## CURRICULUM VITAE

### Megan Elizabeth Serr

### HOME ADDRESS

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**EDUCATION**

North Carolina State University: Ph.D. (Biology): August 2013-March 2019

Minor: Genetic Engineering and Society

Committee members: Dr. John Godwin, Dr. Martha Burford Reiskind, Dr. David Aylor, Dr. Lisa

McGraw, and Dr. Matthew Booker

University of Nebraska at Kearney: M.S. (Biology): August 2008-July 2010

California State University San Bernardino: California Preliminary Teaching Credential: September 2004-March 2006

California State University San Bernardino B.S. (Biology): January 2002-June 2004

College of the Desert Community College: A.S. (Liberal Studies): August 1997-December 2001

**PROFESSIONAL EXPERIENCE**

North Carolina State University: PhD Candidate: Biology major with a minor in genetic engineering and society. Integrative Graduate Education and Research Traineeship Fellow 08/2013-03/2019.

North Carolina State University: Course Instructor, 2016-2018.

North Carolina State University: Laboratory Instructor 2012-2018.

North Carolina State University: Laboratory Teaching Technician-Biology: 2011-2013.

East Coast Polytechnic Institute University: Anatomy & Physiology, Biology Instructor: 2011-2012.

Durham School of the Arts: Durham Public Schools: State Licensed Biology Teacher: 2008-2011.

Beaumont High School: Beaumont Unified School District: State Licensed Biology Teacher Honors/Biology/Environmental 2004- 2008.

**UNIVERSITY COURSES TAUGHT**

Biology 483- Genetic Engineering for Health and Conservation, Additional Instructor and co-designer of course. Taught one semester at NC State University, Fall 2018.

Applied Ecology 295/Biological Sciences 295- Conservation on Islands. Creator and designer of course. Taught course one semester at NC State University, Spring 2018.

Honors 296-006- Ethics of Biotechnical Communication, 2016. Co-designer and instructor for course. Taught course one semester at NC State University, Spring 2016.

Biology 106-Laboratory Instructor- Introduction to biology for non-majors. Taught 21 different sections at NC State University, 2017-2018.

Biology 181 & 183- Laboratory Instructor to biology for majors. Taught 5 different sections at NC State University, 2012-2013.

Medical 164 & 165-Anatomy & Physiology for Practical Nursing Degree. Taught 4 different sections at East Coast Polytechnic Institute, 2011-2012.

Biology 122-Course and Laboratory- Designed and taught course material for 2 different sections at East Coast Polytechnic Institute, 2011-2012.

**PUBLICATIONS** (Undergraduate mentees are underlined)

Serr, M. Heard, N. Godwin, J. (2019). Towards a genetic approach to invasive rodent eradications: Assessing reproductive competitiveness between wild and laboratory mice. In: C.R. Veitch, M.N. Clout, A.R. Martin, J.C. Russell and C.J. West (eds.) *Island invasives: scaling up to meet the challenge,* pp. 64–70. Occasional Paper SSC no. 62. Gland, Switzerland: IUCN. DOI: http://doi.org/10.2305/IUCN.CH.2019.SSC-OP.62.en

Campbell, K.J. Saah, J.R., Brown, P.R., Godwin, J., Gould, F., Howald, G.R., Piaggio, A., Thomas, P., Tompkins, D.M., Threadgill, D., Delborne, J., Kanavy, D.M., Kuikin, T., Packard, H., Serr, M. and Shiels, A. (2019). ‘A potential new tool for the toolbox: assessing gene drives for eradicating invasive rodent populations’. In: C.R. Veitch, M.N. Clout, A.R. Martin, J.C. Russell and C.J. West (eds.) *Island invasives: scaling up to meet the challenge,* pp. 6–14. Occasional Paper SSC no. 62. Gland, Switzerland: IUCN. DOI: http://doi.org/10.2305/IUCN.CH.2019.SSC-OP.62.en

Barnhill-Dilling, K.S. Serr, M. Blondel, DV. Godwin, J. (2019). Sustainability as a Framework for Considering Gene Drive Mice for Invasive Rodent Eradication. *Sustainability* 11(5), 1334. DOI: 10.3390/su11051334

