BOARD # 431: Project ELEVATE: Utilizing our AGEP Alliance to Build Infrastructure for Change

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Dr. Alaine M. Allen is a dedicated educator who has spent over thirty years creating opportunities and amplifying the voices of individuals from groups that have historically been marginalized, underestimated, or overlooked in science, technology, engineering, and mathematics (STEM) fields. She currently serves as an Associate Dean at Carnegie Mellon University in the College of Engineering. In this role, she collaborates with a team of professionals to strengthen the culture of the College of Engineering and support initiatives for undergraduate and graduate students, staff, faculty, and educational outreach. Additionally, she holds the position of Distinguished Service Professor in the Department of Engineering and Public Policy. Dr. Allen is passionate about fostering a culture of inclusive excellence that empowers the entire community to collaborate, bridge differences, and thrive together.

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1. Summary of Project ELEVATE Alliance

Carnegie Mellon University, Johns Hopkins University, and New York University created the Project ELEVATE Alliance through the Alliances for Graduate Education and the Professoriate (AGEP) in the Division of Equity for Excellence in STEM in the Directorate for STEM Education (EDU) to develop a model promoting the equitable advancement of early career tenure-stream engineering faculty from historically underrepresented groups, African Americans, Hispanic Americans, American Indians, Alaska Natives, Native Hawaiians, and Native Pacific Islanders (AGEP) faculty. The goal of this Faculty Career Pathways Alliance Model (FCPAM) project is to develop, implement, self-study, and institutionalize a career pathway model that can be adapted for use at similar institutions, for advancing early career engineering faculty from these groups. The Alliance interventions for this project focus on three major pillars of activity: 1) equity-focused institutional change designed to make structural changes that support the advancement of AGEP faculty, 2) identity-affirming mentorship that acknowledges and provides professional support to AGEP faculty holistically, recognizing all parts of their identity and 3) inclusive professional development that equips all engineering faculty and leaders with skills to implement inclusive practices and equips AGEP faculty for career advancement.

As our Project ELEVATE team was formed in 2021, we utilized team science literature about team formation[1] to create the three subgroups, or pillars that consisted of a team member from each alliance institution to ensure that all institutions have a voice in the development of our interventions. In order to carry out our initiatives, team members also had institutional roles and responsibilities that were related to the goals of Project ELEVATE. We worked with the NSF Bernice Johnson INCLUDES ASPIRE team to use the Inclusive Professional Framework (IPF): Faculty for implementation of our initiatives[2]. The IPF is grounded in evidence-based frameworks in systems change. Using Kania, Kramer, and Senge's work from 2018[3], there are six conditions of system change. These conditions include institutional policies, power dynamics, and mental models. Using the six conditions of systems change, the IPF framework identified three domains that underlie inclusive practices in higher education. These domains include Identity, Intercultural, and Relational domains, which provide faculty with the tools to be inclusive in their multiple roles as teacher, advisor, colleague, and leader. In Project ELEVATE, we have adapted the evidence-based framework to form our interventions within the three pillars. At the structural change level, we are working on the policies and practices at each alliance university. Our Identity Affirming Mentorship and Inclusive Professional Development pillars work at both the relational and translational levels.

2. Project ELEVATE Interventions

a. Equity-Focused Institutional Change

The **Equity-Focused Institutional Change Pillar** spent the first two years of Project ELEVATE collecting data for a baseline analysis of each institution's documents and procedures on hiring, promotion and tenure, and mentoring of tenure-track faculty. At the conclusion of this review process, the team found that document accessibility and faculty evaluation criteria were not always clear at all three institutions[4]. However, the team's findings on promotion rates for ethnically and racially underrepresented faculty at our three engineering schools were consistent with published work[5,6]. Masters-Waage found that these underrepresented faculty members with high h-indices (which is the case for faculty members in the schools of engineering at CMU, NYU and JHU) did not get promoted at lower rates than their peers. The information learned from the initial studies on promotion documentation informed the changes made or to be made at each institution as described below.

In 2023, CMU's College of Engineering formed a Promotion and Tenure Policy Revision Advisory Committee. The committee was charged with identifying updates to the current promotion and tenure policy for tenure-track, research-track, and teaching-track faculty that better align the policy with

the college's mission, vision, and values. Based on a 2023 Fall faculty survey, the committee identified areas to address in the revisions. Specifically, the current promotion and tenure policy is being converted into three separate policies to improve clarity and readability: one each for the tenure track, teaching track, and research track. Some other changes include the addition of information that provides more transparency to faculty candidates about what information is collected and how it is used; emphasizing more ways to demonstrate impact with lists of examples; and providing a c.v. template that aligns with the promotion and tenure criteria. The process to finalize the three policies will involve (1) collecting feedback on proposed changes from the various stakeholders (e.g., faculty, staff, upper-level administrators and university lawyers) in the form of faculty focus groups, college leadership meetings with department heads, and open town halls, and (2) gaining approvals of the red-lined policies from the College Review Committee, which includes department heads and a few other senior faculty members/administrators, and from the university-level tenure committee.

