

Not Just Any ADVANCE Will Do: The First 20 Years Before the Next

National Science Foundation ADVANCE's 20th Anniversary Special Issue

Collaborations, Collisions, and Connections

J. Kasi Jackson¹ and Kelly Mack²

¹ West Virginia University

² Association of American Colleges and Universities

Not Just Any ADVANCE Will Do: The First 20 Years Before the Next

This 20-year anniversary of the National Science Foundation ADVANCE program marks a critical time. ADVANCE has seen a recession, the election of America's first Black president, Brexit, the 'Me Too' movement, an attempted political coup, and more recently, a global pandemic - all amid ongoing and ever accelerating racialized violence, both outside of and within the academy. Although the COVID pandemic and ongoing racialized violence mark areas of continuing injustice, what has also been made apparent within the academe is that contrary to many narratives, rapid pivots and change - especially in response to global crises and national imperatives - are possible, but only where the will and motivation exist. We've seen this in shifts in the demographic landscape, the rise in adult learners, the emergence of interdisciplinary majors, letting go of our reliance on standardized tests, and in our ability to transfer courses and programs online over a matter of weeks, if not days; this leads us to wonder what would happen if the same intense focus and commitment was applied to achieving racial equity, inclusion and justice in the academy, especially in STEM.

What the last 20 years has made readily apparent is that racism is dangerous to the academic STEM disciplines, especially if it is unacknowledged. ADVANCE's first 20 years exemplify this finding as white women have overwhelmingly been its primary beneficiaries, often to the detriment of women of color. While ADVANCE acknowledged the ongoing impacts of sexism on women, in general, the complexities of racial and ethnic identity - and how they and other identities within whiteness (e.g., able-bodiedness, sexuality, gender identity and presentation, socio-economic stratification) contribute to inequities in STEM for all women - were unacknowledged at best, and willfully ignored at worst. Therefore, we made an explicit and deliberate choice early in the editorial process to focus on racial equity.

Although one way to look at a special issue is a celebration of accomplishments, we felt that several excellent works had already taken this approach to honoring the pioneering work of ADVANCE's first leaders and advocates*. And we wanted to avoid the mistakes of the past and acknowledge and highlight the urgent work of racial equity with which all of the ADVANCE community needs to engage right now, while also calling attention to the meaningful connections, unavoidable collisions, and mutually beneficial collaborations that are needed right now if we are ever to find ourselves in a better place 20 years from now.

When reviewing the first round of submissions, we noted consistent disparities in how authors of different social identities and from different kinds of institutions engaged with racial identity and their racialized institutional contexts. Every manuscript, focusing either on Black or Latinx women or Minority Serving Institutions isolated, identified, and named race and/or their racial identities in their titles, paragraphs, data analyses, and conclusions. On the other hand, authors representing the dominant culture in STEM and/or traditionally white colleges and universities, by and large, neglected to even mention race. When pushed to address it, some authors interpreted this as a requirement to provide statistics about the low representation of women of color on their faculties or to universalize the experience of being a woman in STEM. They did not acknowledge that their research or interventions, due to the compositions of their faculty, were largely about effective strategies for white women or women of color from outside the United States.

Several authors in this issue (notably Russell and Lee) specifically address the unique experiences of Black women, especially African American women, at Predominantly White Institutions (PWI) and at Historically Black Colleges and Universities (HBCU). But it is our hope that all of the articles in this issue leave the reader with a concrete understanding of the

need to acknowledge disparities that arise from the intersection of social identities, as well as the responsibility we have to ensure that proven strategies for institutional transformation give rise to welcoming spaces where faculty of color can thrive. We argue that at both PWIs and at Minority Serving Institutions (MSI) this work must begin well BEFORE the arrival of significant numbers of faculty of color, continue even in the face of global and institutional crises, and never end.

Ultimately, we hope that similar to the Black Lives Matter movement, the movement for racial justice in STEM will instill the same sense of urgency for change in all of us, even while most of our institutions are still majority white faculty. Several of our submissions, thus, focus on working with majority group members of faculty. Our selections from PWIs include those that are engaged in that work and provide some insights to other PWI's about how they can engage. We encourage similar such submissions, with an eye toward addressing the needs of those most marginalized among us, to future issues of this journal to establish a space to share strategies.

