

# CASSIE M. DRESSER

Extended CV

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## EDUCATION

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- Ph.D., Biology, University of Tennessee (UTK), Knoxville, TN 2013-2017  
*Dissertation title: A tiny turtle tale: Conservation of North America's smallest turtle, Glyptemys muhlenbergii from a genetic perspective*
- M.S., Conservation Biology, Central Michigan University (CMU), Mount Pleasant, MI 2010-2013  
*Thesis title: Mechanisms of rusty crayfish invasion in the Upper Susquehanna River Basin*
- B.A., Biology, Hartwick College (HC), Oneonta, NY 2006-2010  
*Thesis title: The sensitive period of temperature-induced variation in coloration of monarch larvae*
- HSD, South Seneca Central School, Ovid, NY 2002-2006  
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## EXPERIENCE

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- Research Assistant, Dr. Bradley Swanson, CMU 2013  
*Trained undergraduate and graduate students in laboratory techniques (DNA extractions, PCR, gel electrophoresis, sequencing preparation, and genotyping on ABI); maintenance of ABI Prism 3130 Genetic Analyzer*
- Field Research Assistant, Dr. Mark Kuhlmann, HC 2010  
*Surveyed local rivers for crayfish species; conducted experimental trials on shelter competition between crayfish species; developed independent pilot study to evaluate crayfish behavioral syndromes*
- Graduate Teaching Assistant, Dr. Benjamin Fitzpatrick 2017  
*BIOL 353, Comparative Vertebrate Biology Laboratory section; independently provided instruction for 26 upper level undergraduates with a focus on vertebrate identification of skulls and whole animals in the laboratory, and live specimens in the field; set-up lab practical exams and grade assessments; organize field trips for the overall course; attend all lectures*
- Head Teaching Assistant, Dr. Beth Schussler, UTK 2016  
*BIOL 150, Introduction to Organismal and Ecological Biology - Biology Literacy (BioLit) Discussion sections; coordinator for 30 BioLit sections for which 10 graduate teaching assistants taught; prepared all teaching materials, such as worksheets, homework assignments, answer keys, PowerPoints, articles, etc; conducted teaching observations including one-on-one consultations; crisis management for logistical conflicts and student issues; improved the existing*

- curriculum to incorporate more evolutionary themed assignments; organized 10 professional development workshop sessions and led weekly prep meetings*
- Graduate Biology Literacy Instructor, Dr. Benjamin Keck, UTK 2016  
*BIOL 150, Introduction to Organismal and Ecological Biology, class size = 250 students; independently provided instruction to three discussion sections (25 students each) to provide students with the skills necessary to read, interpret, and relate scientific articles; facilitated student discussion at various points during each lecture; provided some assistance with exam and assignment preparation; graded portions of lecture exams; conducted one-on-one meetings with students as needed; proctored exams*
- Instructor of Record, UTK 2015  
*BIOL 280, Evolution, class size = 40 students; independently designed and implemented a new undergraduate course for majors, including syllabus design, textbook selection, lecture and activity development, assessment creation and grading*
- Instructor of Record, UTK 2015  
*BIOL 281, Evolution Discussion, class size = 25 students; independently designed a discussion section as a co-requisite for BIOL 280 (lecture), including syllabus design, textbook and lab selection; mentored a graduate teaching assistant who implemented the discussion section*
- Graduate Discussion Instructor, Dr. Stan Guffey, UTK 2014  
*BIOL 150, Introduction to Organismal and Ecological Biology, class size = 200 students; independently provided instruction to three discussion sections (24 students each) to provide students with the skills necessary to read, interpret, and relate scientific articles; facilitated student discussion at various points during each lecture; provided some assistance with exam and assignment preparation; graded two lecture exams; conducted one-on-one meetings with students as needed; proctored exams; developed and presented one lecture*
- Graduate Lecture Assistant, Dr. Sarah Dalrymple, UTK 2014  
*BIOL 130, Biodiversity, class size = 150 students; facilitated student discussion at various points during each lecture; provided some assistance with exam and assignment preparation; graded 50% of class assignments, quizzes, and exams; conducted one-on-one meetings with students as needed; proctored exams; developed and presented several lectures*
- Graduate Lecture Assistant, Dr. Elisabeth Schussler, UTK 2013  
*BIOL 130, Biodiversity, class size = 200 students; facilitated student discussion at various points during each lecture; provided substantial assistance with exam and assignment preparation; graded 75% of class assignments, quizzes, and exams; conducted one-on-one meetings with students as needed; proctored exams; developed and presented several lectures*
- Graduate Teaching Assistant, Mr. Daniel Benjamin, CMU 2010-2013  
*Independently taught 5 semesters of introductory biology lab (3 sections per fall semester and 2 sections per spring semester with a maximum of 24 students per section); served as an temporary assistant to the lab supervisor as the position switched hands (led GTA meetings; developed assignment rubrics; created or updated all PowerPoint lectures for lab GTAs); voluntarily developed and*

