

Empowering Students as Agents of Change Using Diversity Workshops to Improve Equity in STEM

Proposal

Submitted to

Synberc Expanding Potential Seed Projects

By

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On behalf of

CU-Prime

A Student-Run Diversity Organization at CU-Boulder

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OVERVIEW—We propose to develop, evaluate, and disseminate diversity workshops for graduate student leaders of [CU-Prime](#) (est'd 2013) in order to support their equity-focused mission. Founded and run by physics graduate student volunteers, CU-Prime aims to improve the inclusion of undergraduate students from underrepresented groups in the University of Colorado Boulder (CU) Physics Department. Presently, CU-Prime offers three major services, intended to develop an inclusive community: 1) a biweekly seminar series where graduate students present their life-paths and research projects to a largely undergraduate audience; 2) a semester-long course in which groups of first- and second-year undergraduate students from diverse backgrounds collaboratively develop and carry out their own research projects; and, 3) a mentorship program that pairs graduate student mentors with undergraduate student mentees. There is an urgent need for CU-Prime's work because **women and students of color** in the CU Physics Department are represented at rates well below the national average, which is already highly inequitable. For example, in Fall 2014, out of 492 declared Physics or Engineering Physics majors, only 12% were women and 8% were from underrepresented racial or ethnic groups

The proposed workshops constitute a growth of CU-Prime in two ways. First, they are a new addition to the repertoire of programs run by CU-Prime. Second, they provide student leaders with the background and resources to make informed programmatic decisions about future growth. Courses in Women & Gender Studies, Ethnic Studies, etc., are not typically part of the educational experiences of physics graduate students—including the leaders of CU-Prime—resulting in a need for additional education in the realm of equity in STEM. The proposed workshops address this **critical need** by providing opportunities for CU-Prime leadership to a) learn about the challenges and successes of students from underrepresented groups in STEM, and to b) apply this learning to the continued evolution of their services.

Through these workshops, we will serve 10 graduate student leaders of CU-Prime. Indirectly, we will serve over 100 undergraduate students who participate in the CU-Prime seminars, course, and/or mentorship program each year. Our dissemination plan aims to reach an additional 30 graduate student leaders and 300 undergraduate student participants annually through the Access Network, a coalition of programs similar to CU-Prime at other institutions.

DEVELOPMENT—Our workshop model aims to provide a dedicated space for discussing equity-related topics while simultaneously respecting the time demands that exist for graduate students who are already volunteering to run CU-Prime. Based on conversations with CU-Prime leadership, we determined that quarterly workshops are appropriate for the group's needs. Thus, we will design four two-hour workshops over the next year. Each workshop will be **strategically designed** to achieve the following four goals:

1. Blend scholarly work with the lived experiences of students from marginalized groups;
2. Focus on intersectional privilege and multiple marginalities; and,
3. Tailor discussions and resources to the needs and goals of the group; all to
4. Empower student leaders of CU-Prime as agents of change within the CU Physics Department.

To date, we have run one workshop focused on the experiences of women in physics (12/08/2015). This workshop included discussion of local and national underrepresentation of women in physics as well as the specific challenges faced by women of color. On 3/20/2015, we will run a second workshop focused on the experiences of first-generation college students, drawing both from the literature as well as from student voices via videos from WKCD's "First in the Family: Advice from First-Gen Students" series.

Future topics will include: race, class, and privilege; gender and sexual identity; diverse abilities and universal design; and problems with reducing inequities in STEM to “achievement gaps” and other deficit-oriented frameworks. To realize our vision of ongoing quarterly workshops, we require support to document our designs, collect feedback for future iterations, and generate reports to CU-Prime that will enable us to build off these workshops in the future.

EVALUATION—Evaluation of the workshops will have two components: 1) post-workshop feedback collected via online surveys, and 2) post-intervention interviews with participants. Here, we use “post-intervention” to mean “after implementation of all workshops” since we view the series of workshops spread out over a large period of time as the “intervention.” Survey feedback will be synthesized and included in post-workshop reports to CU-Prime leadership as a means of fostering ownership over the workshops. Post-intervention interviews will inform discussion of impacts in the program manual.

DISSEMINATION—To disseminate the workshops beyond CU, we will create a program manual that describes the format of the workshops, provides a facilitation guide, includes an index of resources, and summarizes participant feedback from our initial implementations. When designing this manual, we will present guidelines that are independent of discipline, making our work applicable across STEM fields. While the authors of this proposal will generate all the content, we will hire a graphic design student to ensure that the final product meets high aesthetic standards.

Our dissemination plan will leverage our **synergistic relationship** with the Access Network (est’d 2014), a young network of six programs similar to CU-Prime. In addition to CU, Access sites include: Arizona State University, Chicago State University, Rochester Institute of Technology, University of Maryland College Park and UC Berkeley—home of the award-winning [Berkeley Compass Project](#) (est’d 2006) which served as the inspiration for all other Access programs, including CU-Prime. Some of these programs work directly with students in STEM fields other than physics, broadening the impact of our work. We will encourage our colleagues in programs like the Berkeley Compass Project to implement these workshops with their local leaders. Moreover, our ASU colleagues have already expressed interest in running similar workshops, and would benefit from formalized materials. The similar organizational structure and programmatic values (e.g., student leadership) of Access programs makes this network an exciting space to explore implementation of these workshops at one or more **institutions other than CU**.

The Fall 2015 Synberc Expanding Potential Conference is another avenue for dissemination beyond CU. In addition to dissemination, we see this conference as an opportunity to connect with, and learn from, other groups in the Expanding Potential network. CU-Prime is well situated to adapt new ideas to our local institutional context, and we are eager to engage with others working towards equity in STEM.

EXPERTISE—Postdocs D.D.F. and D.L.R. are former leaders of the Berkeley Compass Project and current leaders of the Access Network. They have extensive experience working with student-run groups to develop, implement, and evaluate equity-oriented programs. Additionally, they both have experience conducting and analyzing interviews. S.H.A. is a student leader of CU-Prime. As part of her dissertation, she studies the impacts of STEM outreach efforts on physics graduate students of color. Her expertise will be invaluable for design and evaluation of workshops.

TIMELINE—Quarterly CU-Prime workshops will be implemented in: Jun. 2015, Sep. 2015, Dec. 2015, and Mar. 2016. Post-intervention interviews will be conducted in Apr. 2016, and the program manual will be completed in May 2016. A final report will be submitted to Synberc in Jun. 2016.