In the recruiting and hiring processes, NYU is revising the Guidelines on Faculty Search Process to promote diverse applicant pools and equitable evaluation of applicants. These changes include requiring the presence of two diversity advocates on each search committee, the submission of a search plan addressing the strategies for outreach to diverse applicants and for equitable evaluation, the setting of targets for the percentage of female applicants and percentage of applicants from underrepresented minorities in STEM in the entire applicant pool. The department chair is required to submit a search committee report when making offers to particular candidates which must describe efforts made to diversify the applicant pool, and the criteria used in selecting the finalist out of applicants invited for on-campus interview. The Dean's office reviews the report as part of the approval process for making the offers. In the promotion and tenure process, the NYU Provost Office with the Center for Faculty Advancement recently developed and offered training for faculty involved in various stages of the review, including those at the Dean's office, the school level faculty review committee members, the department chairs, and the department review committee members. In addition, NYU Tandon School of Engineering offers annual Q&A sessions to all tenure-track faculty regarding the mid-tenure review and tenure review process, with input from selected department chairs and members of the Tandon School Tenure and Promotion Committee. NYU also recently revised the Guidelines for Tenure and Promotion Review to provide more clear guidelines for minimizing conflict of interest during the review process. The revision is pending the review and approval by the NYU Tenured/Tenure Track Faculty Senate and the Provost.

The school of engineering at JHU has been reforming its hiring practices, focusing on two issues which were identified by the ELEVATE team. First, there is a need to have detailed data for faculty candidates at every step of the recruitment and selection process. Second, there is a need to be both intentional and equitable in hiring. Spousal hiring, market forces and laboratory requirements require individual solutions but these cannot crowd out equity in treatment and opportunity. Additionally, the Whiting School of Engineering is making substantial changes in their appointment, promotion and tenure system. In the current system, all engineering faculty members must first be recommended for promotion or tenure by their home department. That recommendation goes to the Dean, who may, at their own discretion, forward the recommendation for tenure to a joint school of arts and sciences and school of engineering committee of 12 faculty members. With approval from this committee, successful candidates would be advanced to the university-wide tenure advisory committee for the university president. The school of engineering is in the process of creating its own independent tenure advisory body with representation from each of the school's 9 departments. In terms of principles, the faculty working group charged with developing the new policies and procedures has articulated 7 basic principles. They have added principles not explicitly articulated in current policies including on issues like inclusivity and equity, ethical conduct, transparency and collaboration.

b. Identity-Affirming Mentorship

The **Identity-Affirming Mentorship Pillar** focuses on enriching mentorship practices by centering awareness of identity, positionality, and intersectionality. Through mentorship education, training, and inclusive professional development, our goal is to cultivate a culturally aware mentoring

framework that supports underrepresented early-career faculty as they advance in their career. As part of this initiative, we developed and implemented a cross-institutional mentorship model. In this model, early-career faculty are paired with senior faculty external to their home institutions but within the Project ELEVATE Alliance. A distinctive feature of this matching model is its focus on the mentee's goals, values, and perceived connections with mentors, rather than solely on shared research areas or content expertise which complements the internal discipline-specific guidance already available to mentees within their institutions. Since February 2024, fifteen early-career faculty members have been matched with a Project ELEVATE mentor. Mentors in this program commit to meeting with their mentees at least once a month to (1) facilitate collaborations and expand professional networks for early-career faculty; (2) provide hands-on feedback and instrumental support; (3) offer strategic guidance to help mentees navigate unwritten rules and institutional norms; and (4) increase mentees' visibility by providing access to scholarly opportunities, such as invited guest lectures.

Another key component of this pillar is community building within each institution and across the Alliance through professional development workshops and networking events. In June 2024, we hosted our second annual Project ELEVATE Retreat in Philadelphia, titled *Charting the Course for Faculty Success.* The retreat offered an authentic space for dialogue on identity, mentorship, career advancement, inclusive practices, and strategies for activating institutional change. The retreat sessions were designed with two primary objectives:

1. To equip senior faculty mentors with tools and strategies to become change agents who implement inclusive practices in their mentorship and leadership roles.
2. To create a platform for Project ELEVATE early-career faculty to build community, expand their professional networks, and feel empowered to achieve their career goals.

c. Inclusive Professional Development

The **Inclusive Professional Development Pillar** within Project ELEVATE aimed to foster a more inclusive workplace where all faculty, staff and students feel welcomed and respected. Three workshops were developed and delivered that focused on Inclusive Communication, Inclusive Teaching, and Thriving Interactions with PhD Students and Postdocs. These workshops were created through a collaborative process involving regular consultations across three universities but with different implementation strategies at each alliance institution. To design realistic scenarios and address challenges specific to STEM faculty and students, the team drew on a variety of sources, including: journal articles, surveys, and resources [7,8]; discussions with faculty, confidential interviews with PhD students; best practices from diversity and inclusion research, guided by experts from the Center for the Integration of Research, Teaching, and Learning (CIRTL); and best practices in Inclusive Teaching from Emy Cardoza, Director, Global Diversity Education and Faculty Engagement at NYU. Each workshop integrated interactive discussions, real-world scenarios, and practical strategies. The initiative also incorporated materials from Aspire's Inclusive Professional Framework (IPF), developed by the NSF Eddie Bernice Johnson INCLUDES Aspire National Change Team. Feedback from pilot sessions was used to refine the content, ensuring its relevance and effectiveness.

