# Re ections and Actions for Creating an Inclusive Research Environment

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many students are supervised by mentors who themselves have not been fully trained in thoughtful and inclusive lab environment practices. There are consequences associated with this lack of knowledge. In its absence, mentors can default to an imprinting model, assuming that the behaviors, attitudes, and approaches that worked for them will be similarly successful with their mentees, regardless of the uniqueness of their social context.

Cultivating inclusive lab environments requires the adoption of a different mindset pertaining to training and mentorship. In an inclusive model, the individual mentee is more important than the techniques, in that the cultivation of their uniqueness is what best positions them to bring their whole selves to the scienti c inquiry process. In doing so, the scienti c community bene ts from their new ideas and paradigms with respect to the discipline. This is important also because "doing science" through authentic research experiences remains the key mechanism through which students from HDI backgrounds enter scienti c research careers. In this article, we discuss ways in which PIs can re ect and take action to cultivate inclusive lab environments. Our suggestions focus on the centrality of dialogic relationships as the key to inclusive lab environments. Readers interested in transforming their own labs toward creating more inclusive environments will explore how to:

- De ne the role that they as mentors play in cultivating inclusive lab environments, particularly for mentees from HDIs
- Describe strategies that can be employed to develop dialogic relationships with mentees
- Identify speci c and practical strategies to create inclusive lab climates

### **SELF WORK**

#### Understanding your positionality

Inclusive mentoring demands psychosocial skills that are not typical components of professional science development. For those new to this type of thinking, it should not be expected that one would be perfect at engaging one's mentees on this level immediately. In fact, social relationships by de nition are exercises of constant learning. Therefore, inclusive mentoring should not be viewed as a speci c to-do list that once completed achieves inclusion, but more as an iterative process of constant self-re ection and personal growth. It is important therefore for the PI to have a process in place to authentically

engage in continuous self-re ection. For the PI, this entails coming to terms with one's own social positioning. Most U.S. research professors are white (Flowers, 2012), a statistic that is not disconnected from the social privileges differentially afforded to this group of Americans over the last several hundred years. It is critical that PIs come to terms with their own relationship with this historical reality, as this is what allows for empathy for others whose social experience is radically different. Self-re ection should happen both on the individual level and as a lab collective. Structured opportunities for the lab to discuss issues and successes, and examine its social operations, are key to ensuring that inclusion and equity are not taken for granted. In the process of cultivating an inclusive environment, there may be instances where you as PI may need to be challenged on an issue. Humility and the willingness to listen to dialogue are necessary so that mentees are not afraid to approach you to discuss any item of discomfort. A dialogic relationship (see below) can be crucial in establishing this comfort. Additionally, it behooves you as a PI to engage in literature about the social contexts of education and the history of power and access in the United States

and the world. Many of the identi(larl-290Tc44(is-419iTod)-401(3(

mentees are. Did you know then what you know now about your own career aspirations? How have you changed? What allowed that change to occur?

# Paradigms of student research lab involvement

Every member of the research team is likely to have a different reason for pursuing an opportunity in your program. For those at the undergraduate stage in their careers, there is likely a great deal of exploration still happening, and it is not certain (nor required) that they will wind up running a lab like you are. Even graduate students are now wise to the reality that many careers exist other than "research professor," the default role that most labs are set up to prepare them for. It is worth re ecting on and understanding why different students

- own. What other questions or conversations would you like to have with your mentees?
- 2. Consider the following questions: How often do you currently have explicit conversations with your mentees about their career goals, mentorship needs, and professional progress? Who typically initiates those conversations if and when they occur? Are they occurring with all of your mentees? If not, who is not having these conversations with you and why?

## Dialogic relationships

Although the IDP is a tool for your mentee to use in order to re ect, this can also be the basis for a dialogic relationship. Dialogic relationships come from the Freirean educational tradition (1970), where authentic

- and be less mindful of time if given free reign. A time quota for each participant ensures that those more likely to withdraw are provided an opportunity to contribute.
- 3. Provide mechanisms for handling con ict. This can range from ensuring mandatory report protocols are followed should that level of resolution become necessary, to providing space for dialogues between parties that are having issues. For the latter, the PI may consider seeking training support in con