

GREG CHISM

Computational and Data Science Educator
Data Science Institute
University of Arizona

View this CV online with links at
https://gregtchism.com/cv/gchism_cv.pdf

EDUCATION

- 2022 | 2017
- **Ph.D. Entomology and Insect Science (minor in EEB)**
University of Arizona 📍 Tucson, AZ
 - Advisor: Dr. Anna Dornhaus
 - Interdisciplinary research into how ant nest shapes affects how colonies behave
 - Considered the implications towards animal behavior and human architecture fields

2016 | 2014

 - **B.S. Zoology**
University of California Santa Barbara 📍 Santa Barbara, CA
 - Advisors: Drs. Armand Kuris, Kevin Laugherty, Jonathan Pruitt
 - Investigation into the food web of sandy beach arthropods.
 - Probing animal personality of sandy beach jumping spiders and social spiders
 - Graduated distinction within major (EEMB)

2014 | 2012

 - **A.A. Biology**
Shasta Community College 📍 Redding, CA

CERTIFICATIONS

- 2023 | 2023
- **Carpentries Instructor Trainer**
The Carpentries
 - Trained in best practices from learning theory to promote a safe and inclusive learning environment
 - Expected completion Summer 2023

2022 | 2022

 - **Carpentries Instructor**
The Carpentries
 - Trained to provide high quality data science workshops that are inclusive and broad reaching

CONTACT

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RELEVANT SKILLS

- Programming/Software
- R/RStudio
 - R Markdown/Quarto
 - Git/GitHub
 - Shiny
 - Python
 - Docker
 - Unix Shell
 - CyVerse
 - HTML/CSS
 - SQL/MySQL
 - NetLogo/Agent-Based Models

Data Science

- Data Visualization
- Biostatistics
- Open Science
- Computational Thinking
- Containers
- Biological Modeling
- Image/Video Analysis
- Website Design



RELATED WORK EXPERIENCE

Current
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2022

- **Computational and Data Science Educator**
University of Arizona 📍 Tucson, AZ
 - Designed and delivered diverse modality learning materials in R and Python.
 - Developed open science and statistics curriculum.
 - Fostered inclusive, engaging learning environment for diverse students.
 - Mentored students in data science career pursuits.
 - Led the steering committee for the ResBaz AZ 2023 festival.

2022
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2021

- **CALS Data Science Ambassador**
University of Arizona 📍 Tucson, AZ
 - Conducted data science consultations and provided tailored resources.
 - Assisted in weekly R workshop delivery.
 - Mentored workshop attendees in R programming applications.

2022
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2021

- **Honors College Graduate Mentor**
University of Arizona 📍 Tucson, AZ
 - Guided nine diverse students in developing competitive scholarship applications.

2021
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2018

- **Graduate College Fellowship Application Mentor**
University of Arizona 📍 Tucson, AZ
 - Mentored 70+ fellowship applicants, primarily for the NSF Graduate Research Program.
 - Guided three women in STEM to secure NSF Graduate Research Fellowships.
 - Authored Graduate Student Spotlight article as an NSF GRF recipient.



TEACHING AND MENTORSHIP

2023
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2022

- **KEYS Program Educator**
University of Arizona 📍 Tucson, AZ
 - Devised and executed an interactive curriculum for Title I high school seniors, covering open science, statistics, and machine learning principles, and introduced R/RStudio through RStudio Cloud.

2022

- **Data Science Fellows**
University of Arizona 📍 Tucson, AZ
 - Co-led a program cultivating open science and data science expertise among diverse health science postdocs and graduate students.

