

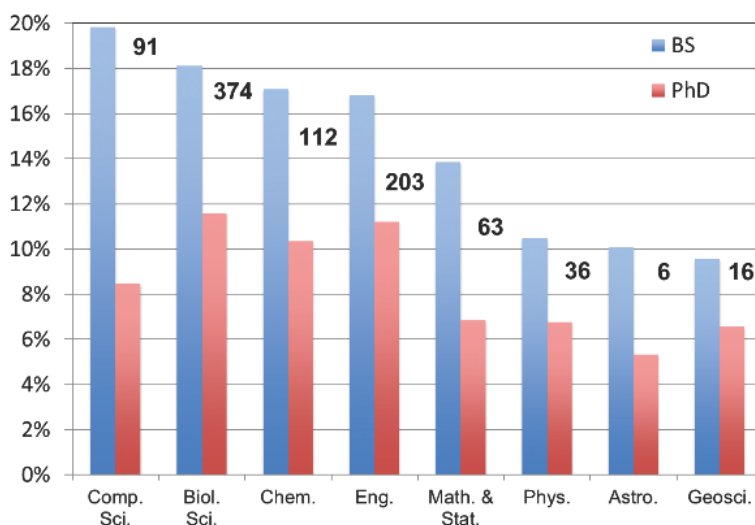
# FREQUENTLY ASKED QUESTIONS ABOUT THE INCLUSIVE GRADUATE EDUCATION NETWORK ALLIANCE



**IGEN's VISION is to achieve equity for underrepresented groups in doctoral degree attainment in physical sciences.** We are proud to be supported by NSF as one of the inaugural INCLUDES Alliances.

## WHAT DO YOU MEAN BY EQUITY?

Equity can be defined in a variety of ways. We're working toward "just and fair inclusion into a society in which all can participate, prosper, and reach their full potential."<sup>1</sup> Figure 1 shows the key indicators of inequity that guide us. Participation by underrepresented racial and ethnic minorities (UREM) and women in the physical sciences has never matched their representation in the population. Compounding this statistic, the fraction of UREM students earning doctoral degrees drops dramatically when compared to bachelor's degree attainment.<sup>2</sup> We are carrying out an innovative strategy to erase that disparity and institutionalize inclusive, evidence-based practices from application and admission all the way through to placement and mentoring in post-doctoral positions.



**Figure 1:** Percentage of UREM students earning degrees in STEM fields. Number indicates additional PhDs needed each year to erase BS-PhD disparities.

## WHAT ARE YOUR GOALS?

1. Increase the fraction of students from underrepresented groups who complete doctoral degrees in the physical sciences to match the levels of undergraduate degrees awarded.
2. Catalyze the adoption of evidence-based inclusive practices, especially in graduate education, that reduce inequities in doctoral completion for underrepresented groups and benefit all students.
3. Conduct research and propagate results that distill scalable, effective practices in inclusive graduate education and institutional change within the physical sciences.
4. Establish sustained, cross-sector partnerships within and among critical stakeholders that support the advancement of underrepresented students from undergraduate through professional employment.

## HOW DID THIS START?

The IGEN Alliance emerged from participating disciplinary societies' commitments to equity, diversity, and inclusion, and our members' research and efforts around systemic change and inclusive recruitment, admission, and mentoring practices.<sup>3</sup> The American Physical Society played a key role through its Bridge Program and as the lead organization for the IGEN Design and Development Launch Pilot.



## HOW WILL YOU DO IT?

For scalability and sustainability, research indicates the importance of community members taking collective responsibility for improving opportunities, environments, and outcomes. Our mutually reinforcing activities span the transition into graduate school, through the full spectrum of graduate education experiences, and the transition into post-PhD employment. Some of these activities are expected to yield gains in participation in a short period of time, while others are focused on ensuring gains can be sustained with more inclusive practices, climates & cultures, as well as an evidentiary basis to guide practice..

### ACCELERATE & BROADEN PARTICIPATION

Disciplinary societies are creating and refining Masters-to-PhD Bridge programs for UREM students, which are offered in academic departments that meet criteria for inclusive practices.

