Annual Meeting for the Western Society of Naturalists, Seattle, WA

**Burford, MO** 2006. Unexpected genetic structure in marine fish with pelagic larvae (*Sebastes mystinus*). Annual Evolution Meeting for the SSE, Stony Brook, New York.

**Burford, MO** 2005. Age-structured study of the population genetics of blue rockfish (*Sebastes mystinus*). Annual Meeting for the Western Society of Naturalists, Monterey, California.

Larson, RJ and **Burford, MO** 2005. Spatial characteristics of marine fish populations: questions and challenges for fisheries management. AAAS Meeting, Washington, DC.

**Burford, MO** 2001. Analysis of population structure and year-class formation in blue rockfish using microsatellite loci. Annual Meeting for the Western Society of Naturalists, Ventura, California.

## TEACHING EXPERIENCE

### RECOGNITION & AWARDS

- College of Sciences Outstanding Teaching LeRoy and Elva Martin Award Recipient 2021
- North Carolina State University CALS Teacher of Merit award recipient 2018
- North Carolina State University “Thank the Teacher” award (Fall 2016) – Landscape Genetics
- North Carolina State University “Thank the Teacher” award (Fall 2012) – General Biology

## COURSES TAUGHT

- Survey of Genetics & Genomics (Bio 779, now GGS 770) – Part of the GG Scholars program first-year graduate training program – North Carolina State University (NCSU) Fall Yearly (2 semester)
- Professional Development and Ethics in Genetics & Genomics (GN 820, now GGS 840) – Part of the GG Scholars program first-year graduate training program NCSU Spring Yearly (3 semesters)
- Rapid Evolution in a Changing Environment (BIO 592) – NCSU Fall 2019
- Conservation Genetics (GN 450/550) –NCSU Spring Yearly (5 semesters)
- Conservation and Climate Science (AEC 761) – NCSU Fall Yearly (2 semesters)
- Field Ecology & Methods (BIO/AEC 460) – NCSU Fall Yearly (6 semesters)
- Global Change Reading Group (AEC 592) – NCSU Fall 2018
- Genetics of Invasive Species (AEC 592) – (2 semesters)
- Landscape Genetics (AEC 592) – NCSU Fall 2016
- Ecology (Bio 360) – NCSU Spring 2014
- Introductory Biology: Ecology, Evolution, & Diversity (Bio 181 for Majors) –NCSU (2 semesters)
- General Biology and Lab for Majors (Bio 1225) – Univ. of Central Oklahoma (UCO) (2 semesters)
- Molecular Genetics / Genetics Laboratory (Bio 3303/3311) – UCO (2 semesters)
- Evolution (Biol 175) –University of California Santa Cruz (UCSC) Summer 2007
- Population & Conservation Genetics and Laboratory (Biol 107/107L) –UCSC Spring 2007
- Ichthyology (Biol 137/137L) –UCSC (Assistant instructor) Fall 2007

## DEVELOPED COURSES

- Professional Development & Ethics in Genetics & Genomics (GN 820 now GGS 840) - NCSU
- Conservation Genetics (AEC 450/550 now GN 450/550) – NCSU
- Genetics & Genomics Survey Course (BIO 792 now GGS 770) - NCSU
- Field Ecology in California (BIO 460) – NCSU – Summer II 2020
- Applied Global Conservation (AEC 295) – NCSU – Spring 2020

## GUEST LECTURES

- *Big Ideas Workshop* for the Global Change Fellows – NCSU Spring 2022
- Principles of Wildlife Science (FW 453/553) – Topic: *Genetic tools for managing wildlife populations* - NCSU Spring 2019
- Ecology (AEC 360) – Topic: *Small population dynamics and population genetics* NCSU (3 years)
- Conservation on Islands (AEC 295) – Topic: *Conservation genetics on islands* – NCSU Spring 2018
- Molecular Ecology (ENT 560) – Topic: Conservation genetics of marine species – NCSU Fall 2012

## **GRADUATE TEACHING ASSISTANT**

- Ecological Field Methods (Biol 150/150L) UCSC– ecology field methods & scientific writing course
- Evolution (Biol 175) UC Santa Cruz
- Quantitative Conservation (Biol 148/148L) UCSC– a computer programming course for designing population viability analyses for threatened or endangered species and developing matrix models using MATLAB
- General biology (Biol 20A) UCSC– Development and Physiology
- General biology (Biol 240) SF State University– Ecology and Evolution
- Animal Ecology (Biol 482) SF State University

## **LEADERSHIP ROLES**

### **RECOGNITION & AWARDS**

- College of Sciences Faculty Diversity External Endowment Recipient 2022
- *Jumpstart* as part of the NSF Reintegrating Biology Initiative Working Group Meeting in Austin, Texas, November 2019
- Certificate of Recognition for the 2018 Equity for Women Award NC State

