



## **SEA Change: Metrics for Systemic, Structural Change to Drive Diversity and Equity/Inclusion in Academia**

**Overview:** With funding from the Alfred P. Sloan Foundation and the Heising-Simons Foundation, the American Association for the Advancement of Science announced the formal launch of the STEM Equity Achievement (SEA) Change initiative on January 24, 2018. SEA Change—a LEED-like self-assessment, metrics, standards, and award program—challenges, supports, and recognizes institutions of higher education and their departments/schools for taking decisive actions to remove systemic, structural barriers for women, blacks, Hispanics, Native Americans, people with disabilities, and others who are marginalized, with a clear aim. That is to enable the full diversity of talented individuals to pursue, and persist and succeed in, science, technology, engineering, medicine and mathematics (STEM) higher education (at all levels) and academic careers.

**Rationale:** Transactional intervention programs are important, but they have been inadequate alone to achieve transformational change and accountability for measurably advancing diversity and equity in higher education, and related excellence. Structural, systemic change is needed. LEED transformed building design, by requiring new structural approaches to design and raising at least the baseline for good green design. SEA Change would raise the bar for diversity and equity at institutions of higher education by changing supporting structures and systems beyond the ability of any transactional intervention. New systems would include sustainable structures for designing, executing, evaluating outcomes of, and continuously improving transactional strategies.

**Awards and Accountability for Measurable Advancement:** Institutions voluntarily participate in the program, which is aimed at full participation for excellence, not just numbers. To receive an award, institutions:

- Commit to program principles;
- Perform self-assessment, including in-depth data collection, to determine their baseline status;
- Develop and obtain approval of their unique, mission-driven goals and detailed action-plans under SEA Change performance standards (focusing on, e.g., governance, accountability, and resource allocation systems, climate, and processes for enrollment, hiring, promotion, and retention etc.);
- Track and report on progress, using data that reflect impact on value, experience, and numbers; and
- Seek award renewal or progression on a five-year schedule, fostering continuous evaluation and improvement.

Institutions and departments/schools may progress to “Silver” and “Gold” Award levels as they demonstrate impact and significant advances. Departmental Awards will also be available through field-specific self-assessment lead by coalitions of disciplinary society partners. Multiple departments/schools with departmental awards is a measure of institutional advancement. Importantly, academic disciplinary societies are involved in design and oversight of the SEA Change departmental/school awards, providing a strong connection to faculty, whose engagement is critical to success. Some Health Science Centers/Medical Schools may qualify as institutions.

**Phase One:** After a year of preparatory work, SEA Change is now in its first phase. Beginning with a “Bronze Award” pilot, development of principles and performance standards—as well as the self-assessment, reporting, and award process—are the focus. Three institutions received the Institutional Bronze Award in the 1<sup>st</sup> Wave of the pilot: Boston University, University of California, Davis, and University of Massachusetts Lowell. Those interested in participating in the pilot include private and public undergraduate institutions, ranging from larger



research universities to primarily undergraduate institutions—among those interested are several HSIs and HBCUs. There will be a 2<sup>nd</sup> Wave of the pilot in 2019/2020.

**Future Phases:** While SEA Change is focusing on STEM, the institutional principles, performance standards, and many aspects of institutional action plans, as well as much of the institutional level data being collected (both quantitative and impact on value and experience), apply across the institution. Future work with appropriate partner organization(s) will be pursued to apply to other fields institution-wide as well.

**Successful model for SEA Change:** SEA Change addresses broader diversity and equity interests but is modeled on the approach of the UK's gender-equity focused Athena SWAN program. Athena SWAN has advanced gender diversity and equity/inclusion in STEM academic employment—as well as, to some extent, in the graduate student experience—in the UK, and is now focusing on further data collection and action on the graduate and undergraduate student experience.

