



Fostering Cohort Recruitment (FCR) Virtual Forum

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Diversity (COSWD)

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PROCEEDINGS

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Executive Summary and Background Information

Held on February 23 and 24, 2022, the FCR Virtual Forum was a special, expanded event constructed as part of the Scientific Workforce Diversity Seminar Series (SWDSS) within the National Institutes of Health (NIH) Chief Officer for Scientific Workforce Diversity (COSWD) office.

The idea for the FCR Virtual Forum arose after the one-hour SWDSS seminar, “Achieving Equity in Faculty—Pros and Cons of Cohort Recruitment,” held on December 8, 2021. It featured presentations from Sibby Anderson-Thompkins, Ph.D., Michelle M. Camacho, Ph.D., and Carla Freeman, Ph.D., and included reactant comments from David Acosta, M.D. This lineup of distinguished speakers is notable not just for the speakers’ content, but also because all four speakers were invited to serve as reactants for the FCR Virtual Forum’s main sessions, as described in these proceedings.

In the words of Marie A. Bernard, M.D., COSWD, both the topic and organization of the December SWDSS event were intended as a briefer “amuse-bouche” for the longer, fuller discussion that followed at this forum. There was a natural progression from the themes introduced at the December SWDSS event. Therefore, the sessions described below capture both the discussion from the FCR Virtual Forum and the spirit of the conversation held in December.

The two-day format for this FCR Virtual Forum allowed adequate time to explore each of four main themes of cohort recruitment: leadership viewpoints on creating culture change; cohort recruitment as a component of a larger diversity, equity, inclusion, and accessibility (DEIA) program; resource needs; and outcome tracking.

Each thematic area included a round of presentations from three experts followed by comments from one of the reactants described above. The four-person panels then participated in question-and-answer discussions by each providing a response to the same question. This round-robin format showcased the wealth of knowledge and experiences generated by the diverse group of panelists.

The organization of these proceedings follows the format of the FCR Virtual Forum. Beginning with Day 1 and then continuing to Day 2, the proceedings continue theme by theme by briefly summarizing the key points of each presentation and reactant comments. The “Questions and Answers” sections list each question and then the panelists’ responses in the order they responded to the moderator. To provide variety, the order of panelist responses rotated after each question.

Dr. Bernard wrapped up the FCR Virtual Forum by acknowledging the work of the Planning Committee (see the Acknowledgements section) and summarizing the rich discussions about cohort recruitment and its variation among institutions and organizations (see the Wrap-Up section).

Presentation materials and recordings are available [on the COSWD website](#).

Day 1: February 23, 2022

Introduction

Marie A. Bernard, M.D., *Chief Officer for Scientific Workforce Diversity (COSWD), National Institutes of Health (NIH)*

Dr. Bernard welcomed attendees to the two-day event and introduced the scientific endeavor behind achieving workforce diversity. Scientific workforce diversity and institutional culture change can be enhanced through various cohort recruitment or cluster hiring practices. Academic evidence suggests that programs for recruiting members of underrepresented groups (URGs) can make science and medicine more inclusive while fostering collaborative and supportive working environments (Laursen and Austin, 2020; Sgoutas-Emch et al., 2016; Urban Universities for Health, 2015).^{1, 2, 3}

The **[NIH Distinguished Scholars Program \(DSP\)](#)** is a good example of a cohort recruitment initiative that has successfully enhanced diversity and inclusion among NIH tenure-track intramural scientists. In fact, distinguished scholars representing several NIH Institutes and Centers (ICs) meet monthly for support while receiving extra mentoring and laboratory resources. Because of the success of the DSP in contributing to enhanced diversity of the NIH Intramural Research Program (IRP), the NIH Common Fund extended a cohort recruitment opportunity to external institutions in 2021 through the **[Faculty Institutional Recruitment for Sustainable Transformation \(FIRST\)](#)** program funding opportunity announcement. The **[Institutional Research and Academic Career Development Award \(IRACDA\)](#)** and the **[Maximizing Opportunities for Scientific and Academic Independent Careers \(MOSAIC\)](#)** programs have also been successful in enhancing diversity at various career stages.

Scholars with a wide range of expertise in cohort recruitment presented the topics in this forum. Panel discussions were designed to galvanize the wider scientific community around successful cohort recruitment models and allow each institution to move forward in its own way to enhance faculty DEIA.

This event is part of the COSWD Scientific Workforce Diversity Seminar Series (SWDSS), which runs from September through May each year. The purpose of the SWDSS is to share the latest research and evidence on scientific workforce diversity topics by engaging with interested professionals and researchers at NIH and beyond.

Opening Remarks

Roberta Diaz Brinton, Ph.D., *Director, University of Arizona Center for Innovation in Brain Science, and Chair, NIH Advisory Committee to the Director (ACD) Working Group on Diversity*

In her presentation, “NIH Diversity: Cohort Recruitment,” Dr. Brinton shared her experiences in fostering inclusive excellence, which she termed an “all brains on deck” endeavor. Diverse perspectives drive creativity, innovation, and solutions. They also drive people to think differently, to ask questions differently, and to arrive at novel conclusions. Diversity is not a luxury; it is a necessity for solving problems. President Barack Obama saw diversity as a solution for restoring America’s competitiveness.

Precision medicine is diverse medicine, because one size will not fit all. Dr. Brinton commended Dr. Bernard for her leadership, noting that it only takes one person to listen, stand up to racism and discrimination, encourage and lead a paradigm shift. NIH success in enhancing diversity will be a success for all and provide a roadmap for other large institutions to become DEIA communities. The NIH **[UNITE initiative](#)** was established to identify and address structural racism within both the NIH-supported and the greater scientific community. The initiative aims to establish an equitable and civil culture within the biomedical research enterprise and reduce barriers to racial and ethnic equity in the biomedical research workforce. This is a noble cause and an absolute necessity for addressing the challenges in health and beyond.

Fostering inclusive excellence is a data-driven concept. Statistics show that the scientific community benefits from scientific workforce diversity in the questions asked, discoveries made, and solutions provided for health issues. Having a common mission and purpose and building trust over time create a sense of

“Each level
mentors the
next generation
of itself.”

community that evolves into a worthwhile and diverse community. A clear vision is a unifying force that can guide actions and decision making and be the catalyst for engagement and greater innovation. A community of trust is built by embedding trusting relationships into all decision-making, recruitment efforts, and organizational culture. All communications must be honored and respected; listening is critical. Enabling technologies and capabilities can be established and then deployed across multiple projects.

Developing the leaders of tomorrow (students and early-career faculty) depends on learning opportunities and experience-driven mentorship at each stage of career development. For example, high school students are effective mentors for elementary students, and predoctoral fellows are good mentors for graduate students. Each level mentors the next generation of itself.

Dr. Brinton's lessons learned include the following:

- Do the experiment, test the hypothesis, and collect the data. The data will indicate success or failure. Negative results offer lessons. Provide proof of concept before conducting a broad experiment.
- Write a mission statement to define the metrics of success and break the mission down into incremental steps to achieve the goal.
- Build trust at each level.
- Continue to learn.

Leadership Viewpoints on Creating Culture Change Through Cohort Recruitment

Re-Envision the Norm: Cohort Hiring

Joan Y. Reede, M.D., *Dean, Diversity and Community Partnership, Harvard Medical School (HMS)*

Dr. Reede described the HMS cohort hiring strategy, which is based on the school's mission and community values for DEIA and social justice. Reimagining the search process involved engaging the full leadership of the school and its affiliated institutions and asking department chairs to set common goals and values, creating intentionality to disrupt the norm, embracing inclusive excellence, expanding recruitment beyond traditional networks, establishing common assessment procedures, and creating a transparent process.

Disrupting the norm meant moving from a predefined departmental perspective to crossing boundaries between departments. The school engaged the community to hire four tenure-track assistant and associate professors. Ultimately, HMS and its affiliates made eight employment offers; six have been accepted.

The HMS cohort hiring process has built bridges across disciplines and departments while creating internal connections between applicants, new faculty, and offices within the medical school. All new hires expressed a deep interest in DEIA issues. HMS plans to continue to use this model to build inclusive excellence.

Cultural Change Through Diversity

Julian Vasquez Heilig, Ph.D., *Dean, University of Kentucky College of Education (UKCOE)*

As Dean Vasquez Heilig described in his 2019 publication in the *Hispanic Journal of Law and Policy*,⁴ the elephant in the room is the limited progress made in enhancing faculty diversity in U.S. research institutions; in fact, data show diversity decreased in many organizations during the study period of 10 years.⁴ As a smaller college with a limited budget, UKCOE is using a model of hiring junior and senior faculty members together as a cluster.

This model of hiring cultivates better infrastructure, community, and support for new faculty of color, especially in departments where there has historically been a lack of diversity.

Dean Vasquez Heilig benefitted from cluster hiring when he was recruited to the University of Texas at Austin in 2006. It is an effective strategy for clarifying and setting goals, creating collaborative accountability, driving professional development and leadership, addressing isolation, and promoting networking and social camaraderie. Instead of exerting hierarchal authority, department leaders must build equitable, transparent networks and relationships that give diverse faculty the ability to lead and contribute through ideas and influence. This type of leadership attracts clusters of faculty and builds positive institutional reputations for people of color across the country.