- taught an EXCEL workshop for all introductory biology students for 3 semesters*
- Student Instructor, Dr. Douglas Hamilton, HC 2009  
*Led study sessions prior to exams for Concepts of Biology course; biology tutor*
- Field Research Assistant, Dr. Mark Kuhlmann, HC 2010  
*Conducted stream surveys to assess crayfish community composition and abundance in the Upper Susquehanna River Basin, NY; maintained laboratory and aquariums; independently designed and managed mesocosm experiments to evaluate behavioral syndromes in invasive and native crayfish species*
- State Park Explorer Guide, Pontiac Lake Recreation Area, Michigan DNR 2013  
*Independently designed nature programs for state park visitors (guided hikes, taught visitors how to fish, tours by kayak, crafts, games, contests, scavenger hunts, built bird houses, showed nature videos, aquatic sampling, etc.); advertised programs with flyers and roving the beach area and campground; published perspective essays in the program's newsletter; ordered and organized supplies*

## PUBLICATIONS

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- Literman, R., S. Radhakrishnan, J. Tamplin, R. Burke, **C. Dresser**, and N. Valenzuela (2017) Development of sexing markers in *Glyptemys insculpta* and *Apalone spinifera* turtles uncovers an XX/XY sex-determining system in the critically-endangered bog turtle *Glyptemys muhlenbergii*. Conservation Genetics Resources. DOI: 10.1007/s12686-017-0711-7.
- Dresser, C.M.**, M. Kuhlmann, and B.J. Swanson (2016) Variation in native crayfish agonistic response to the invasion of the rusty crayfish *Orconectes rusticus* (Girard, 1852). Journal of Crustacean Biology 36:129-137.
- Dresser, C.M.** and B.J. Swanson (2013) Preemptive legislation inhibits the anthropogenic spread of an aquatic invasive species, the rusty crayfish (*Orconectes rusticus*). Biological Invasions, 15, 1049-1056.
- Dresser, C.M.**, R.M. Ogle, and B.M. Fitzpatrick (In Revision; Conservation Genetics) Genome scale assessment of a species translocation program.
- Dresser, C.M.** and B.J. Swanson (In Review; American Midland Naturalist) The use of genetic techniques to characterize invasive species introductions: a case study on rusty crayfish (*Orconectes rusticus*).

## PRESENTATIONS

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- Dresser, C.M., J. Brigati, and E.E. Schussler (November 2016) Which active learning approaches are most effective? Poster presentation. Innovation in Teaching and Learning Symposium, University of Tennessee, Knoxville, TN.