**Key accomplishments include:**

- ✓ 699 awards—institutions and departments—awarded over a 12-year period
- ✓ greater institutional and departmental leader understanding and engagement on gender inequity, increased financial and staffing investments to address
- ✓ sustainable data collection systems for evidence-based decision-making and reporting to achieve goals
- ✓ enhanced sense of belonging and better climate for women
- ✓ more women visibly in senior and key positions and committees, more women role models
- ✓ better parental leave policies, some better recruitment policies
- ✓ more mentoring, training, research, networking, and career development opportunities for women
- ✓ better information to women about, and encouragement of women to pursue, education to career progression and promotion
- ✓ fairer workload allocation

Examples of success include institutions that reported a 100% increase in women professors over 10 years or a 400% increase in heads of school over 7 years.

Institutions also recognized that gender diversity contributes to increased research funding and excellence, and that award drives the market as a significant factor in women choosing to accept employment.

Certain government research funding in the UK also became conditioned on holding an award.

See *Evaluating the effectiveness and impact of Athena SWAN Charter*, May 2014 at [www.ecu.ac.uk/publications/evaluating-athena-swan/](http://www.ecu.ac.uk/publications/evaluating-athena-swan/)

**QUESTIONS ABOUT SEA CHANGE? CONTACT US AT [seachange@aaas.org](mailto:seachange@aaas.org)**

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### **SEA Change Metrics—What are they? What impact do they have?**

To remove structural and systemic barriers to diversity, inclusion, and equity in higher education, SEA Change recognizes the uniqueness of each institution. Universal principles are embraced. However, the principles are advanced via institution-specific (and then aligned department-specific) goals,<sup>1</sup> defined actions to achieve the goals, and periodic measurement of progress and impact, in a system of continuous improvement. To those ends, an institution seeking SEA Change Bronze Award, must **(1)** conduct an **in-depth, data-rich study** to determine its baseline status—issues and shortcomings—in specific areas dictated by SEA Change principles; and **(2)** develop its unique **Specific, Measurable, Achievable, Relevant, and Time-oriented (SMART) action plan** to address issues and short-comings—with progress measurable both qualitatively (e.g., individuals’ experience) and quantitatively, relative to desirable principle-tied outcomes. To maintain Bronze or earn higher-level Award every five years, an institution must demonstrate it has implemented its action plan, made progress against its goals with impact, adopted ever-higher goals, and, for higher Awards, at least two of its STEM departments have earned aligned departmental awards following a similar process. A review board of peer experts must recommend an institution’s baseline study and action plan for a Bronze Award and must favorably evaluate progress and impact to maintain the Award or progress to a higher level.

Areas measured to determine institutional baseline status—and advancement—respecting diversity, inclusion and equity (DEI)-related systemic barriers and their root causes include the following:

- President or Chancellor engagement and commitment;
- An engaged, diverse, institution-wide self-assessment team, with collaborating members at many levels of the institution;
- Mission and governance—including central and unit organizational structure, policies, systems;
- Culture/climate (e.g., issues of discrimination, harassment, insensitivity, inflexibility), as experienced by faculty, students, leaders, administrators, disaggregated (by race, gender, field);
- Disaggregated data on issues affecting faculty, students, leaders, administrators—overall at each level, in each field, and at key transition points in career or educational progression— including, representation/retention/melt; success/mentoring/training/enrichment opportunities; compensation/resource allocation/aid; workload burdens/obligations (e.g., committee assignments, teaching load); community-building systems/isolation;
- Criteria (and definitions, e.g., of excellence), policies and processes applicable to key transition points into and through the institution (e.g., hiring, promotion, tenure, admission, aid, parental leave, etc.);
- Career development and education accountability systems (e.g., individual and course evaluations);
- Systems to support and evaluate transactional interventions (practices, programs, strategies);
- Satisfaction of policy (including enterprise risk management) objectives and legal design parameters for diversity strategies to support their effectiveness and sustainability.

**The Handbook for the SEA Change Institutional Bronze Award is available by request.**

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<sup>1</sup> SEA Change begins with institution-wide leadership and systems, as well as science, technology, engineering, medicine and mathematics (STEM) departments, but is adaptable, and intended ultimately to be adapted, to institution-wide departments.

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