The University of Kentucky has launched several initiatives to attract diverse faculty, including an Education and Civil Rights collaboration with the National Association for the Advancement of Colored People (NAACP) to amplify civil rights research. UKCOE has made several advances to enhance faculty diversity:

- Hiring the first associate dean for diversity and student success.
- Hiring Blacks/African Americans as one-third of the new faculty in 2020, with faculty of color representing two-thirds of new hires.
- Hiring Blacks/African Americans as 40% of new faculty and people of color as 80% of new faculty in 2021.
- Hiring only faculty of color in 2022 to date.
- Achieving a rate of 29% faculty of color at UKCOE.

Thematic-Based Initiatives to Address Local, Regional, and Global Societal Challenges (2015–2021)

Stephen Lanier, Ph.D., *Vice President for Research, Wayne State University*

Dr. Lanier described Wayne State University's efforts to increase strategic integrative research and nurture the broad ecosystem for scholarly inquiry, discovery,

creativity, and knowledge application. The university worked with the city of Detroit to develop strategies to leverage the university's academic strengths, community engagement mission, and urban location. The resulting six initiatives were designed to align with the mission and role of the university as a public, urban research university; cut across research, education, training, and community anchors; and involve integration across distinct schools, colleges, and centers and institutes on campus. The six initiatives included the following thematic focus areas: biomedical engineering and imaging, brain health and translational neurosciences, cardiovascular and metabolic health and disease, environmental health sciences, information sciences, and social and behavioral determinants of health.

The initiatives' aim was to create a mission-driven, enabling culture for faculty and students. Each initiative included faculty recruitment, educational programs, and strategic partnerships. In 2016, the university began with the goal of recruiting upwards of 30 new faculty, with position announcements that did not indicate a specific department. There were no previously established mechanisms for approving broad searches or for hiring faculty into undefined departments or cross-departmental positions. The template for the offer letters had to be rewritten. Excitement for the initiatives grew over time, including among the candidates.

The initiatives led the university to ultimately recruit 39 faculty (6 professors, 9 associate professors, and 24 assistant professors), of whom 10 were given joint appointments. Twenty of the new faculty members were female, 19 were male, and 20% of the recruits were from URGs in the sciences.

The success of the program was a long-term journey, not an overnight phenomenon. It involved a culture change and a significant change in processes. Doors were opened for new ideas and approaches from leaders with diverse backgrounds. It was a disruptive intervention that opened new paths for leadership and program development, which will be important for targeted improvement going forward.

REACTION TO PANEL PRESENTATIONS

David A. Acosta, M.D., *Chief Diversity and Inclusion Officer, Association of American Medical Colleges*

Dr. Acosta noted that the speakers on the panel highlighted the most important keys to success, which have also been validated in the literature. First, leadership matters. Including deans and faculty allies and champions for DEIA across institutions and departments is critical, as is leveraging their influence early in the process. Second, intentionality for diversity must be articulated in the campus mission statement, values, goals, initiatives, and expectations. Third, infrastructure must be built for interdisciplinary collaborations. This work includes designating individuals to lead programs and coordinate events in designated and safe meeting spaces that provide spatial equity, neutrality, and freedom of personal expression. Lastly, disrupting the norm and giving up the status quo are essential for producing real change. Hiring teams must go beyond traditional recruitment networks, reimagine the search process, and reward leaders who take action to enhance diversity.

Dean Vasquez Heilig was quotable when he said, “Give them a reason for wanting to come here.” This is critical, and the NAACP collaboration is a great incentive. Genuine institutional investment begins with addressing issues that matter to the people institutions are trying to recruit, and these issues can be addressed only with multiple perspectives at the table.

Integration across programs and departments is essential. The intellectual clusters at the University of California, Berkeley, and climate equity and

environmental justice groups are examples of effective integration that also function as recruitment tools. Cluster hiring does not end after an offer is made; it is an ongoing journey.

“Give them a reason for wanting to come here.”

Continued success depends on providing a work culture and environment that permit authenticity and prevent the fear of judgment and retribution, allowing for continuous relationship building, and ensuring ongoing community networking opportunities. Inclusive excellence must be aligned with an institution’s mission and core values. Mentoring must be re-envisioned and provided in and outside of the institution.

Questions and Answers



How can cohort hiring best be implemented across a university (e.g., different disciplines or schools)

without having only one or two recruited faculty in each of the areas? Should cluster hiring happen within one field at a time so that faculty are not isolated within their home departments?

- **Dr. Lanier:** Create a community with a thematic focus area, or anchor. Recruit faculty at different ranks (i.e., professor, associate professor, and assistant professor) to create both near-peer and senior mentors.
- **Dr. Reede:** Build intentional and deliberate institutional spaces for diverse faculty and their families to meet, network, communicate, collaborate, and support one another. These connections are extremely powerful for faculty and for their families.
- **Dean Vasquez Heilig:** Budget to match institutional priorities and ask for broad administration support for cluster hiring.
- **Dr. Acosta:** Use and learn from hiring cluster models developed by other universities and colleges, including innovative cost-sharing, grant-matched, and decentralized models.
- **Dr. Brinton:** Add more “science, technology, engineering, and mathematics (STEM) education survivors” to the hiring pool by investing in youth programs.



Enhancing DEIA and STEM is important to younger generations of scientists.

Is there advice you can give for growing appreciation in older, majority scientists and leadership?

- **Dr. Brinton:** Recruit older scientists who are champions of diversity, because they are full of wisdom and are phenomenal mentors. Build communities that contain more flexibility for ways to engage.

- **Dr. Acosta:** Try to understand and “unpack” the resistance generated by older scientists and leaders, then build trusting relationships and have conversations to generate buy-in and enthusiasm. Understand and acknowledge generational differences and then educate others.
- **Dean Vasquez Heilig:** Provide everyday learning opportunities on the value of diversity. Adopt the mantra, “Where knowledge ends, listening and learning begin.”
- **Dr. Reede:** Meet people where they are, let them offer what they can, and help them learn and grow. Consider the possibility that they might be fearful about not knowing what to say or do when interacting with younger scientists. Understand that there are multiple ways to engage mentors but avoid engaging with the wrong types of mentors (e.g., “dementors,” “tormentors”). Allow people to take other roles (e.g., speakers, sponsors, and guides). Provide older scientists with an opportunity to experience the joy of changing someone’s life, which may be one of the reasons they entered the field.
- **Dr. Lanier:** Encourage older scientists to use their talents and experience to help contribute to the culture of change.



Please comment on the accessibility aspect of diversity. Many faculty are reluctant to disclose being disabled. As leaders, how do you recruit them, and how do you connect them with other faculty who share their identities?

- **Dr. Acosta:** This is a challenge that needs to be addressed more often. Conscious awareness and humility can help us better understand the experiences of others, but we need to turn down our internal voices to truly understand what others are saying about their experiences and learn about their skill sets.
- **Dr. Reede:** Institutions must change their culture and climate around disability issues. Make disability topics, including the cross-section of disability and diversity, more visible by creating regular inclusive conversations and workshops around them.

- **Dean Vasquez Heilig:** Think about how university environments (e.g., 100-year-old buildings, meeting spaces) are experienced by faculty with disabilities. Wheelchair users should not have to enter through the back door, and that lack of access can serve as a metaphor for this work (i.e., it should be front and center).
- **Dr. Brinton:** Be open to scientific learning from faculty who have disabilities about the disabilities that are being studied at universities and provide opportunities for those faculty to contribute to related projects.

Q Is it possible to apply the cohort recruitment models that have been discussed to organizations outside of academia (e.g., government, private industry)?

- **Dr. Lanier:** Yes, if you create a mission, vision, values, and goals around thematic focus areas.
- **Dr. Brinton:** Yes, diversity across the spectrum is not a luxury; it is a necessity that is critical to success.
- **Dean Vasquez Heilig:** Yes, if you create an environment with networking, social camaraderie, and support that allows employees to thrive (not just survive) and that is conducive to success. No one wants to be “the only one” in any setting.
- **Dr. Reede:** Yes, it is already being done in government (e.g., NIH). Cohort recruitment is based on how willing an organization is to move beyond its stated mission and values to actualize them with intentionality. The organization must move forward to examine and change practices and undo exclusive structures, policies, and practices. Organizational leaders must be willing to take the risk of change for the better.

- **Dr. Acosta:** Yes, the business industry is ahead of academia for inclusion. Their cluster hiring concept has been around longer, and academia can learn from it.



What are one or two things that you hope the audience will take away from this session? Do you have a pearl of wisdom about retention?

- **Dr. Lanier:** Disrupt legacy processes to enable successful cohort recruiting and allow new faculty to become leaders.
- **Dr. Brinton:** Community is important: Together we are stronger and smarter. None of us knows it all, but together we know a lot. Allow everyone to share their perspective. Recruit people with diverse areas of expertise who can form a tight-knit community.
- **Dr. Acosta:** We cannot keep doing the same thing but expect different results. We must disrupt the system. We do not have a choice anymore. It takes courage and risk to disrupt the equilibrium.
- **Dean Vasquez Heilig:** Be aware that successful cohort recruitment will create backlash. Not all people care about all diversity. Strategy and vision without courage is an illusion.
- **Dr. Reede:** There is no alternative. Recognizing the value of DEIA is foundational to all organizations. It must be addressed for us to be our best. We cannot achieve the best of ourselves unless we include everybody.

