



SEAS Diversity, Inclusion, and Belonging Report

2017-2018



HARVARD
John A. Paulson
School of Engineering
and Applied Sciences

Introduction

The Harvard John A. Paulson School of Engineering and Applied Sciences (SEAS) is committed to increasing the recruitment and retention of diverse faculty, students, postdoctoral researchers, and staff including underrepresented minorities and females; providing the academic and professional support that contributes to a culture of inclusive excellence; engaging all members of the SEAS community in celebrating diversity, inclusion, and belonging as a core value of SEAS; building stronger relationships with the Boston and Cambridge communities through outreach and service; and establishing accountability measures that assess campus climate, effectiveness of programs/initiatives, and provide greater transparency to the SEAS community.

As a part of this commitment, SEAS will publish an annual diversity, inclusion, and belonging report. The 2017-2018 SEAS Diversity, Inclusion, and Belonging Report is divided into three sections: SEAS by the numbers; 2017 - 2018 highlights; and 2018 – 2019 objectives.

SEAS uses the following working definitions of diversity, inclusion, and belonging:

Diversity is reflected in the number of people from varying backgrounds, experiences, identities, and perspectives. It includes but is not limited to race, ethnicity, gender identity, sexual orientation, socioeconomic background, ability, age, religion, political viewpoint, nationality, citizenship, language, veteran status, and the intersection of these various identities.

Inclusion refers to respecting differences and is reflected in how the School's structure, policies, practices, and people fully engage individuals of all backgrounds, experiences, and identities. Inclusion also encompasses each individual's ability to thrive at SEAS and achieve academic and professional excellence.

As described in the 2018 Presidential Task Force on Inclusion and Belonging Report, ***belonging*** is the experience that flows from participating fully in the chances Harvard offers to learn, to create, to discover, and to achieve. The experience of belonging also supports full embrace of the responsibilities of stewardship that we all have for the ongoing improvement of our community."

Section 1: SEAS by the Numbers

Subset	%M	%F	% International	%African American	%American Indian or Alaskan	% Asian American	% Hispanic	%Native Hawaiian or Pacific Islander	% Two or More	% White	%Non-White	% Unknown
Ladder Faculty	82%	18%	-	4%	0%	22%	1%	0%	1%	72%	28%	0%
Non-Ladder Faculty	72%	28%	-	0%	0%	9%	3%	0%	0%	88%	12%	0%
Ph.D.	69%	31%	49%	0.2%	0.2%	12%	4%	0%	2%	30%	67%	3%
Masters	59%	41%	69%	0%	0%	12%	2%	0%	0%	17%	82%	1%
UG Students	66%	34%	15%	5%	0.1%	29%	9%	0%	6%	33%	65%	2%
Post-docs / Researchers	72%	28%	-	2%	0%	36%	4%	0%	2%	52%	43%	5%
Staff (as of 6/30/2018)	36%	64%	-	6%	1%	7%	3%	0%	3%	80%	20%	1%

NOTE: Faculty, student, and post-doc/researcher data compiled as of Fall 2017. Staff data compiled as of June 2018.

Section 2: 2017 – 2018 Highlights

SEAS Committee on Diversity, Inclusion, and Belonging

The SEAS Committee on Diversity, Inclusion, and Belonging (DIB) was launched in November 2017 and consists of 26 members with an additional 11 serving on sub-committees. The committee established five priority areas: recruitment and access; community engagement; retention and success; assessment and tracking; and outreach to the broader external community. The committee met biweekly throughout the academic year and proposed ten recommendations for the 2018 – 2019 academic year (see Section 3). More information about the committee and its work can be found on its [website](#) which launched in January 2018.

Charge: To create a long-term (e.g., five-year) strategic plan that is based on qualitative and quantitative data and evidence-based best practices, for increasing the diversity of SEAS and cultivating a more inclusive and welcoming environment for all stakeholder groups. The strategic plan will: outline how SEAS defines diversity and inclusion; articulate a rationale; and formulate specific, measurable goals. The committee will also develop strategies, initiatives, and programs that will advance the diversity goals, and assist relevant offices, departments, and stakeholder groups with the systematic implementation of the plan. In addition, the committee is charged with creating opportunities for community-wide engagement and feedback, as well as continuous assessment and updating of the SEAS Diversity Strategic Plan.

