

Christopher A. Hamm, PhD

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GitHub: butterflyology

Statistical and programming skills

Statistical techniques:

- Linear and mixed-effects models in R
- Hierarchical modeling and inference in R
- Maximum likelihood inference in R
- Classification models in R
 - ◇ Cluster analysis: K-means, neighbor joining
- Hierarchical Bayesian models
 - ◇ Gibbs sampling / MCMC algorithms implemented in R, JAGS, and stan
 - ◇ Count data

Programming languages: R

Database tools: SQL

Experience

Postdoctoral Research - University of Kansas, 2014 - 2016

- Collected specimens and apply contemporary genomic sequencing and bioinformatics pipeline
- Establish SQL database for specimen metadata
- Conduct differential expression analysis
- Develop novel statistical models to describe diet
- Build phylogenetic models of evolution
- Mentor students, teach laboratory and computational skills

Postdoctoral Scholar - University of California, Davis 2012 - 2014

- Conduct comparative genomic analysis of invasive species
- Establish bioinformatic pipeline for the analysis of genomic data
- Conduct molecular research on invasive species
- Conduct laboratory experiments
- Investigate use of bacterial infection for control of invasive species

Doctoral Research - Department of Entomology and Program in Ecology, Evolutionary Biology & Behavior, Michigan State University, 2007 - 2012

- Utilize contemporary genomic sequencing to describe relationships among populations of endangered species
- Construct SQL database of endangered species metadata
- Present conclusions to key stakeholders at local, state and federal levels

Graduate Research Student - California State University, Fresno 2004-2008

- Distinguish and describe new species of ant

Education and Academic positions

Instructor 2014 - Present

- Software Carpentry Foundation
- Data Carpentry Foundation

University of Kansas - Lawrence, KS 2014 - 2016

Postdoctoral Researcher

University of California - Davis, Davis, CA 2012 - 2014

Postdoctoral Scholar

Michigan State University - 2007 - 2012

PhD in Entomology, advisor Dr. Douglas Landis

PhD in Ecology, Evolutionary Biology & Behavior, advisor Dr. Barry Williams

California State University, Fresno - Fresno, CA 2000 - 2008

MS in Biology, *with Distinction*, advisor Dr. Paul Crosbie

BS in Biology, *Magna Cum Laude*