Successes and Challenges of Cohort Recruitment as Part of the Larger DEIA Mission

Lessons Learned with Faculty Cohorts

Sherilynn Black, Ph.D., *Associate Vice Provost for Faculty Advancement, Duke University*

Dr. Black said that because research shows that cohorts improve the student experience (e.g., belonging, retention, productivity, and science identity), particularly for students in URGs, those data are now being applied to faculty hiring initiatives (Sto. Domingo et al., 2019; Sgoutas-Emch et al., 2016; Maton et al., 2016; Summers and Hrabowski, 2006).^{2, 5, 6} At Duke University, lessons learned for faculty cohort hiring include the following:

- Create institutional and departmental climates that are conducive to cohort success.
- Train people working with faculty cohorts in cultural sensitivity and awareness.
- Understand that cohorts can benefit from larger numbers and flexible structures.
- Provide cohort-specific support rather than a one-size-fits-all solution.
- Measure cohort success beyond publications and grants.

For faculty to be primed for success, they must be brought into systems and structures that are designed for their advancement. The entire institution must be willing and able to address challenges and benefit from the unique opportunities that come from enhancing faculty diversity. To broaden institutional support, Duke provided faculty education (workshops and multiple short courses) on equitable hiring practices and improving departmental climate. The university also conducted a campus-wide climate survey for all faculty, staff, and students that was paired with a full-day

retreat for all campus leaders. With support from the Office of the President and Office of the Provost, each school within the university wrote a diversity strategic plan that included multifaceted approaches to reach all departments.

All faculty should consistently be in academic spaces that support their authenticity and identity so they can best contribute to the intellectual culture of their institution and their broader discipline. Education and ongoing capacity building are key for all faculty to contribute to the longitudinal sustainability of equity. Keep in mind that academic spaces were not originally built for the success of all. Dr. Black developed a short course on dismantling racism to teach 150 members of the faculty practical skills related to cultural awareness and climate. It was received well and resulted in significant longitudinal change.

After hiring a new cohort, the new faculty can benefit from introductions across schools and disciplinary and identity lines. Members of each cohort should have agency in the decisions about the group's structures and needs. Duke provides faculty seed grant initiatives, a [Writing and ReseArch Productive \(WRAP\) Group for Black Faculty](#), and a [Black Think Tank](#) to create cross-disciplinary collaboration, build community, and enhance belonging. When providing faculty support, scientific and personal identities should not be treated as separate entities.

To increase faculty agency and fulfillment in its School of Medicine, Duke piloted a novel, culturally aware coaching program for URG faculty to create and implement individual development plans (e.g., personal, professional, and scientific productivity) that incorporate cultural identity. Because cohorts' benefits extend beyond scientific productivity, traditional measures are unlikely to capture the full benefit of cohort programs. Duke measures the benefits of the cohort by examining its impact on both the participants and the institution and captures metrics on systemic change, culture, identity, and human impact.

Is Cohort Recruitment the Right Action?

Beth Ruedi, Ph.D., *Director of Operations, STEMM Equity Achievement (SEA) Change, American Association for the Advancement of Science (AAAS)*

After conducting a comprehensive review of the literature, Kimberly A. Griffin developed a framework called the Institutional Model for Faculty Diversity, which describes the impact of institutional structures, policies, and interactions with faculty colleagues and students on the experiences of men and women of color who are being recruited and hired into academia (Griffin, 2020).⁷ Barriers to equitable inclusion occur at specific points in the faculty journey. The Griffin model has been used as a guide for developing several systemic change initiatives, and it is a good model for faculty cohort recruitment. Institutions must consider career and professional development, flexibility, career breaks, climate, culture, and DEIA policies at each of the following key career transition points:

- Recruitment
- Hiring or matriculation
- Promotion and tenure candidacy
- Retention and completion

Faculty cohort recruitment is only the first transition point of this model; it should not be used in isolation as an institution's only diversity effort. Institutions must understand the full context before undertaking a faculty cohort recruitment intervention, and administrators must ask why their campus is considering it as an action. The cohort hiring process involves self-assessment, understanding, taking action to address barriers, and reflection as critical implementation steps.

Leaping from awareness to action has been shown to be ineffective. To create meaningful change, institutions should use suites of coordinated interventions rather than isolated interventions. This approach can also help prevent backsliding when faculty transition to new roles or different institutions.

The **AAAS SEA Change** program can support systemic transformation by performing a holistic assessment of the multiple barriers to DEIA. SEA Change has developed several different tracks (e.g., biomedicine, health sciences, and institutional awards) for organizations to consider, and each is tailored to the needs of the institution. SEA Change criteria and guidelines for self-assessment and action planning are designed to occur at the key transition points (i.e., recruitment; hiring or matriculation; promotion and tenure candidacy; and retention and completion).

Interventions are important pieces of a systemic transformation. Institutional context includes faculty climate, satisfaction, cohort recruitment, retention, and workload. Organizations must look at the full picture before focusing on a specific area. Without each piece, the puzzle is not complete.

Cohort Recruitment: Successes and Challenges

René Salazar, M.D., *Chief Equity Officer, Broad Institute of MIT and Harvard*

Dr. Salazar was unable to present at the forum due to unforeseen circumstances, but [his slides are available on the COSWD website](#).

REACTION TO PANEL PRESENTATIONS

Sibby Anderson-Thompkins, Ph.D., *Vice Provost for Diversity, Equity, and Inclusion, Sewanee: The University of the South*

Dr. Anderson-Thompkins said that she was excited by both presentations, because in her role as Sewanee's chief diversity officer, she is charged with driving institutional change and transformation. Reviewing literature related to organizational change provides fresh perspectives on this work and illuminates the bigger picture beyond tactics and initiatives. The presentations offered important lessons learned and provided exciting examples from work that is being done at Duke and AAAS.

Damon Williams, Ph.D., has conducted research and developed a diversity leadership strategy that makes DEIA fundamental to institutions' missions (Williams, 2013).⁹ He says that policies, practices, and systems that enable all faculty, staff, and students to thrive and be successful must be created with intentionality. Siloed or singular approaches do not work; the approach must be robust and integrated. Evidence-based, data-driven efforts must include accountability, which is paramount to this work. A deep and intensive review must be completed before any action is taken.

Communities must have a high level of cultural intelligence to support diverse faculty and create true partnerships. The body of literature on high-impact student initiatives is extensive and has greatly contributed to the expansion of pathways into science; applying these practices to faculty diversity is a good idea. Dr. Black shared suggestions for asking participants to provide feedback on cohort design and activities and measuring research productivity and human impact. Fostering feelings of belonging, structurally supporting the development of organic relationships, and creating culturally aware development plans for individuals are incredibly important to faculty of color. These types of initiatives truly benefit the institutions. Emphasis on capacity building is critical because capacity building creates readiness for change.

Dr. Ruedi made excellent points about not rushing into change or leaping from awareness right into action. Time is needed to develop a more complete understanding of the issues, build capacity, and create readiness. The new ecosystem that is created must ensure long-term sustainability and success.

Regarding metrics, more emphasis on measuring human impact is important. It would be good to learn more about the multipronged institutional- and departmental-level interventions at Duke, which could serve as models for cultural and climate change for many other institutions.

If he had been able to attend, Dr. Salazar would have discussed the challenges and concerns faced by institutions that are attempting to implement cohort recruitment programs. He would have challenged the group to truly define the cohort and the hiring initiatives in ways that reflect the culture and unique qualities of the institution and its research environment.

Another discussion topic is the internal investments that have been made to support the senior faculty who are leading the individual development and retention intervention programs mentioned by Dr. Black (e.g., the Black Think Tank, the WRAP group). These invisible responsibilities fall disproportionately on women and faculty of color, increasing their workload and burden. As Dr. Ruedi mentioned, structural change must start with education and awareness. The model that she presented is worthy of further discussion. Finally, applying an equity lens to established norms (i.e., barriers) around tenure, promotion, and leave policies and practices could be further discussed.

Questions and Answers



How can we tackle issues related to climate and retention while addressing issues with an institution's hiring and recruitment strategies?

- **Dr. Anderson-Thompkins:** Incentivize change and accountability. Have an institutional DEIA strategy that is applied throughout the organization. Ensure that the institution's leadership is driving the change. Use metrics that are connected to pay and reappointment.
- **Dr. Black:** Change human behavior by getting to the root cause of the problem. Partner structural changes with human behavioral changes to create a longitudinal effect. Gain an understanding of the issues by evaluating the data and then assess the needed behavioral changes before implementing any initiatives. Change the embedded biases, assumptions, and norms by simultaneously building institutional and individual capacity for change.
- **Dr. Ruedi:** Invest a lot of time in the process and allow time to reap the benefits. Pay attention to the experiences of the recruits. Be transparent about existing challenges and the ways that they are being addressed.



How do we partner with the city where our university is located, which is not appealing to candidates from URGs due to a lack of diverse peer social networks and support (e.g., schools, churches, and social groups)?

- **Dr. Black:** Acknowledge the history of the country and the history of the area where the university is located. Be creative and think outside the box when forming cohorts. Create a cohort that will succeed in the established community (instead of creating a cohort to create a community). Look across departmental lines (each with URG faculty of $n = 1$) to create a cross-sectional grouping and then combine resources with city or regional programs. Create faculty engagement in the art, education,

religious, and entertainment communities beyond the university. Give a voice to the people we say we want to help. Ask the recruits what they would like to experience and to whom they would like to speak (i.e., be recruit-centric instead of institution-centric).