The special issue opens with a section intended to orient the reader to the context and history of ADVANCE. It includes three pieces - a historical overview, a brief data report on networks among current institutions in the ADVANCE funding portfolio, and a case study for the implementation of an ADVANCE IT project. Rosser and Laursen's "Looking Back to Look Forward: A Retrospective Examination of ADVANCE" covers the origins of the ADVANCE program, focusing on how it arose as a recognition of the need to address systems of gender inequality as operationalized in the policies, practices, and structures of institutions. They provide an overview of how the National Science Foundation shifted the program in response to external factors, as well as how institutions implemented their programs. They underscore the need to continue to diversify the ADVANCE portfolio, especially in terms of the types of

institutions who enter the community and in how the program addresses systemic racism. Next, "The NSF ADVANCE Network of Organizations" by Gold et al. presents a network analysis of ADVANCE projects and their work. This brief report begins to map out the way that relationships build among funded ADVANCE institutions and illuminates how the ADVANCE community is growing and what steps need to be taken to ensure that all kinds of institutions receive ADVANCE funding and become fully networked. We are excited to publish these early results and will be following their future work as they dive more deeply into the data set. Allen et al.'s "Recruiting, Retaining, and Advancing Women in STEM at an HBCU: A Model for Institutional Transformation" provides a highly nuanced description and roadmap for gleaning the unique experiences of women of color and using them to inform a more robust portfolio of programming and initiatives that can be of benefit to all faculty, particularly African American women in STEM. Exemplars such as this are excellent tools for the ADVANCE community, especially as we challenge ourselves to envision a better future for ADVANCE, one that fully includes the multiplicity of women's experiences in STEM.

In line with our theme of connections, the second section of this special issue focuses on how to build and maintain the connections needed to transition and institutionalize projects.

"Narratives of Black Women STEM Faculty: Breaking Barriers to Promote Institutional Transformation at Historically Black Colleges and Universities" by Lee et al. investigates the lived experiences of Black women at HBCUs, providing descriptive detail in their own words about the institutional realities that exist at the institutions that are most effective at producing Black STEM graduates. The findings reveal that much work can be done at these institutions to better support the Black women faculty serving as mentors and role models while also conducting research, publishing, and teaching. The next paper, "Creating Continuous Change:

Adapting an NSF ADVANCE Approach to the Development of the AGEP-NC Model of Institutional Transformation” by Gumpertz et al. connects ADVANCE and NSF Alliance for Graduate Education into the Professoriate (AGEP) projects, which focus on transitioning Black, Indigenous, and Latinx graduate students into the faculty. The authors illustrate how key insights from ADVANCE work, focused on one institution, can be translated into an alliance of multiple institutions, including diverse types of institutions within a single state. Sperzel et al.’s “Reflections on Challenge, Change and Transition: How Relationship Building Supported Change Management, Transitions and the Unexpected in a Multi Institutional AGEP Alliance for Faculty Diversity” addresses a common challenge for institutional transformation projects such as including ADVANCE and AGEP- transitions in leadership and key personnel. This personal narrative is made more poignant by the death of the inspirational PI who grounded the work and its moving dedication to his memory. It provides multiple viewpoints on how the team coalesced and transformed their tragedy into the kind of insights that others – including us – can use to weather transitions and the inevitable down points in in our work.

A third section highlights collisions, namely across disciplinary boundaries, and some associated epistemological and methodological shifts that are needed to reach racial equity. Grindstaff et al.’s “ADVANCE-ing Grounded Theory: Methodological Insights from a Qualitative Study of Latinas in STEM,” epitomized the themes of the special issue. It provides a narrative about their qualitative research processes and the ways in which it centered, with intentionality, the experiences of Latina faculty. The authors offer careful consideration of the impacts of their differing, sometimes divergent, research cultures on the collection of data. This is masterfully grounded in an elaborate explanation of the particulars of qualitative data collection and analysis. Taken together, their deep insight and detailed explanation demonstrate

how valuable the time-intensive methods of qualitative research are and how critical it is for that research to not only focus on Black and Brown women but also center their lives and celebrate their experiences. Especially valuable is the reflection about how they adapted when certain methods did not work. Their willingness to candidly share their dilemmas, difficulties, and setbacks are invaluable to the ADVANCE community and others engaged in this work.

Similarly, Russell's critical review "African American Women Faculty at Predominantly White Institutions (PWIs): Empowering through Mentoring" also offers candid and valuable insights. In it, the author asks us to shift our framework for mentoring in ways that center the needs and the experiences of Black women. She offers insight as to how this shift in thinking can be of broad benefit to academe. Her piece celebrates the experiences and achievements of Black women and offers a joyful approach to institutional transformation that foregrounds those who most often are required to give the most of themselves in order to advance in STEM, while supporting the success of others. Yet another shift can be seen in the next paper "Asking Different Questions in STEM Research: Feminist STS Approaches to STEM Pedagogy" by Vora et al., which offers a shift from projects focused on who does STEM work to the larger question of how STEM work is conceived and shaped by assumptions about knowledge. The authors integrate feminist science and technology studies within the context of institutional transformation work by asking participants to challenge and question how their very disciplines, and associated knowledge produced, are structured by gendered and radicalized assumptions. They share the design of their modules, including many suggestions for those who want to read more in the area.