### **TRAININGS & WORKSHOPS (PARTICIPANT OR FACILITATOR/MENTOR)**

- Collaborator on the creation of seven workshops to train the mentors of the NIH T32 MBTP graduate training program in the *Biotechnology-Society nexus in Responsible Innovation* – Fall 2021 – Spring 2022
- Conduct Moderator Training for Evolution Meeting – June 2021
- DiversityEdu Training – Fall 2020
- University of Columbia EdX training and certification on Inclusive Teaching: Supporting All Students in the College Classroom – Summer 2020
- HHMI CUREs Mentor - Spring 2020
- HHMI CUREs training program as a trainee - Spring 2019

### **COORDINATOR AND MENTOR FOR THE UNDERGRADUATE APPLIED ECOLOGY MINOR STUDENTS**

- Fall 2014 - Developed the undergraduate minor in applied ecology for the newly formed department of Applied Ecology
- Fall 2014 – Spring 2019 - Faculty mentor and advisor to undergraduate minor students at NCSU. A total of 72 graduated with the minor during this time.
- Students develop their own independent research project and give a research talk on this research as a requirement of the minor. I match students with active research labs and PIs at NCSU and hold workshops on effective science communication for the students before they give their talks

### **MENTORING UNDERGRADUATE SENIOR THESIS STUDENTS**



- Spring 2021 – *Genetics Research Experience* GN 496 NCSU– Faculty mentor for Emma Wallace’s independent research for the undergraduate Genetics minor on the phylogeny of the subgenus *Sebastosomus* in the rockfish species complex.
- Summer 2014 – Fall 2014 *Research Learning Experience* AEC 492 NCSU – Faculty mentor of Erin McDermott’s independent research as part of the Applied Ecology Minor at NCSU. Developed an environmental DNA approach to assessing the presence of Atlantic or shortnose sturgeon in water samples from rivers in North Carolina.
- Spring 2013 – *Research Learning Experience* Bio 492 NCSU – Undergraduate Jordan Taylor conducted independent research on the population genetics of kelp rockfish (*Sebastes atrovirens*)
- May 2005 – *Sponsored senior thesis student*. Heli Vuorisalo at UC Santa Cruz on a project using otolith microstructure to look at age/length difference spatially and temporally for rockfish.
- September 2004 – August 2005 *Sponsored senior thesis student*: Diana Churchill at UC Santa Cruz on using otolith microstructure in *Sebastes mystinus* (blue rockfish) to analyze growth rate differences between the extremes of the range.

#### **MENTORING UNDERGRADUATE STUDENTS IN RESEARCH EXPERIENCE**

- Thirteen undergraduate assistants in Molecular Genetic research
- Five undergraduate assistants in Field Ecology research
- Three undergraduate assistants in Ecological Lab research
- 11 of 21 students were women; 4 of 21 undergraduate students were from under-represented minoritized groups

#### **MENTORING POST-BACCALAUREATE STUDENTS IN RESEARCH EXPERIENCES**

- Three post-baccalaureate students in Molecular Genetics of rockfish
- Two post-baccalaureate students in Field and Lab Research on the eastern oyster
- Four post-baccalaureate students in Fieldwork in south Florida on rare butterflies
- 6 of 9 students were women, 4 of 9 students were from under-represented minoritized groups

#### **FACULTY COORDINATOR OF THE GENETICS & GENOMICS INITIATIVE GRADUATE PROGRAM**

- Developed curriculum for the first-year graduate training as part of the Genetics & Genomics Initiative housed in the Department of Biological Sciences
- Graduate student recruitment
- First-year Graduate Peer Mentoring program (GG Scholars & Genetics programs)

#### **FACULTY MENTOR AND COORDINATOR OF SEMINAR SERIES**

- Fall 2015 – Spring 2019 - Faculty advisor for the graduate student led **Ecology and Evolution seminar series**. The goal of this series is to bring speakers that represent diversity in the fields of Ecology and Evolution. The speakers spend two days interacting with the graduate students in individual and group meetings.