- **Dr. Ruedi:** Ask the members of the cohort what appeals to them and provide them what they need.
- **Dr. Anderson-Thompkins:** To address long histories of distrust between institutions and communities, provide researchers with courses or training on racial equity, diversity, inclusion, and engaging with diverse communities. Create relationship-building opportunities between the university and city to partner, collaborate, and coexist.



When evaluating candidates for hiring or promotion, how do you balance the evaluation of scientific work (e.g., publications, presentations) with DEIA-related activities?

- **Dr. Ruedi:** Redefine merit using institutional values. Use promotion and tenure packages that recognize, define, and quantify DEIA efforts (e.g., like the tenure track at Indiana University–Purdue University in Indianapolis).
- **Dr. Anderson-Thompkins:** Review tenure policies and make them discipline-specific via the leadership of the Office of the Provost. Incorporate community-based research into the algorithm for promotion and tenure process. Apply an equity lens to tenure policies. Make systemic changes to what is valued and privileged. Ask disciplines and professional associations to define valuable academic outputs.
- **Dr. Black:** Revise tenure standards. Create process-oriented guidelines and policies to eliminate bias from the hiring and promotion processes. Understand the biases (e.g., in subjects and disciplines) that prevent faculty of color from receiving NIH funding or grants. Examine the root causes of the issues rather than fixing superficial symptoms.



What is the best strategy to mitigate bias in the hiring process when selecting from a diverse group of candidates? This bias can include selecting talent only from R1 institutions.

- **Dr. Black:** Understand what we perceive to be meritorious, who we think belongs in our ranks, and whom we are willing to call colleagues. Look at a dossier in its entirety to determine what contributes to a community's intellectual aspects. Openly and honestly evaluate the entire recruitment process. Do not make assumptions about what interests a candidate. Treat candidates as scholars and treat every candidate the same, in accordance with institutional values. Do not refer to a candidate as a diversity hire or initiative hire (i.e., separate from the norm).
- **Dr. Ruedi:** Do not take the focus away from the science.
- **Dr. Anderson-Thompkins:** Ensure readiness by not bringing in faculty of color to do the hard work of changing climate and culture. Blind the application review process so that other reviewer's comments and ratings cannot be seen. Control or limit reviewer access to applicant degree, pedigree, and gender. Align actions with newly changed institutional values, priorities, and mindsets.



How do you encourage long-term, more senior faculty and colleagues with power to commit to supporting diversity-enhancing initiatives?

- **Dr. Ruedi:** Allow the students, faculty, and staff members on campus to be the levers for community change.
- **Dr. Anderson-Thompkins:** Provide the needed training and education while acknowledging that not everyone will change. Do not reappoint department chairs or deans who do not support institutional initiatives or act on them. Truly prioritize and embed DEIA into all actions and activities. Release faculty and colleagues who are blockers and resisters.

- **Dr. Black:** Revamp leadership hiring and promotion practices. Observe people's actions to determine where they truly stand. Use evidence-driven data and employ scientific rigor to influence behavioral changes. Leave emotion out of leadership practices and encourage data-driven tactics. Lean on the expertise of scholars who study diversity issues.



What are the main takeaway messages from this panel?

- **Dr. Ruedi:** Look at context holistically and make data-driven decisions before acting. Contact AAAS SEA Change staff to learn more about the frameworks for implementing cohort diversity plans.
- **Dr. Anderson-Thompkins:** Create leadership alignment with institutional priorities for DEIA. Critically examine policies and practices to identify barriers to the implementation of DEIA initiatives. Employ a strategic and integrated approach to implement DEIA initiatives within an institution. Move from symbolic gestures to intensive actions. Invest in education and cultural awareness training.
- **Dr. Black:** Determine the root causes ("below the surface") of the organization's diversity issues. Specifically address the identified implicit biases to achieve behavioral change. Encourage leaders to truly empower the changemakers. Give agency to those whom you seek to help by engaging the URG faculty already at your institution. Evaluate the data to determine needs and address those needs fully and honestly before launching cohort hiring initiatives. Be honest with recruits about the existing challenges and allow them to make the choices that are best for them. Do not underestimate your peers' willingness to engage in equity work. Provide rigorous activities and capacity-building resources for existing faculty to learn and empower them to be part of the change.

Day 1 Adjournment

Dr. Bernard mentioned several of NIH's data-driven initiatives for enhancing scientific workforce diversity, including UNITE, the Federal Employee Viewpoint Survey, and the new DEIA performance expectation that is an element of the evaluation of all NIH IC Directors. As a component of the DEIA performance standard, every NIH IC must develop a racial and ethnic equity plan that is submitted to the NIH Director and Principal Deputy Director by April 1, 2022; implemented by May 1, 2022; and analyzed and revised annually. These expectations align with Executive Orders from the current administration.

Additional plans include the revision of metrics throughout NIH. The Center for Scientific Review has taken a lead, with initiatives to enhance diversity of peer reviewers and evaluate the impact of anonymizing grants, and a new proposed approach to scoring grants.⁹ "Reflections on race, ethnicity, and NIH research awards," an essay that was recently published in *Molecular Biology of the Cell*, provides a good perspective on these issues (Ginther, 2021).¹⁰ Although momentum has developed, there is still a lot of work to do within NIH and beyond. Creating behavioral and institutional change is a long, complex, and challenging process.

Day 2: February 24, 2022

Opening Remarks

Shirley M. Malcom, Ph.D., *Senior Advisor to the CEO and Director, SEA Change, AAAS*

Dr. Malcom began her remarks with a question that a young child had asked her when she spoke at a charter school during Black History Month: What was it like to attend school when nobody else looked like her? She responded that it was scary at first, because she did not know what to expect, but things improved once she found things in common with others. She reflected on her experiences as a faculty member, when she felt incredible isolation and was not sure who would understand how to frame the issues she wanted to discuss. Being both a woman and a person of color made it even more challenging for her to find community and belonging. Dr. Malcom said it would have been great to be with others who could talk about similar experiences and challenges. Early support is crucial. NIH is investing in several programs to build community and a sense of belonging, but these changes must be coupled with changes to the system.

Anna Jane Harrison, Ph.D., a past president of AAAS and the American Chemical Society, had difficulty getting hired after completing her Ph.D. in chemistry. The belief at the time was that women would not “stick with it.” Dr. Harrison wanted to see a transformation, a cultural change, and promotion of interdisciplinary thinking and diversity as a different way to approach science.

Federal funding is not only about the research but also about the research environment. Promoting belonging, problem solving, and a thriving faculty are crucial. Changes are needed to make DEIA normative. Changes in policies, processes, programs, and procedures are needed to achieve the strengths that cohort work can introduce into systems. Cohort work can be the catalyst for needed changes and must involve the highest level of leadership at institutions to undo some toxic aspects of the culture that make it difficult to recruit people who want to make a difference in the world. People should not be brought into situations where there is less willingness to collaborate and more encouragement to compete. “We cannot bring people into institutions

“People should not be brought into situations where there is less willingness to **collaborate and more encouragement to compete.** We cannot bring people into institutions and drop them into the same culture.”

and drop them into the same culture,” Dr. Malcom said. The pandemic presented an opportunity for change, reinvention, rediscovery, and reimagining, including thinking about culture change as people learned more about the need for balance in their lives. With the

possible end of the pandemic, will family-friendly policies remain in place? Will there be meaningful retention strategies?

SEA Change is trying to undo the biases and structures that have been baked into the system over hundreds of years. A problem cannot be solved with the same thinking used to create it. The best research requires an inclusive and supportive environment.

Questions and Answers

How can NIH and AAAS collaborate even more effectively around programs like SEA Change and other DEIA efforts?

- Part of SEA Change is focused on capacity building and introducing people to these programs. Also, the alignment between NIH and AAAS signals that excellence is directly connected to DEIA. To do excellent research and advance science, there is a need to think about the environment in which the research is being done and to work together to make necessary changes.

What institutional support or resources need to be in place for cohort hires to be successful in both recruitment and retention?

- People need mentoring, transparency, and the opportunity to get feedback on how well they are doing, as well as opportunities to form trusting relationships. Tenure should not be determined only by the number of grants or publications, but by a more holistic view of what constitutes scholarship. Innovation and interdisciplinary efforts will be the drivers of 21st century science.

Identifying Resource Needs for Cohort Recruitment and Professional Development

Building and Sustaining a Learning Community of Native Scholars

Spero M. Manson, Ph.D., Distinguished Professor of Public Health and Psychiatry and Director, Centers for American Indian and Alaska Native Health, University of Colorado Anschutz Medical Campus

Dr. Manson discussed the resources needed to promote and sustain the research careers of URG and disadvantaged scientists while seeking scientific workforce diversity. One of the first resources needed for a successful, lasting program is a conceptual framework, such as Dr. Manson's model (Manson, 2009).¹¹ Cohort recruitment is often thought of as recruiting individuals to the same physical institution. This model was tried over the years to bring American Indian/Alaska Native (AI/AN) scholars to institutions but was not successful, largely because of demands on the lives of the young people. In a distributed model, individual members of faculty development programs are distributed across the country and brought together in various ways to allow a sense of coherence.