- Dresser, C.M. (September 2016) A tiny turtle tale: Genetic assessment of a captive breeding and release program for the endangered bog turtle. Oral presentation. Tennessee Herpetological Society, Knoxville, TN.
- Dresser, C.M. (July 2016) Genetic assessment of a bog turtle captive breeding and release program. Oral presentation. North American Congress of Conservation Biology, Madison, WI.
- Dresser, C.M., J. Brigati, and E.E. Schussler (July 2016) Which active learning approaches are most effective? Poster presentation, Society for the Advancement of Biology Education Research, University of Minnesota, Twin Cities, MN.
- Dresser, C.M. (November 2015) The do's and don'ts of genomic assessments: case study on bog turtles. Oral presentation. Project Bog Turtle, Schindler Wildlife Center, Asheboro, NC.
- Dresser, C.M. (April 2015) Turtle Talk: Genetic assessment of a reintroduction program. Oral presentation, Women in STEM Research Symposium, University of Tennessee, Knoxville, TN.
- Dresser, C.M. (February 2015) Genetic assessment of a bog turtle reintroduction. Speed Talk. Seminar Series, University of Tennessee, Knoxville, TN.
- Dresser, C.M. (November 2014) Assessment of the Tennessee bog turtle reintroduction program. Oral presentation. Project Bog Turtle, Schindler Wildlife Center, Asheboro, NC.
- Dresser, C.M., C.L.F. Landerer, and J.B. Corush (July 2014) Read the room: instructor assumptions about student perceptions. Poster presentation, Society for the Advancement of Biology Education Research, University of Minnesota, Twin Cities, MN.
- Dresser, C.M. and B.J. Swanson (September 2013) Evaluating the role of anthropogenic introductions in the distribution patterns of invasive rusty crayfish (*Orconectes rusticus*). Poster presentation, South Eastern Population Ecology and Evolutionary Genetics, Mountain Lake Biological Station, University of Virginia, Charlottesville, VA.
- Dresser, C.M., M.L. Kuhlmann, and B.J. Swanson (August 2012) Role of abiotic factors on native crayfish behavioral defense against invasive rusty crayfish (*Orconectes rusticus*). Oral presentation, 97<sup>th</sup> Annual Meeting for the Ecological Society of America, Portland, OR.
- Dresser, C.M. (April 2012) Native crayfish behavioral defense against invasive rusty crayfish. Poster presentation, Student Research and Creative Endeavors Exhibition, Central Michigan University, Mount Pleasant, MI.
- Dresser, C.M. and B.J. Swanson (December 2011) They fought the law and the law won: Impact of legislation on the anthropogenic spread of rusty crayfish. Poster presentation, 25<sup>th</sup> International Congress for Conservation Biology, Auckland, New Zealand.
- Dresser, C.M. (May 2010) The sensitive period of temperature-induced variation in coloration of monarch larvae. Oral presentation, Biology Symposium, Hartwick College, Oneonta, NY.
- Dresser, C.M. (May 2009) The art of code. Poster presentation, Student Showcase, Hartwick College, Oneonta, NY.

## **GUEST LECTURES, WORKSHOPS & CERTIFICATIONS**

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Species Interactions & Biogeography; Biodiversity (BIO 130), UTK, March 4 <sup>th</sup>	2014
Speciation; Biodiversity (BIO 130), UTK, February 4 <sup>th</sup>	2014
Invertebrates; Biodiversity (BIO 130), UTK, November 21 <sup>st</sup>	2013
Phylogenies; Biodiversity (BIO 130), UTK, October 15 <sup>th</sup>	2013
Microsoft EXCEL Workshop for Introductory Biology, CMU, once per semester (3)	2012-2013
Collaborative Institutional Training Initiative, Work with Human Subjects Certification	2014

