

# T. Jeffrey Cole

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## Education

- ▣ **Ph.D. in Biological Sciences** expected May 2021  
East Carolina University, Greenville NC
  - Dissertation title: *Molecular evolution of venom proteins in Ctenidae spiders*
- ▣ **B.S. in Biology, *magna cum laude*** May 2016  
Samford University, Birmingham AL
  - **GPA:** 3.88
  - **Honors**
    - ◇ Beta Beta Beta National Biology Honors Society (2013-2015)
      - Vice President(2015)
    - ◇ Alpha Lambda Delta Honors Society (2013-2015)

## Publications

- Cole TJ**, Brewer MS. (in prep). toxify: a deep learning approach for classifying animal venom proteins.
- Cole TJ**, Brewer MS. (2018) FUSTr: A tool for finding gene Families Under Selection in Transcriptome databases. *PeerJ*, 6, e4234.
- Cole TJ**, Hataway RA. (2016). Prescribed burning affects a measure of fitness in *Ctenus hibernalis* (Araneae: Ctenidae) at Oak Mountain State Park, Shelby County, Alabama. *Southeastern Naturalist*. 15(4):646–652.

## Presentations

- ▣ **Comparative venom gland transcriptomics of the U.S Ctenidae (Order:Araneae)** 2018  
*Oral presentation*
  - 42<sup>nd</sup> annual meeting of the American Arachnological society, Ypsilanti MI.
- ▣ **Using deep learning to classify animal venom proteins** 2018  
*Oral presentation*
  - 79<sup>th</sup> annual meeting of the Association for Southeastern Biologists conference, Myrtle Beach, SC.
- ▣ **Signatures of positive selection in venom proteins of Hawaiian Tetragnatha (Araneae:Tetragnathidae)** 2017  
*Poster presentation*

- 35<sup>th</sup> annual Society for Molecular Biology and Evolution, Austin, TX
- ▣ **Characterization of the venom proteome for the wandering spider *Ctenus hibernalis* (Araneae: Ctenidae)** 2016
  - Oral presentation*
    - Venom Week V, Greenville NC
  - Poster presentation*
    - 93<sup>rd</sup> annual Meeting of the Alabama Academy of Science, Florence AL
      - ◇ Winner of Best Poster in Biological Sciences Award
    - 77<sup>th</sup> annual meeting of the Association for Southeastern Biologists conference, Concord NC
    - 20<sup>th</sup> annual meeting of the International Congress of Arachnology, Golden CO
- ▣ **Molecular evolution of sperm proteins in *Danaus* butterflies** 2015
  - Oral presentation*
    - Samford University Summer Research Symposium
  - Poster presentation*
    - University of Kansas Summer Undergraduate Research Poster Session
    - 5<sup>th</sup> annual Emerging Researchers National STEM Conference, Washington D.C.
- ▣ **Density and fitness of *Ctenus hibernalis* (Aranea: Ctenidae) in a montane longleaf pine ecosystem undergoing restoration** 2015
  - Oral presentation*
    - Samford University Summer Research Symposium
  - Poster presentation*
    - 92<sup>nd</sup> annual Meeting of the Alabama Academy of Science, Livingston, AL
    - 4<sup>th</sup> annual Emerging Researchers National STEM Conference, Washington D.C.
- ▣ **Effects of surface runoff from a landfill containing coal ash on water chemistry in adjacent surface water in Perry County, Alabama** 2014
  - Oral presentation*
    - Perry County City Hall meeting
    - Samford University Summer Research Symposium
  - Poster presentation*
    - 75<sup>th</sup> annual Association for Southeastern Biologists conference, Spartanburg SC
      - ◇ Winner of Elsie Quarterman-Catherine Keever Poster Award

## Society Memberships

Society for Molecular Biology and Evolution . . . . .	2017-present
American Arachnological Society . . . . .	2016-present
North American Society of Toxinology . . . . .	2015-present
American Chemical Society . . . . .	2015-present
Association for Southeastern Biologists . . . . .	2015-present

Alabama Academy of Science . . . . . 2013-2016

## Awards & Grants

American Museum of Natural History Theodore Roosevelt Memorial Grant (\$1,000) . . . . . 2017  
East Carolina University biodiversity initiative internal grant for outreach (\$200) . . . . . 2017  
NSF Graduate Research Fellowship (\$132,000) . . . . . 2016  
Brakefield Textbook scholarship (\$100) . . . . . 2016  
NSF REU Summer research grant, University of Kansas (\$5,500) . . . . . 2015  
NSF REU Summer research grant, Samford University (\$5,500) . . . . . 2014  
Samford University Summer Propst Research scholar (\$2,000) . . . . . 2013

## Service & Outreach

- **Bugfest** 2016-present
  - Annual public showcase of local arthropod diversity at the Museum of Natural History, Raleigh NC
- **Undergraduate student mentor** 2016-present
  - research project coordinator for 5 undergraduate research projects
- **Letters to a Pre-Scientist.** 2016
  - Mentoring network for middle school students in at-risk communities to encourage their pursuit of scientific careers
- **Spiders of Birmingham, AL** 2015
  - Bi-annual community seminar on how to collect and identify local spiders
- **Sustainable fisheries practices** 2015
  - Guest lecture at 4H chapter in Birmingham
- **Shades Creek Cleanup** 2013-2016
  - Co-organizer for annual cleanup efforts in Birmingham AL
- **Samford gives back** 2013-2016
  - Annual event to provide assistance with establishing community gardens

## Skills

- Programming and Markup Languages
  - **Expert:** Python, Go, Bash, R
  - **Intermediate:** Java, C++, Haskell, HTML, CSS, Javascript,  $\LaTeX$