Leitschuh, C. Kanavy, D. Backus, G. Valdez, R. Serr, M. Pitts, E. Threadgill, D. Godwin, J. (2017). Developing gene drive technologies to eradicate invasive rodents from islands. *Journal of Responsible Innovation*, 5(sup1), pp.S121-S138. DOI: 10.1080/23299460.2017.1365232

Yap, T. Nguyen, N.Serr, M.Shepack, A., Vredenburg. (2017). *Batrachochytrium salamandrivorans* and the Risk of a Second Amphibian Pandemic. *EcoHealth*14(4), 851-864. DOI: https://doi.org/10.1007/s10393-017-1278-1

Kanavy, D.Serr, M. **(**2017**)** *Sry* Gene Drive for Rodent Control: Response to Gemmell & Tompkins. *Trends in Ecology & Evolution*.32(5):315-316. DOI: <http://dx.doi.org/10.1016/j.tree.2017.03.006>

*IN PREPARATION*

Serr, M. Godwin J. Male mate competition studies to inform a meiotic drive approach in house mice (Mus musculus). In preparation for *Proceedings of the Royal Society B*

Serr, M. Valdez, R.X. Barnhill-Dilling, K.S. Godwin, J. Todd, K. Booker, M. Scenario Analysis on the use of rodenticides and sex-biasing gene drives for the removal of invasive house mice on islands. In preparation for *Biological Invasions*

Manser, A. Cornell, S. Sutter, A. Blondel, D. Serr, M. Godwin, J. Lindholm, A. Price, T. Controlling Invasive Rodents via Synthetic Gene Drive and the Role of Polyandry. In Preparation for *Proceedings of the Royal Society B*

Reed, E.M.X. Serr, M. Mauer, A.S. Burford Reiskind, M.O. Population genetic characteristics of invasive species in urban ecosystems. In Preparation for *Urban Ecosystems*

**MEDIA PUBLICATIONS (Personal website http://www.meganserr.com/)**

Mice as Conservationists?A naturally occurring gene in house mice may help eliminate their invasive cousins that live on islands. March 8, 2017. *Scientific American Guest Blog* https://blogs.scientificamerican.com/guest-blog/mice-as-conservationists/

Communication & Outreach Group of the National Bsal Task Force. 2016. The Salamander Crisis: They face a deadly fungal threat. *Reptiles Magazine.*September/October 2016 issue.

**INVITED TALKS**

Serr, M.December 3, 2018. When Lab mice and Island mice meet. Research in Progress for East Carolina Universities Biology Department. Greenville, North Carolina.

Serr, M.November 5, 2018.Mouse Tales the history of GBIRd. Genetic Biocontrol of Invasive Rodents Conference, Exmouth, Western Australia.

Serr, M.Godwin, J.November 5, 2017. Updates on Assessing reproductive competiveness between wild and

lab strains of mice. Genetic Biocontrol of Invasive Rodents 3rd Conference. Washington D.C.

Serr, M.Godwin, J.April 14, 2017. Assessing reproductive competitiveness between wild and laboratory mice. 2th. Annual Animal Behavior Conference. Indiana University, Bloomington Indiana

**TALKS**

Serr, M.Godwin, J. November 5, 2018. When island mice and lab mice meet. Genetic Biocontrol of Invasive Rodents Conference, Exmouth, Western Australia

Serr, M.Sears, R.Gopalakrishnan, M. Luis, L. Godwin, J. April 27, 2018.Comparing nesting behavior and space use among wild and laboratory mice. Nineteenth Annual Student/Postdoc Symposium of the W.M. Keck Center for Behavioral Biology. North Carolina State University, Raleigh, North Carolina.

Serr, M.February 27, 2018. Wakening the ferine strain: When lab mice and island mice meet. NC State’s Genetic Engineering and Society Center Colloquium Series: Raleigh, North Carolina.

Serr, M.Godwin, J.July 11, 2017. Towards a genetic approach to invasive rodent eradications. Assessing

reproductive competitiveness between wild and laboratory mice. Island Invasives Conference, Dundee

Scotland, UK.

Serr, M.Heard, N. Sears, R. Godwin, J.April 21, 2017. Assessing reproduction in wild and laboratory mice. Eighteenth Annual Student/Postdoc Symposium of the W.M. Keck Center for Behavioral Biology. North Carolina State University, Raleigh, North Carolina.