Two examples of operationalizing a cohort model are the [Native Investigator Development Program](#) (NIDP, started in 1997) and the [Grantwriting Uncovered: Maximizing Strategies, Help, Opportunity, Experience program](#) (GUMSHOE, started in 2014). Both are funded by NIH ICs and are ongoing (Manson, Goins, and Buchwald, 2006; Jones et al., 2017).^{12, 13} Components of both programs include four group meetings each year and a series of didactic sessions on topics such as statistical techniques, proposal preparation, and fiscal and personnel administration. Additional components include intensive biweekly mentoring interactions with primary and secondary mentors, a statistical mentor, and a science-writing mentor, as well as peer-to-peer support. The programs emphasized secondary analyses of relevant data sets and primary data collection studies.

NIDP outcomes included support of 56 AI/AN M.D.s, Ph.D.s, and J.D.s in 12 cohorts; 91% were retained over a two-year training cycle. To date, 24 have received tenure at major research universities and have acquired more than \$210 million in NIH and other funding. GUMSHOE had 101 M.D.s, Ph.D.s, and Dr.P.H.s in more than six cohorts; 92% were URG or rural early-stage investigators, 72% submitted research grants to NIH and other sponsors, and 40% of their submitted grants were funded. The GUMSHOE structure has been incorporated into a variety of NIH pilot study programs. An analysis of the learning community from 1998 to 2015 showed how the community grew over time (Buchwald and Dick, 2011).¹⁴ Mentors and mentees worked collaboratively on publishing manuscripts. Keys to success included the following:

- Critical mentor characteristics, such as NIH R01 funding, involvement of both Native and non-Native scientists, publications, mentoring experience, connections with potential sponsors, positions of leadership, and valuing diversity.
- Critical trainee characteristics, such as mastery of self-reflection, the ability to consider the perspective of others and take constructive criticism, and adequate scientific preparation and writing skills.
- Critical program features, such as the ability to provide clarity and extensive structure regarding expectations linked to short- and long-term goals; an emphasis on deadlines, accountability, and an interlocking nature; efficiencies and time management; group collaboration and co-teaching; demystification of grantsmanship; help in restructuring discouraging circumstances; and addressing tensions among personal, professional, and social goals.

Ultimately, participants will achieve community-based partnerships and develop strategies for outreach and dissemination of findings. Mobilizing career development programs to benefit both mentees and mentors is possible and can be successful. Mentoring is a lifelong process, an obligation, and a privilege.

Cohort Hire Program at the University of Wisconsin

Beth Meyerand, Ph.D., *Vice Provost for Faculty and Staff Affairs, University of Wisconsin–Madison*

Dr. Meyerand provided an overview of the cluster hire cohort model program at the University of Wisconsin. Since 2018, the university has authorized 25 clusters across the biological, physical, and social sciences and the arts and humanities. Each cluster is composed of at least three faculty and is given the same total dollar amount to be used toward salaries. There are currently 45 faculty in clusters, and 20 positions are unfilled. The cluster hire program was put on hold during the pandemic, with no hiring last year. The overall goal of the cluster hire program was to improve institutional excellence by breaking down silos, reallocate resources to benefit the whole institution, and attract nontraditional scholars.

The cluster hiring process must involve different schools and colleges within a cluster. It is driven by faculty and includes the following steps:

- The process begins with a call to all faculty for cluster ideas. Ideas must be vetted by the dean's office because clusters are permanent faculty lines, initially paid by the central campus but later by the school or college.
- The provost appoints a 10-person interdisciplinary Faculty Cluster Hire Committee that evaluates proposals based on their potential to enhance faculty diversity and their relevance to the university's mission, potential for success, and quality.
- A pool of finalists is submitted to the chancellor, provost, and graduate school dean, who make the final decision for which to fund.
- Upon approval of a cluster, the provost's office identifies a lead dean for that cluster, who then appoints a search committee.
- The committee identifies candidates who meet the needs of the cluster as well as the needs of potential tenure home departments.

The process is complicated, because there may be multiple potential tenure homes for a single candidate, possibly in different schools and colleges. When the search committee identifies its choice for the position, the tenure home department must vote in favor of the cluster candidate. Like non-cluster faculty candidates, cluster faculty candidates also have start-up costs, which are not covered by the cluster program. Lessons learned for successful cluster hiring include the following:

- Make diversity goals explicit and develop supporting strategies to achieve those goals.
- Ensure early buy-in from the department chairs and deans.
- Engage faculty members early in the process and follow the lead of professors; silos may form without their buy-in.
- Establish clear expectations for cluster hires from the beginning; discuss promotion and tenure guidelines and available resources.
- Credit cluster hires for their work in the tenure and promotion process.
- Establish an infrastructure to support interdisciplinary collaboration, such as holding regular events that allow informal social networking.
- Communicate the value of the program to stakeholders across the institution.
- Develop a plan for sustaining the program throughout leadership changes.

Dr. Meyerand gave a quote from Sam Walker of *The Wall Street Journal*:

"...[C]luster hiring offers a tangible alternative to some of the classic hiring mistakes. Some companies still hire every team member separately, and largely for their qualifications, without investigating how well they might work with the others. Some continue to hire for 'culture' or 'fit,' which can be a great way to crush diversity and breed a toxic culture. In the end, I think the point is this: Maybe the best way to assemble a great team is to let the team assemble itself."

Enhancing Faculty Diversity and Inclusion at the University of California, San Diego (UCSD) Health Sciences

JoAnn Trejo, Ph.D., Professor of Pharmacology, Assistant Vice Chancellor for Health Sciences Faculty Affairs, UCSD

Dr. Trejo discussed efforts at UCSD to enhance faculty diversity and inclusion in health sciences. UCSD Health Sciences has about 1,800 faculty in three professional schools: the School of Medicine, the Skaggs School of Pharmacy and Pharmaceutical Sciences, and the Herbert Wertheim School of Public Health and Human Longevity Science. An institutional cluster hire, the first at UCSD Health Sciences, was conducted in 2019. The goal was to build a more diverse faculty and foster a diverse and inclusive community of scholars to enhance academic and research missions. The program was open to any academic unit in the health sciences. Positions were open to new faculty at any rank, with a strong preference for recruits at the assistant professor level. Outreach strategies included several social media platforms and interactions with networks with high representation of URG scientists. The program received 81 applications from qualified candidates (60% female, 56% URG). A search committee of 12 Health Sciences faculty members reviewed and ranked 15 applications. Offers were made to five candidates; four URG faculty were hired. Two appointments were joint efforts between departments and/or schools.

On arrival, new hires joined the Hispanic Center of Excellence (HCOE) program, which is open to all URG faculty within Health Sciences. HCOE was started in 2017 to provide educational and training opportunities focused on increasing the enrollment of URG students and faculty recruitment and retention. The program is administered through the Office of Faculty Affairs and includes career development planning, workshops on academic review and promotion, development of core area projects with a mentor, and mentorships with senior faculty and near-peers. There is also a two-year program for URG medical students in which mentors and other faculty participants receive stipends for their involvement. After the first year in the program, faculty have opportunities to engage in other types of

programs, such as professional development (through the National Center of Leadership in Academic Medicine [NCLAM]), research development and grant writing, mentorship training, and leadership training.

HCOE outcomes have been good, with 86% of eligible faculty participating. Many have submitted grants, received leadership positions, and trained URG mentees. A quantitative analysis of the initiatives and programs showed that the greatest increase in the quality of mentoring received was for URG faculty (Trejo et al., 2021).¹⁵ There was also a substantial increase in

morale for URG faculty, as well as in their perceptions of a supportive environment. A qualitative evaluation from program participants showed that networking and meeting other faculty and mentors created a sense of community, especially for female faculty. Having senior mentors helped with career and grant development; having more diverse peer mentors helped address immediate challenges and barriers. Achievements were attributed to HCOE resources, mentored project development, and funding.

REACTION TO PANEL PRESENTATIONS

Michelle M. Camacho, Ph.D., *Professor of Sociology, University of San Diego*

Dr. Camacho began by noting Dr. Malcom's comments about the importance of intersectionality and the need to not only adopt structures for faculty success but also undo the existing toxicity. She said that the distributed model discussed by Dr. Manson is unique in its emphasis on the saturation of mentoring. Inclusion of primary and secondary mentors, statistical mentors, and science writing mentors addresses all the elements that mentees need for their success. NIDP and GUMSHOE yield a high return on investment, in terms of both funds brought into the institution and long-term faculty retention. The focus on a holistic approach to supporting faculty by considering self-reflection, personal growth, and the relevance of their work is tied to the value of providing strategies for community-based partnerships. Faculty of color have deep connections to the communities that they serve and represent. Having that concept embedded in the mentorship process is integral, because it adds another layer of service and leadership for the institution and enables the scholar to contribute to their home campus.

Dr. Meyerand's discussion of the cross-disciplinary approach was exciting in terms of the strategy and overall approach across the institution to break down silos and attract nontraditional scholars. The cohort approach directly addresses the National Science

Foundation's (NSF) idea about the importance of convergence research and cross-disciplinary translational ideas in enriching the approach to science and building upon existing knowledge. Dr. Meyerand also stressed the importance of faculty buy-in. Faculty were asked to contribute ideas about cluster themes, and experts were brought in to serve on cross-campus committees. Another key focus was accountability, which the literature shows leads to a greater likelihood for sustaining the program. Finally, a contingency plan for changes of leadership should be in place to mitigate potential problems. Dr. Camacho said she would be interested in hearing more about how Dr. Meyerand's campus dealt with resistance to the ideas and how the panelists work with shared mentor models.