- Fall 2017 – Spring 2019 - Coordinator of the **Applied Ecology seminar series**. This series includes invited speakers for traditional talks. Fall 2018, I organized faculty research highlights, which included 2 faculty “short” talks about their research program or any other topic they wanted to cover

### **MENTORING GRADUATE STUDENTS IN TEACHING**

- Spring 2019– Building Future Faculty (BFF) Mentor to Jennifer Archambault at NCSU
- Fall 2017 – Spring 2018 – Preparing the Professoriate (PTP) Mentor to Megan Serr at NCSU
- Summer 2017 – Provided population genetic method mentoring for Dr. Mike Cove on a woodrat project
- Fall 2013 – Spring 2014 – PTP Co-Mentor to D. Magdalena Sorger at NCSU
- Mentoring 19 graduate teaching assistants (TAs) at NCSU
- Mentored 2 Bio 3303 undergraduate TAs at UCO
- Mentored 3 graduate TAs at UCSC

### **FACULTY MENTOR FOR THE GRADUATE GLOBAL CHANGE FELLOWS**

- Fall 2017 – 2018 As part of the Southeastern Climate Science Center partnership between NCSU and the USGS selected graduate students, I taught the core course, mentored the students on science communication during bimonthly meetings, and advise the directors on graduate student training for the week-long field intensive

### **GRADUATE STUDENTS**

- **Megan Dillon**, PhD, (Co-Advisor), Genetics Graduate Program, NCSU Canine population genetics 2020 – current
- **Bradley Scholten**, PhD, (Co-Advisor), Ecology & Evolution Graduate Program, NCSU, Bird diversity 2020 – current
- **Andrew Maurer**, PhD, (Advisor), Ecology & Evolution Graduate Program, NCSU, Sea Turtle Conservation 2015 – 2021
- **Emily Reed**, PhD, (Advisor) Ecology & Evolution Graduate Program, NCSU, Landscape Genomics 2016 - 2021
- **Hannah Levenson**, PhD (Co-Advisor), Ecology & Evolution Graduate Program, NCSU Pollinator Genetics 2016-2021
- **Kara Carlson**, PhD (rotation student) Genetics Graduate Program, Conservation Genetics (2019)
- **Sydney Harned**, PhD (rotation student) Genetics & Genomics Scholars program (2021)
- **Committee member** for 9 PhD students and 4 MS students in different academic programs at NCSU and UNC Chapel Hill
- Fall 2017 – Spring 2019 – Coordinator of Cohort Building Activities in the Biology Graduate Program
- Spring 2018 – current – Host the Writing Accountability Group (WAG) #45\_15 group at NC State University

### **POSTDOCTORAL ASSOCIATES**

- **Erica Henry** (PhD 2018), studying the interacting disturbances of extreme events such as a hurricane and localized frequent disturbances on rare and endangered butterflies in south Florida. Spring 2018 – current

## OUTREACH AND COMMUNITY SERVICE

### IN THE NEWS

- January 2022 – *Evolutionary Biologist Burford Reiskind receives faculty diversity external mentoring endowment* Press Release: <https://sciences.ncsu.edu/news/evolutionary-biologist-burford-reiskind-receives-faculty-diversity-external-mentoring-endowment/>
- Dec 2019 – Study: Human management helps rare plants, butterflies survive hurricane *North Carolina State University News* Press Release <https://news.ncsu.edu/2019/12/rare-butterfly-survives-hurricane-if-humans-help/>
- April 2019 – Lionfish genes studies for clues to invasive prowess *North Carolina State University News* Press Release <https://news.ncsu.edu/2019/04/lionfish-genes-studied-for-clues-to-invasive-prowess/>
- Dec 2018 – CALS New Year's Resolutions *College of Agriculture and Life Science News* <https://cals.ncsu.edu/news/2cals-new-years-resolutions/>
- August 2018 – In the Wild and the Lab, Female Mosquitoes Get Choosy Quickly to Offset Invasions *North Carolina State News* Press Release <https://news.ncsu.edu/2018/08/female-mosquitoes-evolve/>
- July 2018 – Butterflies in the Storm: Battling Rising Sea and Creeping Asphalt, Scientists Race to Save Two Endangered Species *bioGraphic* <https://www.biographic.com/posts/sto/butterflies-in-the-storm>
- June 2018 – How to Break Barriers in Science: Applied Ecology's Martha Burford Reiskind *College of Agriculture and Life Science News* <https://cals.ncsu.edu/news/how-to-break-barriers-in-science-applied-ecology-s-martha-burford-reiskind/>

### RESEARCH VIDEOS

- Conserving rare butterflies in the face of hurricanes: [https://youtu.be/Fxx\\_Tx5LCtI8](https://youtu.be/Fxx_Tx5LCtI8)
- Battle of the *Aedes*: <https://youtu.be/eosnDUCT4-Y>
- Invasive species in urban environments: [https://youtu.be/rcvx7h\\_R67w](https://youtu.be/rcvx7h_R67w)
- Fire & butterflies: <https://youtu.be/TPT0n27O2wE>

