I^4 Boundary Spanners

Background: Although data play an increasingly important role in everyday life, few outside the ranks of professional scientists appreciate the power and potential for data to support and/ or detract from their communities. This issue is particularly acute in marginalized communities which have historically suffered a disproportionate share of the health, environmental, and economic disparities in our nation. The 2017-18 report of the Committee on Equal Opportunities in Science and Engineering (CEOSE) touches on this issue when it charges the National Science Foundation (NSF) with "developing community-based research initiatives that are carried out with community members with a focus on local scientific problems…..to help achieve the interrelated goals of full inclusion, better S&E, and a better society. " However, the strategy for achieving this goal is still somewhat unclear. We argue that a key, missing link is a bevy of individuals who are both data/ science-literate and able to relate to marginalized communities in ways that are authentic and resonate with their fears, concerns, and goals. We further argue that those individuals will be best positioned to serve their communities if they have a fundamental understanding of how policies are developed, enacted, and enforced in their communities, state, and the nation. Proposed herein is a collaboration between DHIT Global, a non-profit education and research institute that supports communities through an immersive learning platform that harnesses real-world experiences to develop leaders and innovators; the NC Policy Collaboratory, which facilitates and funds research related to natural resource management in the State of North Carolina and makes recommendations to the NC General Assembly; and The Graduate School at the University of North Carolina at Chapel Hill (UNC-CH). The goal of this project is to train diverse UNC-CH graduate students as "I^4 boundary-spanners": individuals who appreciate and can mobilize the dataverse to empower their communities to include, identify, investigate, and influence (I^4) around issues that impact their physical, environmental, and economic health.

Intellectual Merit: This project has four specific goals: (1) To train graduate students to be I^4 boundary spanners who understand policy and government and also appreciate the power of data influence them both; (2) To deploy these boundary spanners in their communities where they will empower community members to use data to identify their pain points; (3) To work with communities to design the research projects and advocate for resources to address community-specific issues that are revealed by the data and (4) To roll those issues up to state and eventually regional, national levels to leverage and translate solutions across communities. The project will target graduate students (particularly those from marginalized communities) who are enrolled in existing certificate programs that focus on data science, community service and public policy. I^4 Boundary Spanners will be trained to develop the humble listening skills that are necessary to be effective partners with communities and then they will be deployed to work on COVID-19-related community projects funded through the NC Policy Collaboratory. Although the initial cohort of I^4 boundary spanners will be deployed to address community issues related to the COVID-19 pandemic, the I^4 program is sufficiently flexible that students can address other issues that arise in their communities.

Broader Impacts: The I^4 program will leverage the wisdom and lived experiences of communities to ensure that the response to COVID-19 is appropriate and tailored to meet their needs. By engaging graduate students and their communities, the I^4 program addresses the recommendation in the 2017-18 CEOSE report that the NSF "give increased attention to including diverse community voices across its research and education portfolios through community-driven projects." It will also provide diverse graduate students with insights into careers in policy and advocacy.

Implementation Plan: Six UNC-CH graduate students will be recruited to serve as I4 Boundary Spanners for the fall term of 2020. The students will be selected based on their (1) appreciation for the power of both quantitative and qualitative data, (2) interest in and commitment to community research, (3) experience and interest in turning data into action, and (4) commitment to ethics, equity, inclusion, and social justice. During summer 2020, the students will participate in a half-day virtual workshop, designed to develop their humble listening skills to empower them to be more effective at serving communities. The workshop will be developed and delivered by Dr. Malinda Maynor Lowery (Professor of History; Director, Center for the Study of the American South) and Dr. Deb Aikat (Associate Professor, Hussman School of Journalism and Media). During fall 2020, the I^4 Boundary Spanners will be deployed in communities across the state of North Carolina where they will work with communities on COVID-19 projects funded by the NC Policy Collaboratory. Drs. Aikat and Lowery will meet with the students monthly, to assess their progress, provide guidance, and share best practices. Those meetings will also provide I^4 Boundary Spanners with the opportunity to share their challenges and experiences and develop interdisciplinary collaborations that enhance both the projects and their impact on communities. At the end of their projects (December 2020), I^4 Boundary Spanners will submit reports on their accomplishments, challenges, and remaining tasks and their perceived impact on their communities.

Assessment: Drs. Aikat and Lowery will assess I^4 Boundary Spanners for their development of humble listening skills. PIs of COVID-19 projects will be asked to assess the progress and impact of their I^4 Boundary Spanners at the midpoint (October 15) and end (December 31) of the project. Those assessments will include comments about the effectiveness of the I^4 Boundary Spanner and their impact on both the project and community. The final reports of I^4 Boundary Spanners (see above) are self-assessments that will provide additional insight into impact of the project.

Plans for continued funding: Although it was developed to align with the response to COVID-19, the I^4 Boundary Spanner approach can be applied to other community projects, including those related to response to natural disasters like hurricanes. As noted above, CEOSE has recommended that NSF develop additional approaches to engage communities in research. We view I^4 Boundary Spanners as well-aligned with that recommendation and will submit an Innovations in Graduate Education (IGE) proposal to secure additional funding.

Budget Justification: 6 graduate student I^4 Boundary Spanners @ $16,982 each (includes stipend, tuition, fees, and health insurance (fringe pool) for fall 2020); 2 faculty mentors/ advisors $7,942 each (salary + fringe); $3,125 non personnel expenses (workshop and travel expenses).

EHRA Salary	$12,000
SHRA Salary	$0
Grad Student	$91,547
Temps	$0
Fringe Pool	$13,328
Non-Personnel Expenses	$3,125
Total	$120,000