Dr. Trejo's presentation on the UCSD's postdoctoral program illustrated a wonderful mechanism for attracting applicants and replenishing the pipeline. The discussion featured the strong role of and reliance on external structures. For example, having NCLAM serve as a source and provide a grant-writing course took the onus off individual mentors and allowed a more distributed model. Another strategy involved bringing in external visiting scholars to provide mentorship, in the absence of diverse leadership on campus. Digging deeply into culturally responsive mentorship is integral for serving faculty hired in a diverse cluster.

Questions and Answers

Q What are the best cost-effective strategies for running cohort recruitment and retention programs? How does one ensure the medium- and long-term sustainability of a diversity cluster hire initiative?

- **Dr. Manson:** Return-on-investment (ROI) analyses are critical in justifying the investments made with such initiatives. The University of Michigan pioneered an ROI analysis of career development programs and showed both the tangible and intangible benefits, all of which can be monetized to varying degrees. The analysis demonstrated the accrual of external sponsors of research, the ability to retain faculty over time, and extension of collaboration with other institutions.
- **Dr. Meyerand:** It was important to get buy-in for cluster hiring from both the department and the dean at the very beginning. The department should be listed as a possible tenure home for a cluster hire faculty member before the position is even advertised. The department and the dean's office will have intense conversations about finances and ability to pay for start-up costs (e.g., space renovation) for potential cluster hires. Departments will be listed in the ad for a cluster position only if they commit on Day 1 to doing everything necessary to hire the faculty member and ensure that they thrive during their career.
- **Dr. Trejo:** One of the key aspects of cost-effectiveness was to split the costs across the institution. Buy-in was needed not just from the chancellor for health sciences but also from the executive budget council. The proof of success was the ability to recruit high-quality URG investigators. Initiatives are now in place to move forward with additional cluster hires.
- **Dr. Camacho:** It is especially important to focus on the project's long-term sustainability. Attracting faculty and having start-up packages is very resource-intensive. Preparing department chairs and deans to think critically about retention and supporting faculty members holistically is important so that the leadership understands why it is beneficial for the campus and research to have diverse faculty clusters.

- **Dr. Malcom:** Trustees of institutions look at a long timeline and try to understand which faculty will be leaving and when (e.g., whether there are faculty who might be interested in a buyout or phased retirement). Rather than “plopping people on the current faculty,” the need is to configure the faculty for the long term and address sustainability. New faculty need to be positioned for success not only to avoid the institution's reputation as “a revolving door” but also to be cost-effective in terms of resource allocation.

Q Do you think that distributed clusters with virtual meetings will be sustainable after the pandemic? This could reduce cost per participant and allow scale-up.

- **Dr. Manson:** Cluster models that focus on only a given institution and limited geographic area are a concern. Younger scholars live in a broader universe of both social and research relationships, and these interactions should be expanded and supported. Virtual platforms have served that need, and there are many creative and innovative ways to employ them, in terms of presenting posters, mobilizing images, and blending them together in written and spoken narratives. Moving forward, there will likely be more emphasis on a hybrid approach that blends these different modalities to complement each other, leading to not only great efficiency but also to cost savings, with minimal loss to the outcomes of interest.
- **Dr. Trejo:** There are many benefits to a virtual platform, and hybrid platforms are likely. Three NIH-funded faculty development programs that had convened every summer were converted to virtual platforms, offering cost savings and making the program more accessible to individuals with family and caregiving responsibilities.
- **Dr. Malcom:** Virtual platforms can also address issues related to spousal hires, which can affect recruiting and retention. Also, small groups in various locations can work together. For example, the Laser Interferometer Gravitational-Wave Observatory is based at the California Institute of Technology but has operational components in Louisiana and Washington state, as well as international partners.

- **Dr. Manson:** Technology allowed him and his colleague/spouse to work in different states and still collaborate.
- **Dr. Camacho:** Dr. Manson's data analysis suggested that a distributed model can be beneficial not only for the scholar but also for growing the network over time. There is also the potential for new publications focusing on best practices.
- **Dr. Bernard:** The COSWD office plans to do all conferences and seminars virtually through 2022 (see the [COSWD blog post on the topic](#)). Data showed that larger numbers of women and individuals from URGs were able to participate in scientific meetings during the pandemic.

Q What are best practices for onboarding faculty who are recruited via clusters or cohorts? How can these practices be connected to resources and places outside of the university?

- **Dr. Meyerand:** A cluster hire committee meets with the chairs of the receiving departments to discuss onboarding, space allocation, and equipment. If a faculty member will be in two different departments, questions about how they will work between different buildings, schools, or campuses and about the challenges they might encounter are addressed. The senior faculty on the committee smooth the path for new hires.
- **Dr. Trejo:** One of the biggest challenges is having the faculty understand what is needed for promotion and tenure. The HCOE program can be seen as an onboarding program to discuss faculty promotion and advancement and learn about challenges and struggles from peers. Near-peer mentoring from those who went through the process recently is invaluable.
- **Dr. Camacho:** Onboarding begins in the negotiation process. One approach used in cluster hires has been to provide a negotiation template to allow for transparency in the process.
- **Dr. Malcom:** The current process places the entire burden of negotiation on the person being hired. Baselines and structures are needed to ensure that

inequities do not “come in the door” and build up over time. Onboarding needs to include and maintain equity across the group.

- **Dr. Manson:** Much of the work is about a person–environment interaction. A young faculty member must first figure out the environment to acquire the necessary skills to navigate it. The institution bears an equal responsibility to allow the young scholar to navigate realistically.

Q Is the potential for scholarly collaboration within the cluster a factor for hiring? How critical is it for the clusters to be across departments or colleges? Can there be synergy from being placed within the same department?

- **Dr. Trejo:** Her cluster hire involved individuals working in diverse disciplines. The HCOE program, which can be viewed as a cohort, has had multiple collaborations.
- **Dr. Camacho:** Her cluster hire had eight individuals, and relationships and friendships have evolved. The cohort theme was interdisciplinary across STEM, and the organization was successful in having interdisciplinary grants written and retaining faculty.
- **Dr. Meyerand:** The clusters at her institution are highly collaborative. It is exciting for people to know that they will have colleagues doing related work and entering at the same time. This provides a ready-made peer group to push scholarship forward. Department chairs have said that it is easier to hire their top candidates if the candidates know they will be part of a cluster.

Q What has been done to truly integrate these groups and their cultures into legacy-backed groups and their cultures—that is, how do you avoid the notion of “our group versus their group”?

- **Dr. Meyerand:** Clusters at her institution tend to be collaborative within themselves. There is not an “us versus them” mentality, but the clusters are sometimes so fascinated with their group's work that they do not look outside. The department itself tends to be highly collaborative, without impermeable siloes. When the annual report of the cluster is

written, the department chairs are asked how the cluster integrates within the research fabric of the unit, so the leadership tends to be mindful about forming connections within the campus as a whole. The cluster groups must feel that they are part of the fabric of the university.

- **Dr. Trejo:** This issue is addressed by well-integrated senior faculty mentors who are often high-profile researchers. They help junior faculty connect with other researchers to learn about different training programs and research centers. Junior faculty can also serve as mentors in training programs, which also foster interactions and collaborations.
- **Dr. Camacho:** Having the cohort faculty fit in with the legacy groups is part of the charge of the department chairs and deans. One of the most effective ways to build bridges is with project-based programming that allows for collaborations in service projects or committee work across diverse groups. The deans and chairs should be championing these efforts.

What sort of special programming should be in place to retain mid-career faculty just after tenure?

- **Dr. Trejo:** Several programs have helped her mid-career faculty, but there is not much emphasis on, or many resources targeted to that group. The issue needs more attention.
- **Dr. Camacho:** There is often a lot of programming for getting faculty through the tenure process but less for helping them toward full professorship. The NSF has launched a new program for mid-career faculty. Many faculty members are starting to think about other professional development opportunities for leadership, such as for the role of department chair or associate dean. Professional associations also have leadership program opportunities.
- **Dr. Meyerand:** Her office has two popular programs for mid-career faculty. One is a mid-career chat program that addresses topics such as expanding the research portfolio and moving on to leadership positions in the university or a scientific society or foundation; the other is a mentoring program, where mid-career faculty are paired with a campus administrator or a faculty member in a different area.

“The cluster groups must feel that they are part of the fabric of the university.”

Please talk about the top two or three things that you hope people will take from this panel discussion.

- **Dr. Camacho:** Accountability and sustainability. Someone must be formally responsible for the program and any consequences. To keep the momentum going, data must be collected and outcomes shared with the broader campus community. This contributes to the cycle of acceptance, guards against resistance, and provides needed feedback so the programs can grow and thrive.
- **Dr. Meyerand:** Getting buy-in for cohort or cluster hiring from all stakeholders (e.g., faculty, chairs, deans) at the very beginning and ensuring accountability, which should include regular check-ins with all.
- **Dr. Trejo:** The impact of the initiatives on the URG faculty. There are many examples of success that can be used and adapted to the culture of a particular institution and tailored to meet its needs. Evaluation and assessment are needed to show the impact, so leadership will be more generous with resources.

