Improving Access to STEM: Challenges and Commitments
Executive Summary- Boulder Workshop for the
White House College Opportunity Initiative

On September 22, 2014, The University of Colorado Boulder co-organized a conference with the White House Office of Science and Technology Policy to address intertwined national challenges in undergraduate STEM education, including access and quality of education, student retention, and the predicted shortfall of 1 million STEM workers by 2022. Nearly 100 stakeholders in key intuitional leadership positions across the country identified key focus areas, including: a renewed focus on institutional commitments and the identification of key opportunities and challenges for educational transformation. Participants called for focus on opportunities and challenges along five dimensions.

Common Vision

Rather than solely coming as a mandate from above, university vision and leadership must be developed and integrated coherently at all levels of the university. All stakeholders need to be aware of and engaged in meeting the institution's commitments. A key challenge to achieving this coherence is the disruption often caused by transitions in leadership.

Incentive & Institutional Structures

Rather than being seen as an add-on, teaching excellence must be integrated meaningfully into the life of the university. To encourage faculty to pursue transformative teaching practices, institutional reward structures (e.g., tenure and promotion) must reflect the amount of work required to meaningfully enact active learning strategies.

Systematic Integration of Efforts

Rather than focusing on individual course change efforts, broader cultural change efforts are required that address university departments as a whole. Such change can be facilitated by: (1) increased access to and awareness of innovative programs, (2) effective measures of teaching practice, (3) the use of early intervention programs (e.g., bridge programs and cohort models), and (4) better aligning teaching practices across departments in a way that respects faculty agency.

Sustainable Funding Models

The cost of higher education is on the rise, and this can be a major barrier, especially for students from underrepresented groups. There is a need for a sustainable funding model that works for all students. Funding cuts have only exacerbated this desperate need (e.g., the reduction of Pell grants by congress).

Building Community

Rather than operating in silos, innovative programs must function in networks, allowing for best practices to be shared and refined across the university community. Many participants voiced active support of this working conference and the need for opportunities to engage with each other on a continued basis. Whether continuing with additional conferences or building other means for engagement (possibly online), access to one another and other like-minded individuals committed to systemic and sustained educational transformation provides a valuable approach for addressing challenges outlined in STEM education and the College Opportunity Initiative.

More Information, Agenda and Full Summary at: http://www.colorado.edu/csl/WHCSL2014/