Recruitment and Access

Goal: Establish practices that recruit a diverse pool of faculty, students, postdoctoral researchers, and staff with special attention given to increasing the number of females and underrepresented minorities included in the applicant pools and supporting the transition of all individuals into the SEAS community.



- Kathryn Hollar, Director of Community Engagement and Diversity Outreach; and Christina Zaldana, Manager for Advising Programs and Diversity Outreach represented SEAS at six conferences. They spoke with over 300 prospective graduate students and postdocs regarding admissions and the SEAS experience.
- 12.4% of the incoming PhD students in Fall 2018 identify as URM
- 34% of the incoming PhD students in Fall 2018 are female
- 38% of all external ladder faculty offers were made to women
- Over 13 advising events to promote SEAS concentrations and student organizations



Community Engagement

Goal: Develop strategies, initiatives, and programs that incorporate diversity and inclusion into the SEAS community and culture and that engage all stakeholders.



BRIDGE Week

In April 2018, SEAS hosted its inaugural Building Relationships, Increasing Diversity, and Growing Engineers (BRIDGE) Week in collaboration with the Harvard chapters of Society of Women Engineers, Society of Hispanic Professional Engineers, and National Society of Black Engineers. The week kicked off with a banquet honoring Astronaut Stephanie Wilson, S.B. '88; followed by workshops and discussions related to diversity and STEM including:

- Panel on the Intersection of STEM and Social Justice
- Workshop for Graduate Students and Postdocs on Microaggressions and Implicit Bias
- Workshop for Undergraduates on Diversifying STEM Graduate Education
- Talk on the Lean, Agile Evolution of Assistive Technology

Events with Harvard Partners

- Panel on "Whiteness" with Dr. Taharee Jackson & Debby Irving
- Inclusive Teaching Workshop for Faculty, Researchers, and Doctoral Students
- A Different Way to be White – Becoming Conscientious Co-opters and Accomplices in the Fight for Social Justice
- Let's Talk: Promoting the Success and Well-being of Asian & Asian-American College Students

Retention and Success

Goal: Promote and support the academic and professional excellence of faculty, students, postdoctoral researchers, and staff.

HR offered **2**
Intermediate Excel Course

50 staff members have
participated in the
flexible work
arrangement program

15 undergraduates
attended the Richard
Tapia Celebration of
Diversity in Computer
Conference

6 undergraduates
attended the Society of
Hispanic Professional
Engineers National
Conference

8 undergraduates
attended the National
Society of Black
Engineers Annual
Convention

5 undergraduates
attended the Society of
Women Engineers
National Conference

1 graduate student
attended the Society for
Advancement of
Chicanos/Hispanics and
Native Americans in
Science Conference

1 graduate student
attended the
Emerging Researchers
National Conference
in STEM

40 undergraduates
attended Grace
Hopper Celebration of
Women in Computing

16 staff members
completed the HR
Workplace
Communications
Course

27 staff members
received HR funding for
professional
development for a total
of **\$45,719.19**



Elsie Sunderland was promoted to tenure. She is the Gordon McKay Professor of Environmental Chemistry. Dr. Sunderland joined the Harvard faculty in 2010. Her research contributed to the development of the first global treaty to reduce anthropogenic mercury releases; and helps to address adverse impacts of hydroelectric reservoirs on the health of indigenous communities in Canada.

SEAS Awards & Honors

Capers and Marion McDonald Award for Excellence in Mentoring and Advising

Evelyn Hu, Tarr-Coyne Professor of
Applied Physics and of Electrical
Engineer



SEAS Award for Faculty Collaboration with Staff

Stephen Chong, Gordon McKay
Professor of Computer Science



Rob Wood, Charles River Professor of
Engineering and Applied Sciences

Venkatesh “Venky” Narayanamurti Award for Mentoring and Community Building

Maddie Hickman, Active Learning
Design Specialist in Mechanical
Engineering



Elaine Kristant, Senior Mechanical and
Lab Systems Engineer

Kimia Mavon, CRCS Program Manager



Outreach to the Broader External Community

Goal: Develop and implement outreach programs and initiatives to engage the Boston and Cambridge communities and beyond in STEM; build stronger relationships with the Boston and Cambridge communities through outreach and service; and support the mission and vision of SEAS to create engaged citizens that serve society through education and research.