## AWARDED GRANTS

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Ecology & Evol. Biol. Dept. Research and Chancellor Funds (\$2500), UTK	2016
Ecology & Evol. Biol. Dept. Research and Chancellor Funds (\$1794), UTK	2016
North Carolina Herpetological Society Grant (\$1000), North Carolina Herpetological Society	2015
Conservation Grants Fund (\$21,588), Association of Zoos and Aquariums	2014
Ecology & Evol. Biol. Dept. Research Funds (\$482), UTK	2014
Chadwick Lewis Memorial Grant (\$500), Tennessee Herpetological Society	2014
Ecology & Evol. Biol. Dept. Research Funds (\$428), UTK	2013
Sigma Xi Grant-in-Aid of Research (\$650)	2012
Crustacean Society Fellowship (\$1,000)	2012
Graduate Student Research & Creative Endeavors Grant (\$700), CMU	2011
Marion Whitney Summer Graduate Scholarship (\$950), CMU	2011

## AWARDS & HONORS

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Best Student Presentation, Tennessee Herpetological Society <i>Award presented at the Tennessee Herpetological Society Conference</i>	2016
Outstanding Graduate Teaching, UTK <i>Faculty nominated award presented during Graduate and Professional Student Appreciation Week</i>	2015
University Citation for Extraordinary Professional Promise, UTK <i>Faculty nominated award presented at the Chancellor's Honors Banquet</i>	2014
Andrew B. Saxton Fellow in Biology Award, HC <i>Faculty nominated award for excellence in biology</i>	2009
Dean's List, HC <i>Awarded each term to students who complete at least 12 academic credits with a grade point average of at least 3.5 and no incompletes.</i>	2006-2010
Philip S. Wilder Jr. Award for Academic Distinction, HC <i>Faculty and coaching staff nominated award for excellence in athletics and academics achieving a 3.5 GPA or higher while competing in an intercollegiate sport</i>	2006-2009

## ACADEMIC ORGANIZATIONS & SERVICE

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Graduate Community Outreach Committee	2016-2017
<i>Outreach group to facilitate hands-on experiences for the local community; e.g. DNA extraction activity hosted at the NIMBioS facility at UTK for 60 students from the Midway Middle School; e.g. educational booth at the local farmers market in Market Square, Knoxville</i>	
Graduate Researchers in Ecology, Behavior, and Evolution (GREBE), UTK (President)	2013-2015
<i>GREBE is a student run organization that facilitates collaboration between graduate students, provides representation of graduate student interests to the department and college, and awards travel grants; regularly attended GREBE Think-tank, a lunchtime student discussion panel; nominated as GREBE secretary in May 2014, nominated as GREBE president in May 2015</i>	
Big Orange Adventure, UTK (Volunteer)	2013-2014
<i>Charity campaign to raise money for library resources; participants race around campus, searching for clues and completing academic and athletic challenges; developed and worked the biology station requiring participants to correctly place species on a phylogeny</i>	
Darwin Day Event Committee, UTK (Contest Coordinator; Advertising Committee)	2013-2017
<i>Led development of several contests to facilitate community involvement and student participation in Darwin Day festivities; advertised contest; selected winners and awarded prizes; create and distribute flyers, organize radio and news appearances, etc.</i>	
Boo-At-The-Zoo, Knoxville Zoological Gardens, UTK (Volunteer)	2013-2014
<i>An annual Halloween event at the local zoo where UTK graduate students educate zoo visitors about bats; face painting, echolocation challenge, bean-bag insect toss, guessing games, and build-a-bat-house demo</i>	
Bio Buds, CMU (Volunteer)	2012-2013
<i>A community outreach organization led by graduate students to teach local 3<sup>rd</sup> and 4<sup>th</sup> graders about science within their own classrooms; co-creator of the organization; developed a lesson on crayfish behavior; taught three lessons</i>	
Biology Graduate Student Association (BGSA), CMU (Member, Secretary, VP)	2010-2013
<i>BGSA is a student run organization that organizes social events, fundraisers, community outreach events, and awards travel grants. As the Secretary in 2011-2012, I recorded and distributed meeting notes, was responsible for updating the travel grant application, and headed the travel grant committee to select awardees. As the Vice President in 2012-2013, I co-led officer and full member meetings, organized the biannual faculty-graduate student paintball competition, and organized the annual textbook sale. As a member (2010-2013) I volunteered in virtually all BGSA sponsored events (Department mixer, book sale, plant sale, garlic mustard pull, etc.)</i>	
Beta Beta Beta, National Biological Honor Society, HC (Member, VP)	2008-2010
<i>Tri-beta is a student organization led by a faculty advisor and requires stringent academic requirements be maintained along with a membership fee for national membership. As Vice President (2009-2010) I organized the annual induction ceremony and co-led meetings. As a member (2008-2010), I volunteered for most Tri-beta sponsored events.</i>	

