All the Voices:
Doing the Work to Improve Diversity, Equity, and Inclusion Throughout ACM

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ACKNOWLEDGEMENTS

PART ONE

1.0   THE CONTEXT AND THE CATALYST FOR THIS RESEARCH

Every research project begins with a catalyst and a question or questions. The catalyst for this project was a series of events in 2020 that became a moment of reckoning and then a movement centered on and illuminating deeply ingrained patterns, processes, and prejudices of inequity and injustice faced by generations of Black Americans in the United States. This moment was a turning point following which no institution could consider itself immune to deeply probing questions concerning diversity, inclusion, and equity.

This study focuses on ACM, a large global professional association. Its membership is international and its interlacing decision-making structures, policies, and processes are highly complex and intentionally dispersed across the organization. The qualitative study described in this report began with the following question:

> Do ACM's members, volunteer leaders, and staff believe that it needs to become a more diverse and inclusive organization and, if so, what do they believe is standing in the way?

Part One of this report explores the current social context for this question, the scope of the research and researcher bias, and the context of ACM including its structure and its membership. Part Two digs deeper into how issues of diversity and inclusion have played out across many of ACM's structures and how ACM has responded to recent calls for change. Part Three provides a very brief review of literature from the field of organizational change. Part Four describes the research methodology and why a qualitative approach was the most appropriate methodology for answering this question. Part Five (data analysis) draws directly on the voices of the interviewees as expressed through 7 major themes and 65 subthemes. The final section, Part Six, explores potential areas for action/change identified in the data and provides a list of recommendations aimed at improving diversity and inclusion throughout ACM.

This isn't an easy paper. It is as complex as ACM and as flawed as the researcher. But it comes from a place of deep desire and profound belief that ACM can become a better version of itself.

1.1   Social Context and Calls for Justice

The deaths of Breonna Taylor (March 13, 2020 in Louisville, KY) and George Floyd (May 25, 2020 in Minneapolis, MN) precipitated large-scale Black Lives Matter (BLM) protests in countries across the world and fueled demands for profound and critical engagements with systemic racism and injustice. As Payton, Yarger, and Mbarika (2021) noted, BLM became "a global movement that centers the lived experiences of Black people while affirming our Black humanity, our contributions to society, and our resilience in the face of deadly violence" (pg.1). The current situation for Blacks and African Americans might have continued and remained largely unaddressed but for recent events that have become a flashpoint for speaking out against generations of inequality, oppression, fear, and sustained and systemic violence against people of color in the U.S. and beyond.

These demands have reverberated through society, leaving very few institutions or organizations untouched by calls for racial justice and a better world. The computing field, in particular, continues to struggle with issues of equity, diversity, inclusion, and representation. Women and people of color are critically underrepresented at *all* levels of computer science, including K-12 (Code.org, 2020), post-secondary (CRA, 2017; CRA, 2020), and industry (ComputerWorld, 2020). The extent to which these inequalities are embedded and permitted to perpetuate in academe and industry are contributing to increasingly negative perceptions of the field as a whole (Marcus, 2015; Dutt-Ballerstadt, 2020).

For many years preceding the BLM movement, the technology sector (particularly in the U.S.) has come under sharp scrutiny and criticism for what many perceive as a response that has been performative rather than substantive, full of cliched assurances but short on substantive commitments and actions (#corporateblackface). Similarly, racially driven inequities in K-12 (Margolis, 2008) and post-secondary computing education (including among faculty) have long been a matter of record and research (Payton, Yarger, and Mbarika, 2021).

As the world's largest educational and scientific computing society with a direct mission to advance computing as a science and a profession, ACM is not immune from these passionate social movements for equity and/or the critique of historical systems and practices that perpetuate or, in the very least, fail to alleviate these inequities. In the months following the killings of Breonna Taylor and George Floyd and the protests that followed, ACM too faced a rising chorus, from without and within, demanding institutional change.

1.2 Study Scope

This study and the resulting document is not intended as a comprehensive review of the long history of ACM's effort to become a more richly diverse organization. Nor is it a comprehensive examination of the efforts to achieve greater equity that are currently being undertaken at all levels of ACM's complex organizational structure. Rather, it is an effort to explore some critical aspects of ACM's structure and culture through the voices of 22 individuals who share the goal of identifying what can be done to ensure that the results of ACM's efforts to become a more diverse, inclusive, and just organization are successful, systemic, and sustainable over time.