In the '17 – '18 AY, SEAS Outreach and Community Programs

**Served over 2,300 students and community members
and**

Partnered with 8 higher education institutions

Partnered with 8 higher education institutions

K – 12 Programs

Cambridge 8th Grade Science
& Engineering Showcase

Science & Cooking Summer
Program

STEAMeD for K-12 Teachers

Boston Area Girls STEM

Collaborative – Tech Savvy

Boston Area Girls STEM

Collaborative – S.E.T. in the
City

Project TEACH

Active Learning Labs Pre-
Collegiate Program

The Materials Research Science and Engineering Center (MRSEC) and Harvard John A. Paulson School of Engineering and Applied Sciences hosted the Cambridge 8th Grade Science & Engineering Showcase in May 2017, with 400 students presenting their science and engineering projects and participating in laboratory tours and talks by researchers.



In Fall 2017, in collaboration with Pia Sorensen, lead preceptor for the HarvardX Science and Cooking course, and graduate student Vayu Maini Reykdal, founder of the

Young Chefs program, the MRSEC hosted its first STEAMeD teacher training workshop. The 2-day workshop led 11 teachers and after-school providers in 4 lessons: (1) tortillas and elasticity; (2) pickling and pH; (3) spice and solubility; and (4) molten chocolate cake and heat transfer.

In Summer 2018, the SEAS Active Learning Labs hosted 12 students from around the world for a pre-collegiate engineering program focused on global water challenges. Students learned about purification, testing, and the design process. They built and tested their own purification and filtration methods, and ended the program with a research and design project that identified and addressed water challenges in a particular community.



Community Programs

Holiday Lecture for Families
Cambridge Science Festival

Each year, the Materials Research Science and Engineering Center (MRSEC) co-sponsors a holiday science lecture for families. The 2017 lecture was a collaboration



between the Harvard and Princeton MRSECs, led by Professor Howard Stone. This past year's lecture was entitled "Hold Your Temper: Celebrating the Science of Chocolate".

Undergraduate Programs

Research Experiences for
Undergraduates (REU)

In Summer 2018, the REU program hosted a diverse group of 74 undergraduates from institutions across the country. Students participated in a 10-week research internship in faculty laboratories. Funded by multiple NSF Center grants and an REU Site grant, as well as individual faculty grants, the REU provides an infrastructure for student appointments, housing, and professional development activities, while fostering the student-mentor relationship. To date, the REU program has recruited 42 students to

graduate programs at Harvard, including 27 women and 13 students from underrepresented groups in STEM.

Partnerships

Bunker Hill Community College
Florida A&M University
Gallaudet University
Howard University
Mount Holyoke College
Navajo Technical University
Southern A&M University –
Baton Rouge
Wellesley College

Partnerships with Historically Black Colleges and Universities (HBCUs), Tribal Colleges and Universities (TCUs), and community colleges play an important role in making the resources at Harvard available to students, faculty, and researchers from a wide variety of institutions. The MRSEC has led many informal and formal partnerships with minority-serving institutions and community colleges. A veterans' initiative led by Kit Parker through the MRSEC to recruit veterans to the REU has cemented a long-term relationship with Bunker Hill Community

College that has been written into grants such as the NSF Center for Integrated Quantum Materials, the National Nanotechnology Coordinated Infrastructure (NNCI) at the Center for Nanoscale Systems, as well as other grants. In addition, CIQM has led collaborations with Gallaudet University, Howard University, Wellesley College, and Mount Holyoke College.

Assessment and Tracking

Goal: Develop and oversee a continuous assessment plan that evaluates campus climate, monitors trends and effectiveness of programs/initiatives, and reports information to the greater SEAS community.