3. Plans for Sustainability at each Alliance institution

a. New York University (NYU)

To ensure the Project ELEVATE initiatives are sustained, NYU Tandon School of Engineering established a new position of Associate Director of Faculty Development to assist the Director of Faculty Development in organizing and managing a variety of activities related to faculty development. NYU also established the Ecosy*stem* Hub that is supported in part by an NSF ADVANCE grant in 2023 (#2305370), with the goal of crossing boundaries between the sciences and humanities to spark equity, creativity and innovative thinking at the university. From STEM leadership workshops to inspiring keynote speakers, the Hub promotes well-being, empathetic leadership, and diversity for a more equal and human-centered STEM community. The Hub further educates faculty who are committed to taking personal action in support of women and gender equity to be advocates and allies, and equip them with the knowledge,

skills, and strategies necessary to drive positive change at the university. NYU Tandon has established a unique mentoring program for tenure-track faculty, *2Leap Mentoring*, where a digital platform connects tenured faculty mentors and tenure-track faculty, and tenure-track faculty can select their mentors each year based on the areas that they would like guidance. Annual workshops for both mentees and mentors are offered to provide expectations and guidelines in their respective roles. NYU has also established the *Early Career Faculty Institute* to provide university wide mentoring programs for tenure-track faculty as well as mid-career faculty.

b. Carnegie Mellon University (CMU)

At Carnegie Mellon University College of Engineering, our leadership team relaunched the Center for Faculty Success (CFS) to ensure the sustainability of Project ELEVATE initiatives. In this relaunch, the college created two new positions, a Faculty Director and Managing Director, to develop and implement mentorship programs, leadership programs and professional development workshops for all faculty. The faculty director and managing director will also work with the associate dean for faculty and graduate affairs and the associate dean for research to support faculty. The goal of this center is to support faculty at all levels in their careers and create a sense of community among new faculty in the college of engineering. In Fall 2024, the CFS hosted professional development workshops that covered topics such as equitable hiring, mentorship compacts, and entrepreneurship. In the 2025-2026 academic year, CFS will be launching a leadership development program to target mid-career faculty. A faculty survey in 2024 revealed that the current mentorship structure for faculty-faculty mentoring could use improvement through structural changes. The CFS along with the associate deans are exploring options outside of the traditional 1:1 mentoring structure for future mentoring programs. Lastly, the reappointment, promotion and tenure procedure is currently being reviewed and revised to be more equitable and transparent for faculty.

c. Johns Hopkins University (JHU)

As stated earlier in section 2a, the JHU School of Engineering is currently restructuring faculty governance and promotion and tenure processes with new policies and processes that provide an opportunity to embed diversity, equity and inclusion principles into decision making frameworks. As such, JHU will consult with higher education faculty with DEI expertise to help integrate equity considerations into the policy development process for the promotion and tenure committee and faculty governance structures. Building on successful initiatives and the momentum of the Project ELEVATE grant, JHU will implement innovative approaches to sustain and strengthen mentorship practices by considering implementing a similar model of cross institutional mentorship, as demonstrated by Project ELEVATE.

4. Assessment

The work of the evaluation team is designed to assist Project ELEVATE in developing a model to promote equitable advancement of early career tenure-stream faculty. We employ a culturally responsive framework [9] to examine factors associated with the development, implementation and dissemination of the model. The external evaluation team has used principles of team science to examine alliance team dynamics and provide feedback. Both the internal and external evaluation teams continually assess the project and are included in monthly project meetings. Additionally, as required within AGEP projects the internal evaluation team are members of the project's leadership team.

During this past year, the internal evaluation team developed and implemented a survey for faculty that was designed to establish a mid-project-point understanding of faculty members' sense of belonging as well as their views on, belief of, and expectations for themselves and their departments and institutions as it related to project area goals. Across the three project institutions, 137 faculty completed the survey. Highlights from the survey include that across the three institutions, a sense of belonging to both department and institution is strong. Faculty also reported that they have a good level of self-efficacy and responsibility for advocating for and enacting project related change initiatives. Additionally, faculty

across the three institutions indicated that their departments were successfully enacting project-related initiatives, although they indicated that more could be done. The internal evaluation team also completed its yearly SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis of the Project ELEVATE Alliance work, which included engaging the leadership team, faculty mentors and early career faculty in providing their insights on the project to date.

5. Conclusion

The Project ELEVATE Alliance has learned that collaborating across three elite engineering schools has been productive because we have been able to share ideas and resources to strengthen our faculty development approach. Our team has learned that cross-institutional mentorship with a focus on mentees goals and values can be highly effective and give early career faculty access to new resources. Our focus groups have been highly informative and would have been too small if done at a single institution. Shared construction of professional development have also been helpful to bring in new perspectives. Lastly, each institution has a sustainability plan to continue these initiatives after the project.

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