Tracking Cohort Outcomes— Collecting Data on the Experiences of Faculty Members

Collecting Data on the Experience of Faculty Members

Idethia Shevon Harvey, Dr.P.H., *Associate Professor of Health Sciences and Faculty Fellow for Inclusive Excellence, University of Missouri*

Dr. Harvey discussed the experiences of minority and diverse faculty members she encountered as a faculty fellow for diversity, equity, and inclusion. She noted that new faculty want to feel a sense of belonging to the institution, but efforts to improve DEIA are not a “quick fix” or confrontational.

Diversity does not only refer to race and ethnicity but is also about culture (e.g., religious beliefs, sexual identity, and orientation). A focus on inclusion means creating a climate in which the person coming in can thrive not only in research but also in personal endeavors. Many new hires are excited and passionate about their work but do not understand the infrastructure of their environment or how to ensure that their research is not considered an outlier to the unit’s mission. Some hires who do not feel welcome either go to another institution or leave academia altogether.

Institutions, and especially small units within larger organizations, need to stop being “revolving doors” that bring in one minority faculty member only when another leaves. New hires who feel they must be the catalyst for changing the department culture carry a heavy burden, especially during the tenure-track process. The university and the department must be committed to cultural change.

Strong mentoring is critical. Some new faculty learn about their department’s culture only after making a mistake. Junior faculty need mentoring to understand the unwritten rules for promotion and tenure. The focus on retention should begin as soon as an individual signs the appointment letter. A welcoming work environment allows an individual to thrive while they conduct research. The person must not feel that their research is “niche” and not part of the majority research endeavor.

A Personal Perspective of the Cohort Experience

Alberto A. Rascón, Jr., Ph.D., *Associate Professor of Biochemistry, San José State University*

Dr. Rascón, a first-generation Mexican American, shared his story about becoming a principal investigator and how NIH programs helped him feel a sense of having a cohort and belonging. After majoring in chemistry as an undergraduate in California and receiving encouragement from a professor, he pursued a graduate degree at the University of Arizona. At the beginning, he felt like an imposter who did not fit in. Fortunately, he was part of the NIH Initiative for Maximizing Student Development (IMSD) program, where he met other people of color. Having this cohort and a URG faculty mentor gave him a sense of belonging. Through an R01 Minority Supplement grant, Dr. Rascón received support for three years, which allowed him to travel to meet other scientists. This boosted his confidence in talking about his research. After a setback in his first graduate lab, he almost left the program, but he found a new graduate advisor and began his work on the *Aedes aegypti* mosquito midgut protease project. In addition to learning new lab skills, he became involved in writing manuscripts and grant applications and teaching postdocs.

Dr. Rascón was then accepted into the NIH IRACDA program at the University of California, San Francisco, and San Francisco State University, which gave him more teaching experience and allowed him to develop into a strong independent scientist. Learning to disseminate information properly through teaching also made him a better grant writer. The NIH programs provided him with mentors who guided him through applications for faculty positions. He decided to accept a position as an assistant professor at San José State University in 2013 and was tenured in 2019.

At San José State University, Dr. Rascón wanted to provide a cohort experience to his students to make sure his lab was a safe space in a nonjudging community. With help from his undergraduate students, he collected enough preliminary data to receive funding for the National Institute of General Medical Sciences (NIGMS) Support of Competitive Research (SCORE; SC3) program in 2016. With the goal of “paying

it forward,” Dr. Rascón got involved in other NIH programs, serving as a mentor and co-coordinator in the Research Initiative for Scientific Enhancement (RISE) program. He was also a mentor in the NIH Maximizing Access to Research Careers (MARC) program and other minority programs, such as the California State University Louis Stokes Alliance for Minority Participation (CSU-LSAMP) and the Chicana/Latina Student Success Center, or Centro.

Although Dr. Rascón’s imposter syndrome still rears its head sometimes, the cohorts helped give him a sense of belonging. He wants to ensure that his students have similar opportunities.

Tracking Outcomes of Institution Research and Career Development Programs

Angela Wandinger-Ness, Ph.D., *Professor of Pathology and Associate Director for Education, Training, and Mentoring, University of New Mexico Comprehensive Cancer Center*

Dr. Wandinger-Ness discussed the benefits and outcomes of programs like IRACDA that serve as early-career cohort models. She noted that Clifton A. Poodry, Ph.D., a former director of the NIGMS Division of Training, Workforce Development, and Diversity, envisioned and launched the IRACDA cohort model for postdoctoral development in 1999. The current IRACDA network encompasses 21 programs at research-intensive academic institutions across 16 states. An annual conference connects the entire network around best practices in research, education, and advancement of workforce diversity. Fellowships in Research and Science Teaching at Emory University (a program called Emory FIRST) and Seeding Postdoctoral Innovators in Research and Education (SPIRE) at the University of North Carolina at Chapel Hill were among the inaugural programs.

IRACDA training begins with the recruitment of cohorts of 3 to 10 fellows from URGs in STEM. Fellows participate in structured research, teaching, and professional development activities over three to four years. Teaching activities must take place at a formally partnered minority-serving institution. The fellows serve as important role models, bringing their stories to students who may not

have considered STEM-gained knowledge in career paths. Assessment of IRACDA outcomes considers the impact on individual fellows, the cohort of fellows, the institutions, the students served, and the national community of scholars and faculty.

The SPIRE program features structured training, which includes teaching experiences, professional development, and experience balancing teaching with research. The program significantly increased the participation of women to 69%, compared with national postdoctoral training data showing that 40% of participants were women.

Data on the career outcomes of IRACDA scholars

compared with F32 awardees over a 15-year period (1999–2014) showed an increased representation of women across the entire IRACDA network. The data also showed that 40% to 50% of IRACDA scholars who pursued careers in science and academia were from traditionally URGs, compared with 5% of F32 awardees. Seventy percent of IRACDA fellows assumed careers in academia, compared with 65% of F32 awardees. Career outcomes of Emory FIRST scholars showed that a large portion took faculty appointments at minority-serving institutions. Composite outcome data showed that structured training had a significant impact on enhancing scientific workforce diversity.

The Academic Science Education and Research Training (ASERT) program, the IRACDA program at the University of New Mexico, includes structured mentoring and targeted skill development, with monthly meetings to encourage interdisciplinary dialogue and coursework and workshops on topics such as grant writing and responsible conduct in research. The program uses a logic model to guide the evaluation of short- and long-term outcomes. An independent expert serves as an evaluator. Scholars are trained in diverse disciplines, such as anthropology, ecology, engineering, and biomedical sciences.

Demographic data show that 47% of ASERT fellows are from URGs. There were 15 AI/AN scholars trained across the entire network over the 15-year period. The opportunity to work with AI/AN students was a draw for five of the scholars. ASERT career outcomes reflect those of national trends: The 45 ASERT alumni in 19 states have assumed careers in academia; 49%

remained in New Mexico. Scholars averaged 3.3 publications each. Fellows at Emory FIRST averaged 1.0 publications per year (Eisen and Eaton, 2018).¹⁶ In the SPIRE program, scholars transitioned to faculty positions at a rate three times higher than the national average, with a higher proportion of URG and female scholars. Both the SPIRE and Emory programs had a significant impact on undergraduate education and broadening STEM participation (Rybarczyk et al., 2011; Rybarczyk et al., 2017).^{17, 18} A Tufts University IRACDA and five others piloted a web-based partner impact tool built collaboratively with minority-serving institutions.

A final crucial impact of IRACDA is the building of a community that provides structured support and peer networks through formal and informal sharing. In summary, IRACDA programs:

- Attract and retain women and other URGs in science through intensive, structured professional development in both research and teaching that has a durable, long-term impact on trainee self-efficacy, career attainment, and satisfaction.

- Highlight the benefits of enhancing scientific workforce diversity in academia and related science professions. Partnered faculty and students benefit through interactions with scholars who share an interest in teaching and education pedagogy and serve as relevant role models.
- Coalesce communities of practice through explicit, structured training and shared teaching and research experiences.

Key limitations in outcomes assessment include the need for relevant comparator groups, prospective analyses, and more uniform use of self-efficacy surveys (note: for context involving another, different postdoctoral program, see Faupel-Badger et al., 2017).¹⁹

REACTION TO PANEL PRESENTATIONS

Carla Freeman, Ph.D., *Goodrich C. White Professor of Women's, Gender, and Sexuality Studies and Executive Associate Dean, Emory College of Arts and Sciences, Emory University*

Dr. Freeman said that measuring the success of efforts to diversify faculty requires doing the experiment, testing the hypothesis, collecting the data, tracking the incremental steps, and identifying clear measures of success. There is a need for more qualitative measures to assess not just the number of URG scientists added but also the quality of the experience at every stage of the scientists' professional lives. Meaningful support and engagement are needed at each distinct chapter of an individual's career.

All the panelists highlighted multiple genres of mentorship. A key takeaway is the importance of training mentors. Simply holding a higher rank or having a pleasant chat in the mailroom does not constitute mentoring. Structured programs are needed to address each phase of the professional life cycle, highlight the experiences of URG scientists, and provide specific mentoring for academic, industry, or government spheres. Expanding the candidate pool to break down silos, rethinking the interview and review process, examining implicit biases, and using the cohort approach have become best practices on many campuses and provide an opportunity to diversify faculty across every field. In the past six years, including the pandemic, Emory University gradually increased URG faculty from about 14% to 38% to 50% in a given year. The percentage of URG tenure-track faculty doubled in the same period.