Backus, G.Serr, M.Valdez, R. October 18, 2016. Genetic Engineering for Conservation: A policy framework for eradicating invasive rodents with gene drive technology. The Wildlife Society Annual meeting. Raleigh, North Carolina

Serr, M.Kanavy, D.Leitschuh, C. Heard, N. Godwin, J. August 12, 2016. Towards a genetic pest

Management approach for invasive house mice. North Carolina State University Program in Genetics Fall

Retreat. Raleigh, North Carolina

Serr, M.Leitschuh, C. Kanavy, D. Godwin, J.April 29, 2016. Towards a genetic pest management approach

for invasive mice: Assessing reproductive competitiveness of male tw2 mice. Seventeenth Annual

Student/Postdoc Symposium of the W.M. Keck Center for Behavioral Biology. North Carolina State

University, Raleigh, North Carolina.

Pitts, E.Serr, M.Leitschuh, C.September 18, 2015. Of Mice and Reagents: Standardization, Variation, and

Quality of Care. Conference: Atlanta Conference on Science and Innovation. Atlanta, Georgia.

Serr, M.Valdez, R. Backus, G, Leitschuh, C. Pitts, E.June 18, 2015. Interdisciplinary perspectives

on evaluating new technologies for invasive species management. Conference: International Symposium on

Society and Resource Management. Charleston, South Carolina.

Bearinger, K.Serr, M.Bowman, T.June 16, 2015. Pathways to Successful Urban Biodiversity Conservation.

Conference: International Symposium on Society and Resource Management. Charleston, South Carolina.

Serr, M.Leitschuh, C. McGraw, L. Godwin, J.February 20th 2015. City mouse meets country mouse:

mating of wild and laboratory mouse strains. Sixteenth Annual Student/Postdoc Symposium of the

W.M. Keck Center for Behavioral Biology. North Carolina State University, Raleigh, North Carolina.

Backus, G. Leitschuh, C. Ludvik, A. Pitts, E.Serr, M.Valdez, R.September 16th. 2014. Conserving Island

Biodiversity: Genetic Engineering and Invasive Rodents. Genetic Engineering and Society/Integrative Graduate Education Research Traineeship, Fall Colloquium. North Carolina State University, Raleigh, North Carolina.

Backus, G. Leitschuh, C. Pitts, E.Serr, M.Valdez, R. July 19th. 2014. Interdisciplinary Graduate

Education and Research: Students Perspectives. Interdisciplinary Network for Group Research Conference.

Renaissance of Raleigh, North Hills. Raleigh, North Carolina

Serr, M.and McGraw, L. April 4th. 2014. Variation in pair bond formation and associated behaviors in

male prairie voles. North Carolina State Universities Annual: Statistics and Zoology Graduate Student

Research Symposium. North Carolina State University, Raleigh, North Carolina

Serr, M. March 13th. 2014. Love and Prairie Voles. North Carolina Museum of Natural Sciences via North

Carolina State University, Brain Awareness Week. Raleigh, North Carolina

Serr, M.Godwin, J. Leitschuh, C. and McGraw, L. February 21st. 2014. Predicting wild mouse mating

behavior: towards a new novel mate choice strategy. Fifteenth Annual Student/Postdoc Symposium of the

W.M. Keck Center for Behavioral Biology. North Carolina State University, Raleigh, North Carolina.

Backus, G. Leitschuh, C. Ludvik, A. Pitts, E.Serr, M.Valdez, R. September 13th. 2013. Of Mice and Men

(California Island Conservation). Genetic Engineering and Society/Integrative Graduate Education Research

Traineeship, Fall Colloquium. North Carolina State University, Raleigh, North Carolina.

Talyn, B. Hancock, S.Tracey (Serr), M.and Melchiorre, E.August 9-12th.2005. Behavioral responses

of tree frogs *Hyla chrysoscelis, H. regilla, H. cadaverina* to aquatic nitrate and atrazine contamination under field and laboratory conditions. Animal BehavioralSocietyConference, Snowbird, Utah, August 9- 12, 2005.