The fourth section on collaborations highlights strategies to engage all faculty in discussions of equity. These articles, in particular, are notable for their solid integration of racial equity into their approaches to institutional transformation. For example, "A Critical Feminist Approach

from the Geosciences to Transform Workplace Climate in Partnership with Professional Associations” by Marin-Spiotta et al. integrates a feminist ethics of care framework with an intersectional lens to ground a bystander intervention program offered through a professional association. The authors argue that disciplines, such as geosciences, with field research components, must take direct action to mitigate harassment and similar behaviors before they can welcome a full range of faculty. Because safety issues in these contexts are magnified by intersecting power dynamics, the authors make a convincing case for the cultivation of a care oriented, rather than a legalistic, framework to build inclusive cultures where everyone feels safe. Next, Rose et al.’s “Motivating Bystander Intervention to Reduce Bias in Faculty Interactions” addresses the critical gap between building awareness and taking action. It provides some concrete strategies to empower individuals to actually do something about the issues they see and to intervene in ways that create positive circumstances. In “The Men Need to Be Involved: A Critical Frame Analysis of Gender+ Equity Narratives,” Anicha et al. provide results from one of the longest running ADVANCE programs, focused on engaging majority group members of North Dakota State University’s Advocates and Allies initiative. This timely article includes an intersectional analytic lens that deeply reflects on the significance of expecting, if not requiring, majority group members to address race, as well as gender.

Given the issue’s focus on racial equity, we want to acknowledge the many imperfections of how the ADVANCE community, including ourselves, names racial groups. We recognize the critical importance of nomenclature, especially in terms of who is centered and who is marginalized and othered, either explicitly or implicitly. We also recognize the constraints that limit how federal programs, such as ADVANCE, apply nomenclature to racial and ethnic groups. This topic has been of significant concern to members of the AGEp community, within which

there have been many open and frank discussions and opportunities to learn about the issues at play when the use of certain terms is mandated. In the case of AGEP:

AGEP populations are defined as STEM doctoral candidates, postdoctoral scholars and faculty, who are African Americans, Hispanic Americans, American Indians, Alaska Natives, Native Hawaiians, and Native Pacific Islanders. The terms for these racial and ethnic populations are derived from the US government's guidance for federal statistics and administrative reporting. (National Science Foundation, para. 1, Summary of Program Requirements)

For these reasons, instead of seeking consistency, we have respected the authors' decisions about nomenclature for their pieces.

Overall, this issue represents a collective effort by the authors, the reviewers, the editorial team, and especially the many women faculty in STEM who inspired the work of gender equity and continue to energize its expansion and evolution. We appreciate the time spent on writing, reviewing, and revising, as well as the dedication with which the authors and reviewers approached their work during an unprecedented season of overwhelm- the negative impacts of which have been well-documented in the prior two special issues of this journal. In particular, we would like to thank the following committed reviewers for their insights and thoughtful responses: Amena Anderson, Margaret Bailey, Koren Bedeau, Sharon Bird, Joel Corbo, Chris Francovich, Gertrude Fraser, Linda Fuselier, Maria A. Gartstein, Karen Graham, Mary Ann Holmes, Tonisha Lane, Melissa Latimer, Laura Lavine, Christina López, Cara Margherio, Cathleen McGrath, Ethel Mickey, Beth Mitchneck, Gudrun Nyunt, Marcia Owens, Autumn Reed, Christine Rittenour, Desdmona Rios, Ruth Plenty Sweetgrass She-Kills, Christie Sahley, Gwen Lee Thomas, Veronica Thomas, Angelicque Tucker Blackmon, and Sarah Wise.

** For an overview of the many achievements and success of ADVANCE, we point the reader to the following books: Stewart et al.'s Transforming Science and Engineering: Advancing Academic Women (2007), Billimoria and Liang's Gender Equity in Science and Engineering: Advancing Change in Higher Education (2011), and Laursen and Austin's Building Gender Equity in the Academy: Institutional Strategies for Change (2020).*

References

National Science Foundation (2021, March 29). Program Solicitation NSF 21-576. *Alliances for Graduate Education and the Professoriate (AGEP)*.

<https://www.nsf.gov/pubs/2021/nsf21576/nsf21576.htm>