In April 2018, SEAS launched a Diversity and Inclusion Climate Survey to better understand, and collect baseline data on, how members of the community view the SEAS climate. The survey was administered to all members of the SEAS community – undergraduate concentrators, graduate students, faculty, staff, and postdoctoral researchers. The survey asked questions about individuals’ perception of the overall SEAS climate, commitment to diversity and inclusion, intergroup interactions, experience with discrimination and harassment, feelings of belonging and flourishing, and other factors related to creating an inclusive environment. Information from the survey will inform the long-term diversity and inclusion strategic planning and decisions related to policies, practices, and resources at SEAS.

Survey Respondents by Role

Role at SEAS	Number of Community Members Emailed	Number of Responses / Response Rate by Role
Ladder and Non-ladder Faculty	128	40 / 31%
Postdoctoral Fellow or Researcher	292	36 / 12%
Staff Member	196	107 / 55%
Graduate Student (Ph.D. and Master’s)	475	117 / 25%
Undergraduate Student	1,011	136 / 13%
Total	2,102	436 / 21%

**The totals above include 8 duplicates in order to account for dual roles within SEAS.*

Key Findings:

1. Overall, respondents had a neutral to positive view of our climate. But when the results are disaggregated, differences emerge, including negative experiences among certain demographic groups emerge.

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2. Experiencing harassment or discrimination at SEAS has a substantially harmful impact on one's experience and perception of the SEAS environment.
 3. Individuals with a disability have a substantially different overall experience and perception of the SEAS environment.
 4. Members of the SEAS community would like to see greater diversity at all levels of the school.
 5. There is a lack of trust in SEAS' commitment to diversity, inclusion, and belonging; specifically, in how senior leadership and faculty address harassment, discrimination, and other offensive behaviors.
 6. Women at SEAS experience issues of access and bias that affect their overall perception of SEAS and their sense of belonging.
 7. The SEAS community believes it is contributing to a welcoming environment but this differs from the experiences some are having.
 8. The feeling of a hierarchical culture negatively impacts belonging, inclusion, and interpersonal interactions.
 9. There is a need for more productive and inclusive dialogue and collaboration around different viewpoints and backgrounds.
 10. For all stakeholder groups, there have been inclusive actions that had a significant impact in contributing to a positive environment of inclusion and belonging.

Next Steps: SEAS will host a series of stakeholder-specific facilitated discussions during Fall 2018 to give community members the opportunity to review the results of the survey, ask questions, and provide suggestions on how SEAS should address the concerns highlighted in this report. Following these discussions, the SEAS Committee on Diversity, Inclusion, and Belonging will use the survey and discussion data to create a long-term strategic plan that addresses recruitment and access, community engagement, retention and success, outreach to the broader external community, and assessment and tracking. These recommendations will be presented to Dean Frank Doyle and other key administrators in the Summer 2019.

The complete climate survey report can be found on the [SEAS DIB Website](#).

Section 3: 2018 – 2019 Objectives

During the 2018 – 2019 academic year, the SEAS Committee on Diversity, Inclusion, and Belonging and the Office of Diversity, Inclusion, and Belonging will focus on the objectives described below. Each goal aligns with the mission, vision, and values of SEAS, as well as the goals presented by the Presidential Task Force on Inclusion and Belonging. The success of these efforts will require the commitment and active participation of all members of the SEAS community.

Objective 1: Increased transparency and opportunities for open dialogue related to diversity, inclusion, and belonging.

Initiative	Description	Target Date	Key Contributors
DIB Facilitated Discussion	Meetings throughout the fall semester to discuss the results of the SEAS climate survey. Meetings will be facilitated by Dr. Judy “JJ” Johnson.	Fall 2018	Dean’s Office Office of DIB All of SEAS
DIB Online Dashboard	A tool to track and display key metrics related to diversity, inclusion, and belonging	Fall 2018	Assessment and Tracking Subcommittee

Objective 2: Promote Institutional Commitment to Diversity, Inclusion, and Belonging at all levels

Initiative	Description	Target Date	Key Contributors
Senior Leadership Statement of Commitment to DIB and Expectations	Provide senior leadership with a list of expectations to increase accountability and transparency; Public commitment statement from each senior leader	January 2019	Community Engagement Subcommittee Senior Leadership