2022	<ul style="list-style-type: none"> Roots for Resilience (R4R) University of Arizona 	 Tucson, AZ <ul style="list-style-type: none"> Co-led a program teaching diverse senior graduate students across multiple disciplines to leverage data science for domain-specific discoveries.
2022	<ul style="list-style-type: none"> Research Compendium Using GitHub and RStudio University of Arizona 	 Tucson, AZ <ul style="list-style-type: none"> Developed and instructed a workshop series on reproducible research using GitHub and RStudio, complemented by a Quarto book for asynchronous learners.
2022	<ul style="list-style-type: none"> Exploratory Data Analysis in R University of Arizona 	 Tucson, AZ <ul style="list-style-type: none"> Devised and delivered a workshop series on exploratory data analysis leveraging the dlookr R package, with an accompanying Quarto book for asynchronous learners.
2020 2018	<ul style="list-style-type: none"> Undergraduate Research Mentor University of Arizona 	 Tucson, AZ <ul style="list-style-type: none"> Guided nine students towards producing publication-quality data, resulting in two of them becoming co-authors on academic manuscripts.
2019 2018	<ul style="list-style-type: none"> Insect Discovery Teaching Assistant University of Arizona 	 Tucson, AZ <ul style="list-style-type: none"> Delivered engaging insect science workshops to K-12 Title I students from the Southwest, enhancing their understanding of the field through hands-on demonstrations at the Flandrau Planetarium.
2019	<ul style="list-style-type: none"> KEYS High School Student Mentor University of Arizona 	 Tucson, AZ <ul style="list-style-type: none"> Mentored an advanced Title I high school student in data etiquette and hypothesis testing
2018	<ul style="list-style-type: none"> SARSEF High School Student Mentor University of Arizona 	 Tucson, AZ <ul style="list-style-type: none"> Mentored three Title I high school students in data etiquette and hypothesis testing

OUTREACH AND SERVICE

2023	<ul style="list-style-type: none"> ResBaz Arizona 2023 University of Arizona
	<ul style="list-style-type: none"> Chair of the steering committee Expanded the festival to ASU and NAU ~100 attendees each day

- 2022 ● **Industry Careers in Data Science Speaker Series**
University of Arizona
• Developed and hosted a speaker series that focused on academics that transitioned to industry careers in data science
• ~20-40 attendees each session spanning diverse disciplines, career stages, and cultures
- 2022 ● **RStudio Connect Landing Page**
University of Arizona
• Built a launch page and interactive user metrics dashboard with monthly project highlights
• Final version will be HTML and Javascript landing site
- 2022 ● **ResBaz Arizona 2022**
University of Arizona
• Co-chair of the steering committee
- 2022 ● **Insect Discovery Website**
University of Arizona
• Designed content for the Insect Discovery website, hosted by the UArizona Extension Program
-  PROFESSIONAL DEVELOPMENT
- 2022 ● **Foundational Open Science Skills (FOSS)**  Tucson, AZ
University of Arizona
• Completed CyVerse's collaborative workshop series on Foundational Open Science Skills, developing proficiency in using open source cyberinfrastructure for reproducible research and scientific collaboration.
- 2022 ● **Developing the Data Science Classroom**
RStudio::conf(2022)
• Attended a workshop focused on using R and RStudio for teaching in a data science college classroom setting.
- 2022 ● **Basic & Advanced Container Camp**  Tucson, AZ
University of Arizona
• Completed CyVerse's Basics and Advanced workshops on container technologies, emphasizing sharing, scaling, and reusing tools for computational analyses.
- 2018 ● **Data-driven Ecological Synthesis**  Montreal, Canada
Université de Montréal
• Attended a week-long course focused on applying the R programming language to a diverse range of biological questions, enhancing expertise in data analysis and interpretation.

2017

- **Intro to Modeling in Biology (ECOL 519)**

University of Arizona

📍 Tucson, AZ

- Exploring the role of biological modeling with hands-on examples in Mathematica



PUBLISHED TEACHING CURRICULUM

2022

- **Data7 EDA in R Workshop Series**

Zenodo

- Companion materials and Quarto Book for [Exploratory Data Analysis in R](#)

2022

- **Data7 Reproducible Research with GitHub and RStudio Workshop Series**

Zenodo

- Companion materials and Quarto Book for [Reproducible Research with GitHub and RStudio](#)

