

# STEM EQUITY ACHIEVEMENT (SEA) CHANGE AWARDS

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WHITE PAPER

Submitted by:

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## REALIZING THE VISION

- ❖ It is crucial to create greater institutional support across all institutions, which can be achieved through establishing an assessment/accreditation/report card-type system. This system must be recognized as prestigious, doable, credible and of value to all members of the university community and our nation. The Athena SWAN Program creates healthy competition to recognize Bronze, Silver, and Gold-level awards to those departments in STEM and to institutions as a whole which meet high standards in promoting gender equity and diversity. Healthy competition also means that institutions should work together collaboratively. It is deliberate that the SEA Change recognition system is not number-ranked. Through positive interactions with each other, sharing best practices, multiple institutions will reach Bronze, Silver and ultimately Gold levels. Collaboration will also be rewarded when determining the SEA Change award level. It encourages grass-roots faculty and departmental level involvement in identifying local challenges and actions, combined with upper administration support and sharing of best practices. Institutions cannot achieve a certain level without a given number of departments achieving that level, and departments cannot achieve a give level without the institution having received a minimum level. This sets up a virtuous cycle of collaboration.
- ❖ We will know if **SEA CHANGE** is successful on the national level if the demand is strong for engaging in the voluntary assessment process - going for the Bronze, Silver and Gold (a comparative model could be the U.S. Green Building Council's LEED Certification process). The valuable outcomes are clear and measurable. This is both visionary and very practical at the same time. And with the support of major national organizations as well as the grass roots support from individual institutions, the framework for success follows the wisdom of other major positive social change movements from our nation's history.

## FRAMING THE PROBLEM

- ❖ Despite decades of efforts, the STEM (science, technology, engineering and mathematics) talent pool remains about three-quarters male and four-fifths white; the population of persons with disabilities also remains highly under-represented.
- ❖ We have been able to advance in science and technology because of people, who generate ideas, who provide the creative spark that expands our economy and ensures increased productivity as well as our health, security and overall quality of life. But our nation has so far failed to use all the talent available to us; we have not recruited and trained a scientific and engineering workforce that makes full use of women, underrepresented racial and ethnic groups and persons with disabilities. Our scientific and engineering workforce must shift in ways that reflect the talent pool as well as the new demographic realities of our country.

- ❖ While there has been some forward motion to overcome the lost talent epidemic over the last six decades since the “Sputnik Race” wake up call, the achievements have been largely episodic, often based on interventions that have proven not to be sustainable nor able to be scaled up. For example, the National Science Foundation ADVANCE institutional transformation awardees have developed important best practices and metrics, but these advancements have had limited impact within the institution. The transformative institutional change to a culture of diversity and inclusion in STEM has not been realized.
- ❖ Movement from incremental intervention programs to systemic, structural and lasting change has proven elusive for our higher educational institutions, our governmental agencies at all levels and our nongovernmental organizations. One critical missing key has been a visionary strategy linked to an effective and accepted methodology that would provide the means to achieve transformation toward an inclusive STEM community. Whether the challenges are those that relate to lack of leadership, implicit bias, legal challenges or political will, processes can be engaged to allow us to overcome these.

### **BEGINNING THE PROCESS – ADAPTING A NATIONAL FRAMEWORK**

- ❖ **SEA CHANGE AWARDS** will advance a U.S. model for assessing higher education institutions on their efforts and outcomes towards promoting an equitable environment for underrepresented groups in STEM. The assessment system is based on the Athena SWAN model developed in the UK to address gender equity, the expected outcome of the pilot program is to develop a process and structure that will be innovative and effective in the US.
- ❖ The initial Consultative Group, a representative collection of institutions that have signaled an interest in exploring this project - including those who are willing to be involved in field testing the criteria and process - will develop viable and relevant metrics and assessment instruments to address larger American diversity concerns beyond and including gender (e.g. race, ethnicity, persons with disabilities). The Consultative Group will also include representatives from Queen’s University Belfast, an Athena SWAN Silver Award winner at the institutional level.
- ❖ The Athena SWAN Charter was established in 2005 in the UK in response to chronic underrepresentation of women in science leadership. The name represents the combination of the Athena Project and the Scientific Women’s Academic Network (SWAN).
- ❖ To participate in the Athena SWAN Awards Program, institutions must first accept the ten charter principles, then begin the process of collecting and analyzing data, developing and implementing action plans and monitoring progress. In the UK, applications are submitted to the Equality Challenge Unit (ECU), a non-profit entity that receives core funding from UK higher education funding bodies. A merit review process results in decisions to award bronze, silver or gold - encouraging and recognizing an institution’s progression from assessment to achievement to exemplar.

- ❖ Evaluations conducted by ECU found clear evidence of the impact that Athena SWAN has had at the institutional level and for individuals. The research identified impact on organizational structure and culture change, with increases in the proportion of women, better representation of women on committees, improvements in the transition from postdoctoral researcher to first academic post, improved working practices to support career progression and growth in women’s networking across institutions<sup>1</sup>.
- ❖ Athena SWAN promotes collaboration and rewards institutions for helping other institutions.

## OUTLINING THE MISSION

- ❖ The **SEA CHANGE AWARDS** will embrace the mission of establishing a national, transformative, institutional change initiative to achieve a diverse and inclusive culture for STEM, change that is both measurable and sustainable. The promise for equitable inclusion of women, underrepresented racial and ethnic groups and persons with disabilities will be based on a newly designed system of metrics that offers pathways for institutional change. The system will be based on reaching certain goals that lead to Bronze, Silver and Gold awards that will be publically recognized as signifying having reached different levels of accomplishment in the effort to attain diversity goals.
- ❖ A national higher education assessment/awards system for recognizing and incentivizing institutional transformation in STEM Equality Achievement will create an environment in which the majority of higher education institutions will continuously strive to maintain and increase their award level to demonstrate their commitment to increasing diversity in STEM, independent of receiving any external grant to do so. National recognition conferred by AAAS will signal to prospective faculty hires and students that an institution has met either a minimum standard or has risen to the level of a national leader who is assisting others to succeed. Creating such a national awards system will also accelerate the implementation of current and future best practices.
- ❖ This mission is bold and sustainable. It builds upon the excellent report, “Investing in Human Potential: Science and Engineering at the Crossroads” which presented a thoughtful documentation of how institutions could move in stages from uncoordinated intervention programs through centers to notable structural change.
- ❖ **SEA CHANGE IS COMPELLING** for our Consultative Group members as well as future members and all potential donors. First this endeavor moves beyond interventions that are short lived, and often dependent on soft money and the work of volunteers. Next, it provides incentives and direction for sustainability. Third, it provides a design strategy that allows each department, school and institution to address its own specific challenges and needs. Finally, the metrics used will be used that have strong community support.

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<sup>1</sup> <http://www.ecu.ac.uk/publications/evaluating-athena-swan/>