**UNDERGRADUATE TRAINEES**

Brinda Bhaskar-Godwin Lab (*Mus* colony management, animal behavior, experimental design)

Nicole Heard-Godwin Lab (*Mus* colony management, genotyping, animal behavior, experimental design)

Rebecca Sears-Godwin Lab (*Mus* colony management, genotyping, radio frequency id, experimental design)

Meenakshi Gopalakrishnan (*Mus* colony management, animal behavior, experimental design)

Joanna Copio (*Mus* colony management, animal behavior, genotyping, experimental design)

Madeline Dyke (*Mus* colony management, animal behavior, genotyping, experimental design)

Nisha Pandya (*Mus* colony management, animal behavior, genotyping, experimental design)

**POSTERS (Undergraduate mentees are underlined)**

Gopalakrishnan, M. Serr, M. Godwin, J. April 18, 2018. Examining the Nesting Behavior of Wild and Laboratory Mice. NC State Undergraduate Research Symposium, Raleigh, North Carolina.

Sears, R. Serr, M. Godwin, J. April 18, 2018. Tracking Space Use of Male House Mice (*Mus musculus*) with RFID Technology. NC State Undergraduate Research Symposium, Raleigh, North Carolina.

Heard, N., Serr, M.Godwin, J. April 25, 2017. Reproductive Compatibilities of Farallon Island Male Mice.

NC State Undergraduate Research Symposium, Raleigh, North Carolina.

Bhaskar, B. Leitschuh, C. Serr, M**.** Godwin J. April 25, 2017. Enrichment Effects on Corticosterone Levels in Mice from Farallon Islands. NC State Undergraduate Research Symposium, Raleigh, North Carolina.

Serr, M.Leitschuh, C. Kanavy, D. Bhaskar, B. Wolff, B. Sears, R. Godwin, J.June 25, 2016. Exploring

novel tools for conservation through the mating of wild and laboratory mouse strains. Graduate Women in Science Conference. Raleigh, North Carolina.

Serr, M.Leitschuh, C. Kanavy, D. Bhaskar, B. Wolff, B. Sears, R. Godwin, J.June 18, 2016. Exploring

novel tools for conservation through the mating of wild and laboratory mouse strains. Evolution Conference. Austin, Texas

Serr, M.Leitschuh, C. Kanavy, D. Bhaskar, B. Wolff, B. Sears, R. Godwin, J.May 16, 2016.

Novel tools for saving endangered species through the mating of wild and laboratory mice. Biolunch Seminar Series, North Carolina State University.

Serr, M.Leitschuh, C. Kanavy, D. Bhaskar, B. Wolff, B. Sears, R. Godwin, J.March 7, 2016. Exploring

novel tools for island conservation through the mating of wild and laboratory strains. Vertebrate Pest Conference. Newport Beach, California

Leitschuh, C.Serr, M.McGraw, L. Godwin, J.April 28th 2015. Island invaders: How island conditions alter

the reproductive dynamics of wild house mice on the Farallon islands. Symposium: Genetic Engineering Research at NC State, Raleigh, North Carolina.

Serr, M.and McGraw, L.July 25th. 2014. Choosy Females: Does Mate Choice influence the propensity to

form Pair Bonds? Collaborative Biomedical Research Conference on the Vole Animal Model.

Oregon Health and Science University. Portland, Oregon.

Leitschuh, C.Serr, M.McGraw, L. Godwin, J.June 21st. 2014. Island Invaders: How Island Conditions

Alter the Reproductive Dynamics of Wild House Mice. Evolution Conferences. Raleigh Convention Center,

Raleigh, North Carolina

Leitschuh, C.Serr, M.Godwin, J, and McGraw, L.March 8th.2014 Predicting wild mouse mating

behavior: towards a novel mate choice strategy. Triangle Consortium for Reproductive Biology at the

National Institute of Environmental Health Sciences, Research Triangle Park, Durham, North Carolina.

**FUNDING**

Preparing the Professoriate Fellowship, North Carolina State University

Competitive, university-wide program to prepare graduate students and postdocs for their first

year as an academic professor, including designing and teaching a course as an instructor of record.

Graduate Fellowship, Cultivating Cultures of Ethics in Science, Technology,

Engineering, and Math (NSF).

Trained and led focus groups with different stakeholder groups about meanings of responsible

innovation and ethics.