Diversity, Inclusion, and Belonging Grant Fund	Funding to support programs and events that advance the focus areas of the DIB committee; Preference given to joint events between student groups or academic areas	September 2018	Community Engagement Subcommittee Deans Office Office of DIB
Diversity, Inclusion, and Belonging Award	Recognizes and honors a student, faculty, staff, postdoctoral researcher, or department that has supported and actively worked to achieve the vision of SEAS to be more diverse and to value a diversity of backgrounds and perspectives.	January 2019	Deans Office Office of DIB
Requirement of a Diversity Statement in Faculty Applications	Add a diversity statement as a required document in the faculty application	September 2018	Faculty Affairs Office of DIB

Objective 3: Strengthening the SEAS community through shared understanding, inclusive climate, and intergroup interactions

Initiative	Description	Target Date	Key Contributors
Social Engineering of SEAS Events	Utilize existing events (i.e. all hands, deans coffee, etc.) to highlight administrative departments, encourage intergroup interactions, and engage the community. Add technology, ice breakers,	October 2018	Community Engagement Subcommittee Event Planners

	games, etc. at existing events		
Graduate Student/Postdoc Chalk Talk	Add one or two chalk talk events for graduate students and postdocs to increase engagement between staff and students/postdocs	November 2018	Retention and Success Subcommittee Events Office Graduate Programs

Objective 4: Recruit a diverse pool of graduate students and postdoctoral researchers

Initiative	Description	Target Date	Key Contributors
Faculty Ambassadors Program Pilot	Three faculty members volunteer to attend a SEAS recruitment trip or host a session at a minority serving institution that neighbors an institution they are planning to visit	AY '18 – '19	Deans Office Faculty Affairs Office of DIB Graduate Admissions
Pilot Postdoc Recruitment Process	Develop a postdoctoral recruitment process & flyers for advertising positions online and at SACNAS, ABRCMS, AISES, NSBE, etc.	AY '18 – '19	Faculty Affairs Diversity Outreach
Promote and Expand REU Commitment to Accessibility	Create a video with Evelyn Hu, Kit Parker, and former student from Gallaudet to dispel some of the misconceptions/perceived barriers about having students who are Deaf/deaf in laboratories; Invite speakers to address misconceptions and	February 2019	K-12 & Community Programs Recruitment and Access Subcommittee Office of Communications

	increase awareness of resources		
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Objective 5: Increase knowledge and understanding of DIB terms, issues, and promising practices through ongoing training

Initiative	Description	Target Date	Key Contributors
Diversity 101 Training	Training offered twice a semester to provide staff and faculty an introduction to DIB terms and best practices	October 2018	Office of DIB
Harvard IDEAs (Inclusion, Diversity, and Excellence in Actions)	An 8-session cultural competency training for staff and administration that explores privilege, micro-aggressions, self-understanding/biases, engaging in difficult conversations, activism, and creating an inclusive environment. One cohort per academic year.	October 2018	Office of DIB President's Administrative Innovation Fund Program partners: HKS, HHR, HIO, HI, LASPAU

Objective 6: Establish a welcoming and inclusive environment that reinforces the SEAS values of respect for all, a culture in which it is safe to express ideas, and diversity of backgrounds and perspectives

Initiative	Description	Target Date	Key Contributors
Add a diversity, inclusion, and belonging section to New Hire Orientation	Provide new hires with information on resources, terms/definitions, committee focus areas, and how DIB aligns with SEAS values	September 2018	Office of DIB SEAS HR

Develop an inclusive language guide for developing forms, flyers, website material, etc.	Guidance on incorporating inclusive language into all SEAS material.	September 2018	Office of DIB Office of Communications All of SEAS
Guidelines to foster diversity of invited speakers	Best practices for inviting diverse speakers and planning events related to DIB	November 2018	Retention and Success Subcommittee All of SEAS
Advising Guidelines	Compile advising guidelines for each SEAS area that outline expectations for advisors and metrics for accountability, and also standardize 1-2 paragraphs that specifically address diversity and inclusion within those guidelines.	January 2019	Retention and Success Subcommittee Advisers