### COMMUNITY OUTREACH

- January 2019 – Fred A. Olds Elementary school 3<sup>rd</sup> – 5<sup>th</sup> grade science fair judge. Raleigh, NC
- October 2018 – Fred A. Olds Elementary school on *Monster Mosquito implications for North Carolina*. A topical regional issue related to post hurricane flood waters and increased mosquito activity, Raleigh, NC
- October 2018 – NCSU New Student Dinner Discussions. Dinner discussion topic: *Evolution & Conservation: how our past informs our future*. First year undergraduates, Raleigh, NC
- September 2018 – interactive workshop at Las Cruces Museum of Nature and Science in southern New Mexico. Part of their informal science education program STEAMPunk. Topics

included rapid evolution of mosquitoes and disease transmission overview, history of mosquito control in the USA, and an interactive lesson plan on the mosquito life cycle, Las Cruces, NM

- July 2017 – interactive workshop on women in science for Bricks4Kidz girls camp, Raleigh, NC
- Spring 2017 – interactive lesson plan on *Mosquito life-cycles and control in urban landscapes*, Fred A. Olds Elementary School, Raleigh, NC
- Spring 2017 – interactive lesson plan on *Mosquito life-cycles and control in urban landscapes* Follow the Child Montessori School Children House and Early Elementary students, Raleigh, NC
- Fall 2016 – interactive workshop on mosquito urban ecology with the STEM club at Broughton High School, Raleigh, NC
- Spring 2016 – workshop participant with middle school teachers in Virginia to implement my lesson plan on - *Mosquitoes in your backyard!* Institute for Global Environmental Strategies, Arlington, VA
- Fall 2015 - SciREN program, mentoring K-12 teachers in an independent research project learning module – *Mosquitoes in your backyard!*
- Fall 2014 – SciREN program, mentoring K-12 teachers in an independent research project learning module – *Mosquitoes in your backyard!*
- Spring 2014 – *Undergraduate diversity mentor* for the Evolution meeting 2014
- Fall 2006 – Spring 2007 member of UCSC *Graduate Committee on Diversity Enhancement* (GCDE) Committee member and participated in organizing outreach activities
- Fall 2006 – Spring 2007 member of UCSC *Graduate Researcher Outreach Workshops* (GROW)
- Spring 2006 – volunteer guest lecture for UCSC *California Mathematics, Engineering, Science Achievements* (MESA) – outreach to junior and high school students interested in the sciences
- September 2004 – 2006 *Guest Lecture* on Scientific Careers at Kirby High School, Santa Cruz, CA

## ACADEMIC COMMUNITY SERVICE

- Fall 2021 –Training-the-Trainers for the MBTP Mentors *Centering Diversity, Equity, and Inclusion (DEI) in Mentoring Graduate Students*, **Workshop Co-leader**
- Fall 2020 – continuous –Ally in Academics Discussion group, **Host & Facilitator**
- Fall 2019 – current *GG Scholars Curriculum Committee*, Department of Biological Sciences, College of Sciences, NCSU, **Chair**
- Spring 2019 – current *Genetics & Genomics Initiative Executive Committee*, College of Sciences, NCSU, **Member**
- Spring 2019 – current *Director of the Genetics & Genomics Initiative Graduate program - Genetics & Genomics Scholars*, Department of Biological Sciences, NCSU
- Spring 2018 – current *Faculty Advisor for the Global Change Fellows, SE Climate Science Center*, NCSU

- Fall 2014 – Spring 2019 *CALS Course Curriculum Committee*, NCSU, **Chair**
- Fall 2013 – Spring 2019 – *Applied Ecology Minor Coordinator*, NCSU, **Chair**
- Fall 2013 – Spring 2019 – *Applied Ecology Curriculum Committee & Graduate coordinator* in Dept. of Applied Ecology, NCSU
- Fall 2011 – Spring 2012 – *Academic Search Committee* in Biology Department of UCO
- Fall 2011 – Spring 2012 – *Graduate Curriculum Committee* in Biology Department of UCO
- April 2002 – April 2004 – *Graduate Student Representative* in EEB Department, UCSC
- September 1999 – June 2001 – *Graduate Student Representative* at San Francisco State University

## PROFESSIONAL MEMBERSHIPS

Society for the Study of Evolution	Genetics Society of America	AAAS
Society for Conservation Biology	American Society of Naturalists	Entomological Society of America
American Genetic Association		

## CERTIFICATIONS

Certified Scientific Research Diver	Oxygen Provider Certification	River Raft Guide
NITROX certification	Advanced Wilderness First Aid/CPR	

## REFeree FOR SCIENTIFIC JOURNALS

Marine Ecological Progress Series	Molecular Ecology	PLoS NTD
Conservation Biology	Marine Biology	Journal of Fish Biology
Aquatic Biology		

## EXTERNAL REVIEWER

National Science Foundation, Evolutionary Analysis Cluster

## HOBBIES

Piano & Cello	Kitchen Scrap Gardner
Meredith Woods Beekeeper	Sourdough Bread Baker