Diversity, Equity, & Inclusion in STEM: The Science Behind Bias seminar
ENTOM 4040

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Research focus: Evolution of ants and their gut microbiomes

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Research focus: Impact of nutrition on infection dynamics in fruit flies

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Research focus: Investigating the extrinsic and intrinsic mechanisms of beak color plasticity in birds

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Research Focus: Co-evolutionary dynamics of insects-plants. Impacts of Team Based Learning in STEM courses.

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Postdoctoral associate in the field of Ecology & Evolutionary Biology in Dr. Michelle Smith’s group, incoming Assistant Teaching Professor at UC San Diego

Research focus: the transition between high school and college for students in STEM

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So why are a bunch of biologists teaching this course?

We are not experts, but we care deeply about diversity, equity, and inclusion.

As scientists we know how to assess the scientific literature.

We will all be learning together.
Ground Rules for the Course

Remember:
- We are all coming from different levels of understanding around these topics.
- Some of these topics can be triggering, so take care of yourself.
- Use the list below as a guide for your actions in this course.

- Stories stay, lessons leave
- Use “I” statements
- Take Space, Make Space
- Be both teachers and learners
- Accept that things may remain unresolved
- Embrace discomfort, but take a moment if you need it

List borrowed from Cornell Intergroup Dialog Project - Engaging in Conversations on Racism faculty workshop August 2020
Ground Rules for the Course

- Listen often.
- If you feel yourself getting angry or defensive, ask yourself why.
- You will make mistakes and apologize if you do (it is not about your intent it is about your impact).
- Apologies (NO: I am sorry *you* were hurt.)
  - Take ownership of your words and actions.
What is Diversity, Equity, & Inclusion?

Diversity, Equity, & Inclusion (DEI) are not all the same

- **Diversity** = the representation of all our varied identities and differences (race, ethnicity, gender, disability, sexual orientation, gender identity, national origin, tribe, caste, socio-economic status, thinking and communication styles, etc.), collectively and as individuals

- **Equity** = ensure fair treatment, equality of opportunity, and fairness in access to information and resources for all

- **Inclusion** = builds a culture of belonging by actively inviting the contribution and participation of all people

If you fix one, you do not fix all!

- Just because you achieve diversity, does not mean your work is done
- You must actively create an atmosphere that values diverse perspectives and values all perspectives equally

Definitions adapted from: [https://www.fordfoundation.org/about/people/diversity-equity-and-inclusion/](https://www.fordfoundation.org/about/people/diversity-equity-and-inclusion/)
What is an underrepresented minority (URM)?

**Historically excluded or marginalized**

- Underrepresented Minority can be defined as a group whose percentage of the population in a given group is lower than their percentage of the population in the country
- Underrepresentation and overrepresentation of women and racial or ethnic groups vary by field of study and occupation
- URM in STEM include (but is not limited to):
  - African American / Black
  - Asian: Filipino, Hmong, or Vietnamese only
  - Hispanic / Latinx
  - Native American / Alaskan
  - Native Native Hawaiian / Other Pacific Islander
  - Two or more races, when one or more are from the preceding racial and ethnic categories in this list
  - In STEM this can often include women
- URM can also mean under-represented gender expressions, sexual orientations, religions, and disabilities
Unconscious vs. Implicit Bias?

- Implicit bias refers to the attitudes or stereo-types that affect our understanding, actions, and decisions in an unconscious manner
- Implicit biases are activated involuntarily, unconsciously, and without one’s awareness or intentional control
- Implicit biases are robust and pervasive
- Everyone is susceptible to them, even people who believe themselves to be impartial or objective, such as judges. Implicit biases have even been documented in children

Think you are immune?
Take these online tests (you will likely be surprised by what you find):
https://implicit.harvard.edu
Privilege is considering how the advantage you’ve had in life are contributing to your opinions and actions, and how the lack of disadvantages in certain areas is keeping you from fully understanding the struggles others are facing and you may be contributing to those struggles.

Moment of reflection:
- What aspects of your identity gives you privilege?
- For example here is my (Corrie) privilege:
  - Caucasian/white
  - Able-bodied
  - Cis
  - Heterosexual/straight
  - Not currently economically disadvantaged

Try very hard to not make this a moment to list all the ways you are marginalized.

Adapted from "So you want to talk about race" by Ijeoma Oluo
Levels of Oppression

Individual/Interpersonal: Individual oppression refers to an individual’s biased assumptions, beliefs or behaviors; can be conscious or unconscious. Interpersonal oppression occurs between individuals.

Internalized Supremacy/Racism: Internalized supremacy/oppression is the personal conscious or subconscious acceptance of the dominant society’s biased/racist views and stereotypes.

