

# Computational Resources at UW-Madison

# Computation in Biology

- Biology is often very data heavy
- Most biologists aren't trained in computation/programming (yet)
- But most of you will need some of these skills
- Your PI/labmates might not be able to help you but...
- You don't have to struggle through this alone!

# ComBEE

- Computational Biology, Ecology, and Evolution Group
- Student organized group
- Monthly Meetings about Computational Biology or Theoretical Ecology/Evolution
  - Social gathering Sept. 15th @ 4pm in 6201 MSB
- Bi-weekly R/python study groups
- <https://combee-uw-madison.github.io>
  - Sign up for our listserv to get updates!



Elizabeth McDaniel  
MDTP Student  
McMahon Lab



Marc Chevrette  
Genetics Student  
Currie Lab

# ComBEE R/Python Study Groups

- These groups meet on opposite weeks
- Generally informal discussion of topics
- Topics decided on based on group interests
- Meet on Thursdays at 2pm in MSB 5503
- [Python Study Group website](#)
  - Starts on Sept. 21<sup>st</sup>
- [R Study Group website](#)
  - Starts on Sept. 28<sup>th</sup>
  - Different format this semester
- Sign up for their individual listservs if you are interested

# What are Software and Data Carpentry?



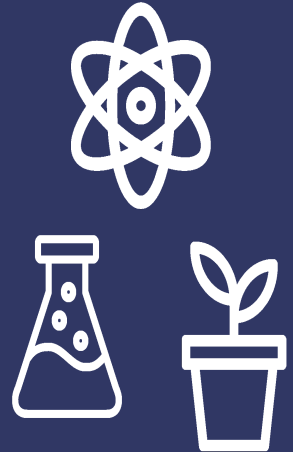
Two formal **organizations\*** + international **community** of volunteers



that develop **lessons**, train **instructors** + organize **workshops**



in **data** management and **software** development **best practices**



For and by **researchers** across disciplines

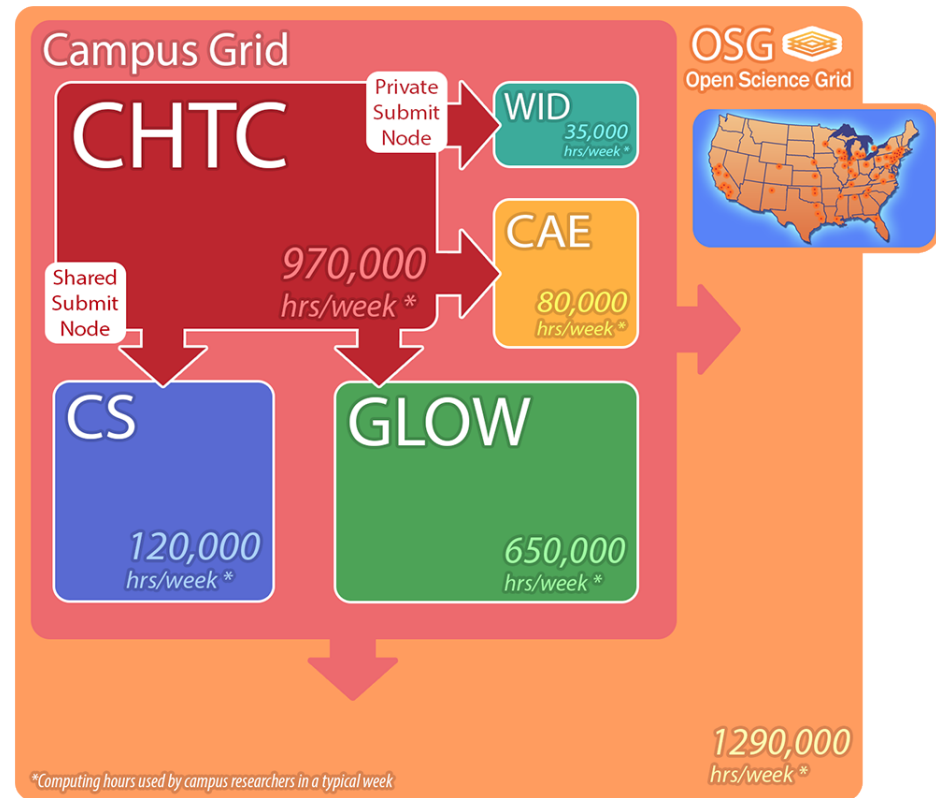
\* soon to be restructured into a combined organization

# Software/Data Carpentry

- 2 free workshops hosted at beginning of each semester
  - Next workshops probably January 2018
  - SWC: Unix shell, python (or R), and version control (git)
  - DC: excel, openRefine, SQL, R
- Large local community of instructors
- If interested you can help out or instruct these workshops
  - Professional Development/Teaching opportunity
- For updates about registration (and other computational events on campus) sign up for ACI (advanced computing initiative) listserv
  - [aci.wisc.edu](http://aci.wisc.edu)

# Center for High Throughput Computing (CHTC)

- Campus resource
- Scale up your computational work
- Can run more analyses (and bigger jobs) using their resources
- Facilitators who can help you get started



# Quantitate Biology Initiative

- Initiative to bring together quantitative biology on campus
  - <https://qbi.wisc.edu/>
- New minor available!
  - <https://qbi.wisc.edu/education/phd-minor/>
- Weekly Seminar Series
  - <https://wid.wisc.edu/seminars/qbio/>



# Other courses

- MICROBIO 875: Bioinformatics for Microbiologists (Might change numbers for Spring 2018)
- BMI 541 - Introduction to biostatistics
- BMI 576 - Introduction to bioinformatics
- BMI 776 - Advanced bioinformatics
- CS301 - Introduction to Data Programming

# Biotech Center

- Biotech Center on campus also offers Bioinformatics workshops (cost \$\$)
- Workshops include:
  - Linux Basics for NGS Data Analysis
  - Intro to NGS Data Analysis
  - Microbiota Processing in mothur
  - Microbiota Analysis in R
- <http://www.biotech.wisc.edu/services/brc/workshop>

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