Carolina Pest Management Scholarship 2017: How to support graduate women in science

Travel Award W.M. Keck Center for Behavioral Biology, North Carolina State University 2016

NSF IGERT Fellowship, Genetic Pest Management, North Carolina State University 2013-2018

**PROFESSIONAL DEVELOPMENT**

Preparing the Professoriate Fellow 2017/2018

Genetic Biocontrol of Invasive Rodents Program 2016 to Present

First, Second, and Third NC Congress of Herpetology 2013, 2015, 2018

National Academy of Science: Biotechnology Regulatory Committee June 2, 2016

Applying Biology Well: One Sky Initiative Workshop June 3rd, 2016

Gene Drive Workshop, Genetic Engineering & Society Center. NCSU February 24-26 2016

Fort Collins Colorado, United States Department of Agriculture: Workshop on the *Sry* mouse, formation of

Triangle Communicating Science Conference: 3/7/2015 & 3/21/2015, 5/14/2016 & 5/21/2016

Host for the Fifteenth Annual Symposium of the W.M. Keck Center for Behavioral Biology: 2/20/215

Big Cat Field Research: June 6th-22nd. 2012 Kruger National Park, South Africa

**AWARDS**

Graduate Women in Science-National Conference Poster Competition- 2nd place 2016

International Symposium on Society and Resource Management 2015 Scholarship

Class Nobel Educator of Distinction: The National Society of High School Scholars 2010

**PROFESSIONAL SERVICE**

Reviewer for the Island Invasives 2017 Symposium Conference Proceedings

North Carolina State University Graduate Student Association of Biology 2013-Present

Secretary: 2017-2018

NC StateNeurobiology Journal Club: 2013-Present

Lead Organizer (2015-2017)

Partners in Amphibian and Reptile Conservation *Bsal* Task Force (Communications) 2017-2018

Graduate Women in Science 2014-Present

Public relations committee: 2015-2017

Research Triangle (Raleigh Triangle Region Secretary 2016-2017)

NCSU Education Outreach Network: 2015-Present

Evolutionary Ecology Journal Club: 2014-2015

**PROFESSIONAL SOCIETIES**

North Carolina Herpetological Society 2011-Present

Secretary 2016-present

North Carolina Partners in Amphibian and Reptile Conservation 2011-Present

National: *Bsal* task force 2016-2018

Graduate Women in Science 2013-Present

National: Public relations committee 2015-2017

Research Triangle: Secretary 2016-2017

The Wildlife Society: 2016-Present

Society for Conservation Biology 2016-Present

Society for Integrative & Comparative Biology 2016-Present

Triangle Society for Neuroscience RTP Chapter: 2014-Present

Animal Behavior Society 2013-Present

Wake County Audubon Society 2013-Present

The American Naturalist Society 2013-Present

W.M. Keck Center for Behavioral Biology 2013-Present

Associate Membership in Sigma Xi, The Scientific Research Society: 2015-2017

International Association for Society and Natural Resource Management 2015-2016

North Carolina Triangle Science Communication Conference: Organizing committee 2015-2016

**VOLUNTEER EXPERIENCE**

North Carolina Museum of Natural Sciences Junior Curator Program Guest Speaker 2018

North Carolina Herpetological Society 2018 Events

Reptile & Amphibian Day, Eno River, Siler City Hispanic Heritage Festival

Brain Awareness Week, North Carolina Museum of Natural Sciences Outreach:

Project coordinator: 2017-2018

Designed and coordinated booth: 2014,2016-2018

Darwin Day, North Carolina Museum of Natural Sciences

Outreach: 2014, 2015, 2017

Graduate Women in Science 2016 Outreach Events:

National Meeting, Bold & Beautiful Foundation, Southern Pines Girl Scouts

North Carolina Science and Technology Expo 2016

Had students design and coordinate the outreach event

Wake County Audubon Society:

North Carolina Museum of Natural Sciences BugFest: 2013, 2014, 2016

North Carolina Herpetological Society 2011-2017 See year 2018 above for similar events

North Carolina Avent West Children’s Mentoring: 2013-2014

Scientifica site coordinator Committee: Durham School of the Arts: March 2009- January 2010

Western Accreditation of Schools and Colleges Committee August 2007-June 2008

Site Coordinator, Green Schools Program: October 2006- June 200