2022

- **Data7 EDA in Python**

Zenodo

- Quarto Book learning materials for [Exploratory Data Analysis in Python](#)

2022

- **Data7 EDA in SQL**

Zenodo

- Quarto Page learning materials for [Exploratory Data Analysis in SQL](#)

2022

- **Data7 EDA in Unix Shell**

Zenodo

- Quarto Page learning materials for [Exploratory Data Analysis in Unix Shell](#)

2022

- **Data7 KEYS Internship Open Science Materials**

Zenodo

- Companion Quarto presentations and R Markdown for my KEYS internship open science and Machine Learning curriculum

- [Machine Learning](#)



PUBLISHED RESEARCH COMPENDIUM

2022

- **AntColonyPerformance**

Zenodo

- GitHub repository for a research compendium to reproduce in preparation research

- 2022 ● **NestArchOrg**
Zenodo
• GitHub repository for a research compendium to reproduce results from
DOI: <https://doi.org/10.1101/2022.06.30.498314>
- 2022 ● **HumidityProject**
Zenodo
• GitHub repository for a research compendium to reproduce results from
DOI: <https://doi.org/10.1101/2022.06.30.497551>

PUBLISHED RESEARCH

- 2023 ● **Developing open science and statistics curriculum in the R and Python programming languages**
Submitted
• Coauthored with Swetnam, T., et al.
- 2022 ● **Nest shape influences colony organization in ants: spatial distribution and connectedness of colony members differs from that predicted by random movement and is affected by nest space**
bioRxiv Preprint
• Coauthored with Nichols, W., and Dornhaus A.
- 2022 ● **Temnothorax rugatulus ants do not change their nest walls in response to environmental humidity**
bioRxiv Preprint
• Coauthored with Faron W., and Dornhaus A.
- 2021 ● **A hymenopteran odorant alerts flies to bury eggs**
bioRxiv Preprint
• Coauthored with Davis, S. M., Maurer, M. M., Trejo, J. E., Garcia, R. J., & Schlenke, T. A.
- 2020 ● **ABCTracker: an easy-to-use, cloud-based application for tracking multiple objects**
arXiv Preprint
• Coauthored with Rice, L., Tate, S., Farynyk, D., Sun, J., Charbonneau, D., ... & Shin, M. C.
- 2017 ● **Intraindividual behavioral variability predicts foraging outcome in a beach-dwelling jumping spider**
Scientific reports
• Coauthored with Lichenstein, J.L.L, Pruitt J.N.



PUBLISHED DATASETS

- 2022 • **Data repository for DOI: <https://doi.org/10.1101/2022.06.30.498314>**
Zenodo
 - Nest shape influences colony organization in ants: spatial distribution and connectedness of colony members differs from that predicted by random movement and is affected by nest space (1.0.0) [Data set].
Zenodo. <https://doi.org/10.5281/zenodo.6784395>
- 2022 • **Data repository for DOI: <https://doi.org/10.1101/2022.06.30.498314>**
Zenodo
 - Temnothorax rugatulus ants do not change their nest walls in response to environmental humidity (1.0.0) [Data set]. Zenodo. <https://doi.org/10.5281/zenodo.6780270>



INVITED TALKS

- 2022 • **Integrating Data Science into your Research: An Introduction to the Data Science Institute**
UArizona Computational Social Science Annual Gathering
- 2021 • **How nest shapes can influence colony level organization**
Small intercontinental lab meet-up on colony organization and nest architecture in social insects
- 2019 • **Nest architecture may influence ants the same was buildings influence humans**
Advances in Complex Systems: From Ecology to Economics - Lake Como School of Adv. Studies
- 2019 • **The influence of nest architecture on colony level organization in ants**
UArizona SIAM Seminar series



SELECTED AWARDS

- 2021 • **Carruth Award for Graduate Student Excellence**
\$500
- 2020 • **GIDP - EIS Program Education Award**
\$250
- 2019 • **NSF Graduate Research Fellowship, Award Accepted**
\$150,000