J.M. Coughlan- Statement on Diversity, Equity, and Inclusion

Increasing diversity in academia and creating an environment that is conducive to retaining diverse talent is one of the most important challenges that higher educators must face. The loss of people from historically excluded backgrounds in the scientific community is apparent, and begins early in the educational paths for many. A transformation is much needed for educational institutions to more aptly reflect the diversity of their local communities, and we, as educators, are uniquely positioned to begin in the classroom. Although folks from different historically excluded groups often face different challenges- and these dynamics are often tempered by the intersection of identities- creating supportive environments that simultaneously offer a safe space for intellectual exploration and ignite scientific curiosity, while also allowing for multiple perspectives and experiences is important in creating an inclusive community. Creating this type of environment can begin with igniting curiosity in students of all ages, and reinforcing that unique identities bring valuable perspectives to the scientific method. We must then provide equitable opportunities for students to gain access to experiences which allow them to explore, learn, and test hypotheses. Building a classroom dynamic where students have a safe space to fail, where their opinions are heard and appreciated, and where students can actively shape their academic experience is paramount. I am committed to creating and fostering an inclusive environment at Yale, as well as the fields of evolutionary biology, genetics and ecology more broadly. My commitment to diversity, inclusion, and equitable access to education includes building ties to the local community by participating in outreach programs, implementing inclusive teaching practices in the classroom, working with students of diverse background to create meaningful mentorship experiences, and facilitating professional development opportunities for faculty, staff, and students.

Outreach programs to the general public- and in particular, school aged children- are an important resource for creating meaningful ties between academic institutions and the local community, and can be powerful tool for igniting curiosity about the scientific method in the general public. In my experience, I have also found these programs to play an important role in demystifying the important role scientists play in society, the pathways to becoming a scientist, as well as the career options available to people with science degrees. During my PhD, I was involved in multiple school outreach projects- including two outreach programs at Lowe's Grove middle school; an NC magnet middle school, and one recurrent program at Wake Young Woman's Leadership Academy, an all-girls magnet school. As a Canadian, these outreach opportunities were an eye opening experience to the public education system in America. Furthermore, these experiences highlighted that so many of the bright and exceptional students that I interacted with had already deemed themselves unworthy to pursue careers in STEM. These experiences solidified in my mind that continued outreach, and particularly, creating lesson plans that center around the work of underrepresented researchers who make meaningful contributions to STEM fields is essential. In my postdoc, I have continued participating in outreach programs by taking part in online classroom visits (via Skype a Scientist and similar programs), as well as paneling a public outreach program for the NC Museum of Natural History. I would be ecstatic to get involved in local outreach opportunities in New Haven, including continued classroom visits, or spearheading outreach programs for the general public through the Peabody Museum, Marsh Botanical Gardens, or the Nature Conservancy in Connecticut, which is conveniently located in New Haven.

As a university-level educator, I believe that it is important to recognize the institutional and societal confines that influence educational backgrounds of different groups of students, and work to deconstruct biases, assumptions, and societal expectations in the classroom. One way to accomplish this is to implement inclusive teaching practices. These include simple tasks such as using gender-neutral pronouns when addressing students in class, to more involved tasks, like designing courses to have diverse lecturing styles and assessments so that students from different educational backgrounds and learning styles can thrive. While I have implemented many inclusive teaching practices in the classroom in my previous teaching efforts (see teaching statement), I realize that there is always room for improvement. As a future faculty member, I am excited about the opportunity to grow as an educator and continue my own pedagogical training. Yale's Poorvu Center for Teaching and Learning is an outstanding resource for further pedagogical training. This center offers several resources for curriculum development and course design, integrating active learning into the classroom, as well as individual course consultations for faculty.

In addition to in-classroom teaching, I have had the pleasure of supervising ten undergraduate researchers from diverse backgrounds during my PhD and postdoc. During these mentoring experiences, students helped design projects, collected and analyzed data, and took part in a reading group in evolutionary genetics that I organized. This experience allowed students to gain ownership of projects, and sparked curiosity in the research we were performing. As a result, three of these researchers (Wilson Brown, Han, & Saha) are co-authors on papers, with a fourth undergraduate co-authoring a paper nearing submission. As a future faculty member, I am excited to mentor both undergraduate and graduate students. Allowing students curiosity, and independence, while providing a safe space for students to explore (and fail) is key in my mentorship philosophy. I look forward to working with students to develop projects, set expectations, and outline goals for their development.

Lastly, a major cornerstone of increasing diversity, equity, and inclusion in academia involves confronting one's own biases and making concerted efforts to learn and grow, professionally. However, many academics are at times hesitant to participate in practices that can increase diversity, because they fear unintentionally offending people, feel uninformed, or are unaware of their own implicit biases. Making access to professional development readily available through workshops can be an excellent way to recognize personal biases, learn new perspectives and struggles that different groups of people are more likely to face, and recognize our common humanity. During my PhD I organized a 'Science Fails' workshop for graduate students and faculty to share stories of failure in science with the intention of normalizing discussion of failures in the scientific process, showcasing that even the most successful faculty have had failed projects, and creating strategies (both emotional and practical) for overcoming these inevitable roadblocks. As a new faculty, I would be thrilled to organize and facilitate departmental workshops on topics such as implicit bias, LGBTQIA persons and women in science, and mental health in academia.