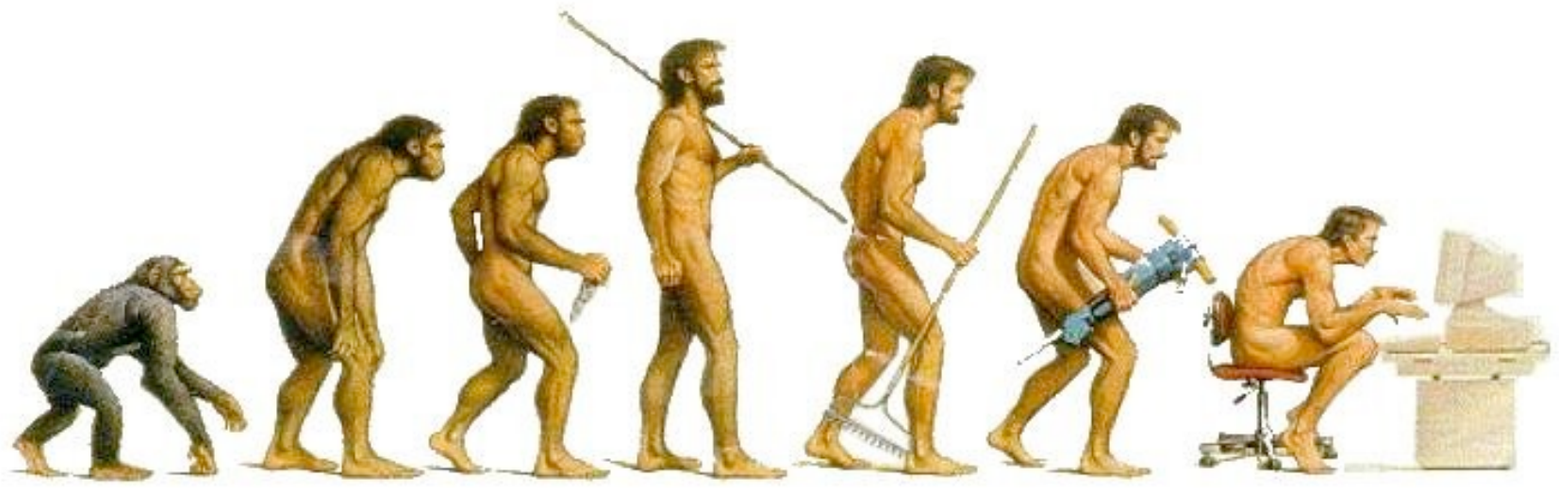
Summer Institute in Statistical Genetics

Module 07: **Population Genetics**

Instructors: Ryan Hernandez & Timothy O'Connor
TAs: Melissa Spear, Michael Kessler, Daniel Harris



Introduction and Course Overview

- Intensive course that is usually in person!
- We will mix prerecorded lectures, live lectures, small group discussions, and interactive computational exercises.
- Most lectures are presented **live**, but recorded for you to rewatch
    - You may see other participants in the module, but only the instructor's video will be recorded. Audio of all questions/comments will be recorded.
    - Questions and interruptions are encouraged!
    - You will be muted upon entry. Please use "Raise Hand" function in "Participants" tab and wait for the instructor/TA to call on you, then unmute.
- Ask questions on Slack! Try not to use the chat bar in Zoom.