Kappa Mu Epsilon, National Mathematics Honor Society, HC (Member)	2008-2010
<i>Kappa Mu Epsilon is a student organization led by a faculty advisor and requires stringent academic requirements be maintained along with a membership fee for national membership. As a member, I volunteered for most Kappa Mu Epsilon sponsored events, including pie day.</i>	
Honors Program, HC	2006-2010
<i>Hartwick College is a member of the National Collegiate Honors Council and provides outstanding students with an additional education opportunity, the Hartwick College Honors Program. Successful completion of this program requires that students maintain a GPA of 3.5 or higher and complete four student designed (but under the guidance of a faculty member) Honors Challenges (such as a research project, presentation of a paper or poster at a national conference, completion of a 4-6 week seminar, completion of a double major, or a semester abroad).</i>	

## PROFESSIONAL DEVELOPMENT

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Graduate Teaching Certificate Program, UTK	2014-2015
<i>This 15-18 month program was developed by the Tennessee Teaching and Learning Center (TennTLC) in collaboration with the Graduate School at UTK. Program requirements include, (1) completion of one seminar or course in teaching pedagogy, (2) attendance at all TennTLC sponsored seminars and workshops, and (3) completion of a supervised teaching practicum.</i>	
UCLA / La Kretz Workshop in Conservation Genomics, UCLA	2014
<i>This weeklong workshop provides instruction in traditional conservation genetics, next generation platforms, data management pipelines, quality control, data storage, organization and analysis, SNPs, sequences, handling large data sets, functional genomic data, genomic data and GIS, and conservation phylogenomics. Admission is highly competitive and is based on academic qualifications and relevance of research interests.</i>	
Best Practices in Teaching Graduate Program, UTK	2014
<i>The program discusses teaching-related issues over the course of seven sessions; successful competition requires attendance at each session, submission of a response paper for each session, and completion of a teaching portfolio.</i>	
SMART Symposium I Workshop, Office of Technology, UTK	2014
<i>A two-hour workshop on how to use the interactive features of the SMART Symposium (an interactive electronic lectern with an electromagnetic stylus) to meet diverse learner needs.</i>	
Turning Point Technology Workshop, Office of Technology, UTK	2014
<i>A two-hour workshop on the use of Turning Point software and student response clickers to engage and assess student learning in the classroom.</i>	
Mastering™ Learning Platform Updates Session, Pearson, UTK	2014

*A two-hour session hosted by a Pearson technology representative that provides instruction on how to use the new Mastering Biology features, such as the Dynamic Study Modules, Adaptive Follow-up, and Learning Catalytics.*

Teaching and Learning Collective Conference, CMU

2011

*A one-day conference on the best practices for improving student learning that includes several lecture seminars and small group activities and discussions.*

## **ADDITIONAL PROFESSIONAL CONFERENCES & MEETINGS**

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Project Bog Turtle Meeting, Asheboro, NC

2013

South Eastern Population Ecology & Evolutionary Genetics, Charlottesville, VA

2013

Tennessee Herpetological Society, Harrogate, TN

2013

## **References**

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### **Dr. Bradley (Brad) Swanson**

Master's Thesis Advisor

Central Michigan University

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### **Dr. Ferlin McGaskey**

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### **Dr. Elisabeth (Beth) Schussler**

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