### SUSTAIN PARTICIPATION GAINS & CHANGE CULTURE

The Inclusive Practices Hub is developing and facilitating faculty development opportunities to enable wider-scale adoption of evidence-based, inclusive practices for admissions & mentoring.

### IMPROVE LABOR MARKET TRANSITIONS

We are establishing a network of post- doctoral employers, in both national labs and industry, who are trained in best practices for selecting & mentoring early career scholars.

### CONDUCT RESEARCH TO INFORM EFFORTS

The Research Hub works with the IP Hub and disciplinary societies to lead and disseminate rigorous research that advances theory and translates knowledge into practice.

## WHAT MAKES THIS EFFORT DISTINCTIVE?



Disciplinary Societies as Change Agents



Collective Impact Project Design



Change Along Multiple Trajectories



Aiming for Equity Mindedness

**Disciplinary societies as change agents:** Though graduate education is organized at both the university and disciplinary levels,<sup>4</sup> IGEN is one of the first efforts to leverage disciplinary societies' convening power and potential to influence field-wide norms and practices in graduate education.<sup>5</sup>

### Collective impact project design<sup>6</sup>

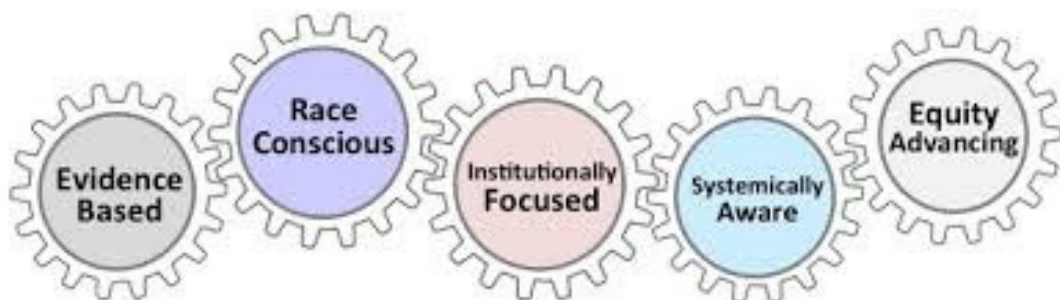
- The NSF- INCLUDES program<sup>7</sup> has recognized that no single organization or program can enable sustainable change in a complex system like STEM education. By aligning the resources and knowledge of stakeholders throughout the community, we increase capacity, maximize impact, & reduce duplication of effort.
- The five main components of our approach to collective impact are: Common agenda, Shared metrics and language, Mutually reinforcing activities, Continuous communication, & Backbone organization.<sup>8</sup>



**Change along multiple trajectories:** Departments are the locus of graduate student learning, a nexus of disciplinary and university influences, and a site where faculty benefit from learning how to more effectively serve UREM students. IGEN powers momentum in the disciplines by identifying departments that are ready for change and then encouraging them along three trajectories:<sup>10</sup>

- **Applying top-down leverage** of disciplinary societies working in partnership with graduate schools and APLU-affiliated university leaders;
- **Encouraging bottom-up engagement** of faculty leaders through professional development in inclusive, evidence-based practices;
- **Prompting inside-out reflection** among all stakeholders through learning opportunities (e.g., national and regional meetings, webinars), communications, and research dissemination.

**Aiming for equity-mindedness:** As people and professionals, we are all at different places in our knowledge and experiences with issues around equity. Yet we collectively aspire to equity-mindedness, a “mode of thinking exhibited by practitioners who call attention to patterns of inequity in student outcomes.”<sup>11</sup> Figure 2 highlights components of equity-mindedness.



**Figure 2.** Components of Equity-Mindedness. Reproduced with permission from the USC Center for Urban Education

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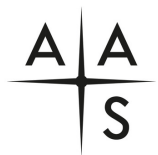
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**IGEN**  
Inclusive Graduate Education Network

*is a collaborative network comprised of the following partner organizations:*



**ACS**  
Chemistry for Life®



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