Organizational and Institutional: Institutional oppression refers specifically to the ways in which institutional policies and practices create different outcomes for different marginalized groups.

Systemic/Structural: Structural Oppression/Racism in the U.S. is the normalization and legitimization of an array of dynamics – historical, cultural, institutional and interpersonal – that routinely advantage whites (and males) while producing cumulative and chronic adverse outcomes for marginalized groups.

Adapted from: www.multiculturalresourcecenter.org
Professor Kimberlé Crenshaw coined the word “intersectionality” in 1989 to describe how race, class, gender, and other individual characteristics “intersect” with one another and overlap.
Microaggressions:

- Are small and can be easily explained away
- Are cumulative
- Are perpetrated by many different people
- Many people do not consciously know that they are perpetrating a microaggression against someone
- The impacts of microaggressions are the same as discrimination
- Even if they are called 'micro' they are still aggressions
- "death by a thousand cuts"

Adapted from "So you want to talk about race" by Ijeoma Oluo
What is an Ally?

**Ally** is someone from a nonmarginalized group, relative to the individual(s) being marginalized, who uses their privilege to advocate for a marginalized group. They transfer the benefits of their privilege to those who lack it. You can only be an ally through action.

**Performative allyship**, on the other hand, is when someone from that same nonmarginalized group professes support and solidarity with a marginalized group in a way that either isn’t helpful or that actively harms that group. Performative allyship usually involves the “ally” receiving some kind of reward — on social media, it’s that virtual pat on the back for being a “good person” or “on the right side.”

Adapted from [https://forge.medium.com/performative-allyship-is-deadly-c900645d9f1f](https://forge.medium.com/performative-allyship-is-deadly-c900645d9f1f)
What is an Ally?

5 tips for being an ally via Franchesca Ramsey:

1. Understand your privilege (does not mean you are rich, had an easy life, and have never had to work hard. There are some things in life you will never experience or have to think about because of who you are)
2. Listen and do your homework
3. Speak up, not over
4. You will make mistakes and apologize if you do (it is not about your intent it is about your impact)
5. Ally is a verb (saying you are an ally is not enough, you have to do the work #1-4 above)

From https://www.youtube.com/watch?v=_dg86g-Q1M0&feature=youtu.be
What is being an Active Bystander?

Definition:

• A **bystander** is a person who observes a conflict or unacceptable behavior. It might be something serious or minor, one-time or repeated, but the bystander knows that the behavior is destructive or likely to make a bad situation worse.

• An **active bystander** takes steps that can make a difference.

Remember:

• If it is unwanted it is harassment.
• Harassment is always defined from the point of view of the target.
• The intent is not important.
• The impact is important.

From [http://web.mit.edu/bystanders/definition/index.html](http://web.mit.edu/bystanders/definition/index.html)
What is being an Active Bystander?

Responding as an active bystander:

**Strategies in the moment**
- Name or acknowledge an offense – talk from your own point of view, not the targets
- Interrupt the behavior
- Publicly support the person that was the target
- Remove the target or harasser from the situation

**Strategies after the fact**
- Report the incident (with or without names)
- Talk privately with the harasser
- Talk privately with the target

What will the class look like?

Each week:
• We will assign a 2-3 papers or other forms of media around a topic.
• We will come together to discuss the readings or assignment.
• We will discuss as a group and in smaller breakout rooms.
• We will have those students in the course sign up for a week/topic and as a group come up with a list of discussion questions based on the assigned readings/media – You will upload your questions to the Canvas Discussion section at least the Tuesday before each class.

Before next week:
• If you prefer to use a different sign in than your Cornell NetID for Zoom, you must email me your preferred account information before next week.
• “Files” folder in Canvas has readings. Read the 2-3 readings each week. There is a folder of “Additional related readings” if you are interested.
• Next week I will lead the discussion, but come prepared to share what you are most interested in about this course.
**Topics We Will Cover**

<table>
<thead>
<tr>
<th>List topics/themes:</th>
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<tbody>
<tr>
<td>Historical racism in STEM – Origins of the concept of race</td>
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<td>Historical racism in STEM – Experimentation on groups</td>
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<td>Historical racism in STEM – Eugenics</td>
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<td>Data and bias against Women In STEM</td>
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<td>Data and bias against LGBTQIA+ in STEM</td>
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<td>Data and bias against people of color in STEM</td>
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<td>Data and bias against people with disabilities in STEM</td>
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<td>Data and bias against first generation and low-income people in STEM</td>
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<td>Systemic racism, bias and exclusion in STEM</td>
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<td>Identify actionable steps to achieve equity and inclusion in STEM</td>
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* Note some topics are understudied
* If you know of resources, please always send them to us
Welcome!

We look forward to working with you to discuss these very important topics!