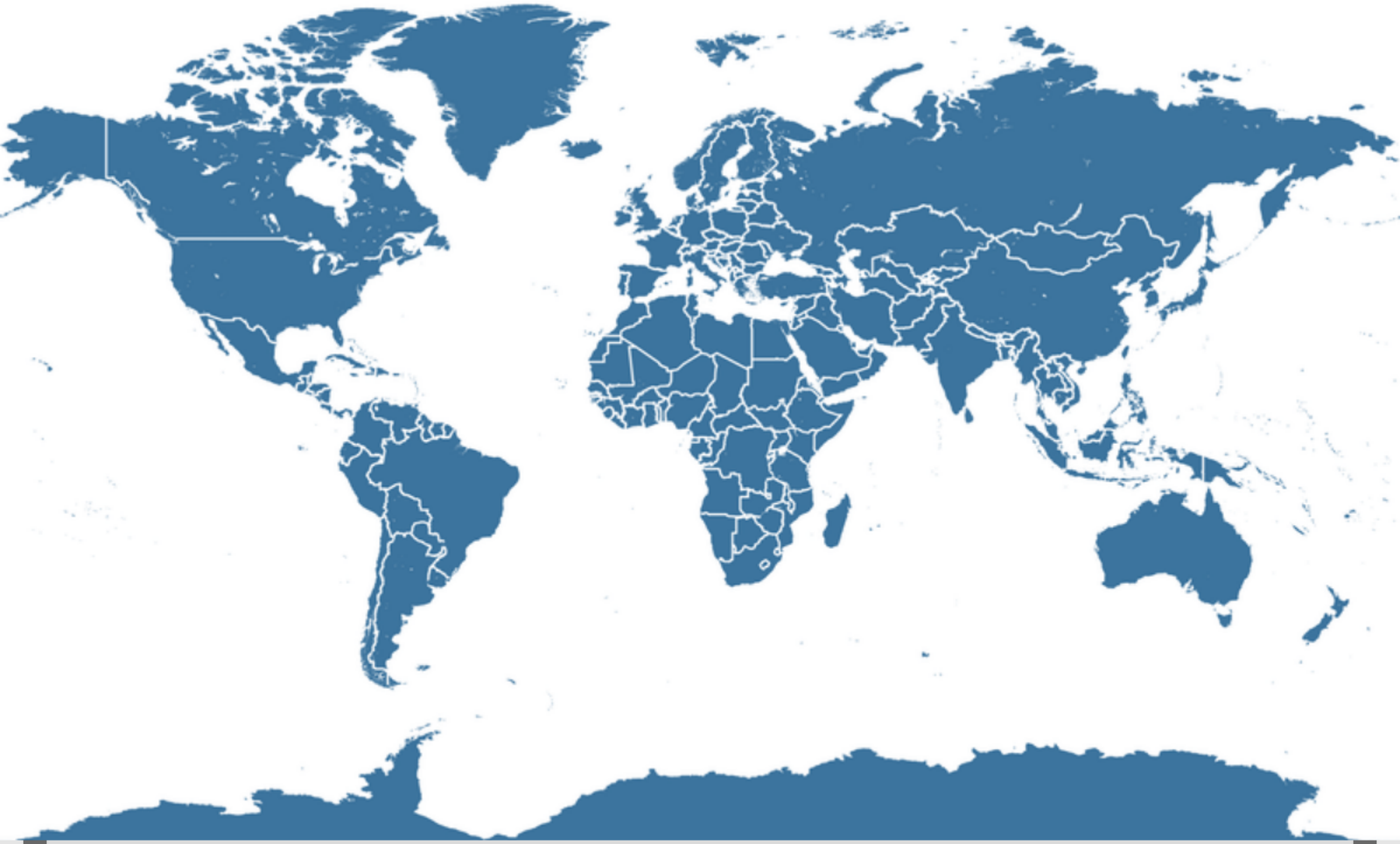
Introduction and Course Overview

- **Small group discussions**
  - Will not be recorded.
  - The UW Center for Teaching and Learning (CTL) suggest that turning on your video during small group discussions facilities discussion.
  - We encourage you to keep your video on if you feel comfortable doing so.
  - However, life happens! We will give you the benefit of the doubt if you need to turn your video off.
  - Please be respectful.
  - Give each other time to complete thoughts — No speaking over each other!
  - Any disrespectful activity should be reported to an instructor or TA.

Introduction and Course Overview

- Interactive computational exercises
  - We expect you to download all the software necessary for the computational sessions and make sure they work.
  - We will give introductions to the software and general ideas in a live session before breaking out into groups of ~8 to run the computational exercises.
  - Instructors and TAs will cycle through each group randomly.
  - If you are unable to solve problems within your group, ask for help and a TA/instructor will enter as soon as possible.

Where are you right now?



What is your background?

Mostly applied (e.g. experimental biology)

Mostly stat/epi

Mostly quantitative (e.g. math/physics)

Mostly computational (e.g. CS)

What type of device are you using?

Laptop/desktop computer

Tablet/phone

Other

What operating system do you use?

Mac OSX

Unix/Linux

Windows

None of the above

How confident are you in your understanding of natural selection?

1: Not at all confident

2

3: Somewhat confident

4

5: Extremely confident

How confident are you in your understanding of admixture and genetic ancestry?

1: Not at all confident

2

3: Somewhat confident

4

5: Extremely confident

How confident are you in your understanding of genetic drift?

1: Not at all confident

2

3: Somewhat confident

4

5: Extremely confident

How confident are you in your understanding of Hardy-Weinberg Equilibrium?

1: Not at all confident

2

3: Somewhat confident

4

5: Extremely confident

How confident are you in your understanding of the Wright-Fisher model?

1: Not at all confident

2

3: Somewhat confident

4

5: Extremely confident

What organism does most of your research focus on?

What is your career stage?

Grad student (including rising)

Postdoc

Faculty

Undergrad

Staff scientist

Other

What topic do you want to learn about most?