The panelists emphasized the inextricable relationship between recruitment and retention. Many factors determine whether faculty will not just stay but thrive. Retention is dynamic, multifaceted, and too often thought of as a onetime gesture, such as when a faculty member is courted elsewhere. A single snapshot, such as an institutional survey, reflects only a partial picture of a specific moment. Elements that matter most to an individual may change over time. Retention must be approached as building a relationship with the individual in the form of recognition, professional development, and a sense of community. Diversifying faculty is an investment in changing the culture of academic life. Cultures do not change overnight or due solely to mission statements from leadership. To assess cohort hiring and capture the complexities of success, the scope of the methods used needs to be broadened. People have myriad reasons for staying or leaving, often having little to do with the institution or specific resources. Faculty need to feel valued by their department and supported by the chair, regardless of how many university-wide structures are in place to support DEIA. A new project at Emory is studying the most meaningful modes of engagement at the individual and collective levels. Success will be assessed not only by having scientists remain in institutions and make new discoveries but also by having new generations of inspired students, as well as academic communities that are challenged to change and develop in new directions.

Questions and Answers

Q How satisfied are faculty who are recruited via cohort strategies? How do you measure that satisfaction? What are other psychosocial or socio-emotional metrics of success for faculty cohort recruitment?

- **Dr. Freeman:** Her institution routinely checks in with faculty hired through cohort strategies. Some structured measures, such as annual reviews, are used, but informal conversations with department chairs and faculty are critical. Faculty hired through the initial STEM cluster six years ago often changed their interests and concerns over the years. The priorities are to capture the dynamism in the life course of every faculty member and keep pace with the changes in their trajectories.
- **Dr. Wandinger-Ness:** Her institution has held exit interviews with faculty to learn their motivations for leaving, and now uses the feedback to structure a more positive environment.
- **Dr. Rascón:** His institution has not yet had a cohort cluster hire. As a faculty member, he appreciated senior colleagues' help with the tenure promotion process, but he still felt alone. After a year, he and another faculty member created a junior faculty cohort and hired several people. In addition to sharing experiences about the lab, publications, and students, discussing work-life balance was also important.
- **Dr. Harvey:** New faculty need to feel valued as humans as well as researchers and understand that the infrastructure allows them to thrive and be creative. Even though their research may differ in some ways, it is important that they feel respected for bringing something new or nontraditional to the department or institution.

Q Is there a way to share resources on making promotion and tenure criteria more transparent? For example, how have other schools revised their criteria over time and shared accountability specifics with university leadership?

- **Dr. Harvey:** Units and departments must begin to build a matrix or infrastructure so that faculty understand the measures used for promotion. Some institutions may not be willing to have such transparency, but it is imperative that they do so.
- **Dr. Rascón:** A holistic approach that plays to a person's strengths is needed. Teaching and mentoring, for example, need to be considered along with research and publications. Focusing on what one loves to do reduces the burden of worrying about tenure.
- **Dr. Wandinger-Ness:** Her academic medical center has a mix of basic scientists and clinical colleagues, and promotion guidelines vary. For researchers, the emphasis is on research, education, scholarship, and some service; for clinicians, the focus is on clinical expertise, scholarship, and teaching. The school of medicine, the largest school at the center, has a faculty affairs office that provides programming for faculty on promotion and tenure. A structured approach begins at the school level and goes down to the departments. Junior faculty usually have senior faculty mentors.
- **Dr. Freeman:** Transparency and legibility of the institution's expectations are keys to successful tenure. Some anxiety can be removed when the institution is open about expectations. Individual faculty members should seek mentorship at the department, school, and university levels, because they will be reviewed at all three. It is crucial to learn how to communicate about their science and its importance. All institutions want committed and transformative teachers as well as scholars and researchers. Faculty should have access to a library of exemplary tenure dossiers.



Most of the initiatives discussed have been top-down leadership initiatives. Do you have any suggestions for getting buy-in from senior leadership through a middle management approach?

- **Dr. Rascón:** It has been difficult to broach the subject with much of the upper administration. Some conversations have begun, but follow-through is challenging.
- **Dr. Harvey:** Departments must have total buy-in to the process and a strategic plan for implementing cultural changes. If faculty do not feel they belong or are welcome, no amount of resources will convince them to stay. Middle management must be committed to changing themselves when they realize the system is not one in which people can thrive.
- **Dr. Freeman:** Institutions need to jettison the replacement model of hiring (i.e., approaching the dean to approve a line to replace someone who is retiring or leaving) and think creatively about constellations of scientists and scholars who cohere around a particular theme. She has not encountered opposition to the idea of cluster hiring at her institution, and there is actually competition to participate. The key ingredient has been engaging relevant individuals at the department level from the moment the vision is established. If they participate in conceiving the vision, there is often no opposition.
- **Dr. Wandinger-Ness:** It is possible to have a grassroots initiative led by a group of interested faculty that secures grant funding. Her IRACDA program, which is now in its third cycle of funding, has shaped how postdoctoral scholarship is done at her institution. She and her husband were part of a cohort faculty hire at the mid-level. This led to a funded comprehensive cancer center at the University of New Mexico and a clinical translational science center.



Are there any unforeseen issues when recruiting, hiring, and retaining a faculty cohort who may be devoted to research topics relevant to diverse backgrounds? Why or why not? Is there an issue of potential backlash as a result of these sorts of hires?

- **Dr. Wandinger-Ness:** She has not seen backlash, but coordination among multiple units can be challenging. The University of New Mexico now has a College of Population Health, likely an outgrowth of the many researchers spread across the School of Medicine, the College of Pharmacy, and other units that were doing population-based work.
- **Dr. Rascón:** He has not been involved in such an approach. Hires at his institution have been based on needs in specific areas. There was a large cohort hire in computer science at his institution.
- **Dr. Harvey:** It can be challenging to bring in a faculty member who has a narrow focus on a research topic with a diverse population if there is no senior person available who can guide them. This is important for those who seek [**NIH Career Development awards, or K awards**](#), because applicants need a mentor doing similar work.
- **Dr. Wandinger-Ness:** Another example of a special initiative for building interdisciplinary research initiatives from the ground up is a spatial temporal modeling center that spanned her institution's two campuses and brought in groups of junior faculty members and the Mountain West Consortium.
- **Dr. Freeman:** She has not seen the focus on diversity topics causing any concern for marginality or skepticism, but she emphasized that isolation of any junior scholar is a red flag. Faculty have left because of feeling extremely isolated and have sought other opportunities with a large group of scientists working with the same methodologies and focus. Care must be taken not to put a junior person at risk by recruiting them where they will be an island.

Wrap-Up

Dr. Bernard thanked the panelists and attendees, noting that the rich discussions highlighted the nuances of cohort recruitment and its variation among institutions and organizations. She summarized the key themes:

- Cohort recruitment efforts require institutional commitment from leadership and can be developed, particularly with the use of data on their effectiveness.
- Change does not happen immediately. Patience is needed.
- Institutions must be open and honest with potential recruits about the actual state of the organization.
- A small number of like-minded individuals can develop efforts that lead to propagating concepts of cohort hiring that can take hold throughout an organization.
- Pivotal influencers may not necessarily be the provost or department chair but rather individuals further down the line.
- Cohort recruitment efforts need to be data oriented and focused.

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Abbreviations

AAAS	American Association for the Advancement of Science
ACD	Advisory Committee to the Director
AI/AN	American Indian/Alaska Native
ASERT	Academic Science Education and Research Training
COSWD	Chief Officer for Scientific Workforce Diversity
CSU-LSAMP	California State University Louis Stokes Alliance for Minority Participation
DEIA	Diversity, Equity, Inclusion, and Accessibility
FCR	Fostering Cohort Recruitment
FIRST	Faculty Institutional Recruitment for Sustainable Transformation
GUMSHOE	Grantwriting Uncovered: Maximizing Strategies, Help, Opportunity, Experience
HCOE	Hispanic Center of Excellence
ICs	Institutes and Centers
IMSD	Initiative for Maximizing Student Development
IRACDA	Institutional Research and Academic Career Development Award
K Award	NIH career development award
MARC	Maximizing Access to Research Careers
MOSAIC	Maximizing Opportunities for Academic Independent Careers
NAACP	National Association for the Advancement of Colored People
NCLAM	National Center of Leadership in Academic Medicine
NIDP	Native Investigator Development Program
NIGMS	National Institute of General Medical Sciences
NIH	National Institutes of Health
NSF	National Science Foundation
OD	Office of the Director
ROI	Return on Investment
RISE	Research Initiative for Scientific Enhancement
SEA	STEMM Equity Achievement
SCORE or SC3	Support of Competitive Research
SPIRE	Seeding Postdoctoral Innovators in Research and Education
STEM	Science, Technology, Engineering, and Mathematics
SWDSS	Scientific Workforce Diversity Seminar Series
UNITE	An acronym for an NIH initiative established to identify and address structural racism within the NIH-supported and greater scientific communities
URG	underrepresented group
WRAP	Writing and ReseArch Productive (group for Black faculty)