1.3 Intention and Personal Bias

This research paper is the result of a qualitative research study conducted from April 1 to June 30, 2021. One of the tenets of qualitative research is that there is no such thing as complete objectivity. In qualitative research, it is a disciplinary norm that the act of analyzing the data and then sharing the results, however structured, inserts the researcher into the story. So the best way for the reader to ascertain the extent to which bias might be present is to know who this researcher is.

For more than 35 years, I have participated as a community member, volunteer, and leader of professional member organizations in the field of computer science. These experiences have given me an understanding of how these organizations operate, their important contributions to their disciplines and members, and their strategic challenges. My relationship with ACM began in 1991 when I was recruited to help determine how ACM could most effectively engage with the K-12 computer science education community. Over the years I have also served as the founding executive director of the Computer Science Teachers Association (begun by ACM in 2004) and as a member and currently co-chair of the ACM Education Board and Education Advisory Committee. I've been involved with ACM for all of these years because I believe in its mission and its people. And throughout my career I have benefitted from the generous mentoring of ACM staff and volunteer leaders.

I share this information because it is important to convey that this is not an unbiased outsider view of the challenges that ACM currently faces in responding to demands that it become a more diverse, inclusive, and equitable organization. Nor is this paper intended as the most comprehensive or most compelling examination of what ACM has done to date and can do in future to achieve these aims. My hope is that this paper is a starting point, a snapshot of the current state of ACM's work in the equity space and some ideas (based on what is known about how organizations achieve systemic and sustained change) and recommendations that may help it become the kind of organization that this moment in history is calling upon it to be.

One thing learned from years of struggle to disentangle my own privilege is that "truth" is often an illusion and inextricably linked with our personal, communal, and societal values, perspectives, biases, and privileges. I neither claim nor believe that this, or any, research is "objective". As a long-time member and current volunteer leader of the organization I am studying, I am simultaneously an insider and an outsider, and this creates something of an ethical predicament. I know that people shared information with me because they know and trust me. I also understand the potential harm I could do to the organization and to my relationship with it. This is why I have chosen to source multiple stories from ACM volunteers, staff, and external experts as a foundational discourse to help ACM become truly diverse and inclusive. By describing myself as the storyteller, I am acknowledging the multiple and shifting subjectivities that allow me to see that the story I am telling is only one possible understanding and interpretation and it is both enriched and diminished by what I can bring to it in the moment.

1.5 ACM Structure and Decision-Making

As stated on its website, ACM is "the world's largest educational and scientific society". Its mission is to advance the art, science, engineering, and application of computing, serving both professional and public interests by fostering the open exchange of information and by promoting the highest professional and ethical standards. Originally founded in 1947 as the Eastern Association for Computing Machinery, ACM's global membership as of 2020 totaled 94,698 of which 74,602 are professional members (including industry, research, and academe) and 20,096 are student memberships. As part of its commitment to provide networking and professional learning opportunities to its members, ACM supports 38 Special Interest Groups (SIGs) organized around key aspects of computing. These volunteer-led SIGs play a critical role in ACM through the organization and provision of workshops and symposia. To facilitate its global membership, ACM also supports regional councils in Europe, India, and China.

In addition to the benefits it provides for its members, ACM has a number of outwardly facing resources intended to support the discipline of computing.

ACM publishes a number of journals, magazines, and proceedings from its more than 170 annual conferences. The ACM Digital Library (DL) also provides a curated database of more than 600,000 full-text articles authored by leading researchers in computing. Although it does not provide certification, ACM has developed and regularly updates the ACM Code of Ethics and Professional Conduct. This document outlines the "fundamental considerations that contribute to society and human well-being and those that specifically relate to professional responsibilities, organizational imperatives, and compliance with the code".

ACM has also become one of the primary sources of professional recognition in the computing field. Its Turing Award, for example, is widely considered the "Nobel Prize of computing". This award is given for major contributions of lasting importance to computing. ACM also provides highly competitive awards recognizing young computing professionals, computing educators, theoretical computer scientists, software systems innovators, educators, and computing pioneers who have made significant humanitarian and cross-discipline contributions. ACM's SIGs also support a number of awards that recognize a variety of contributions to the field.
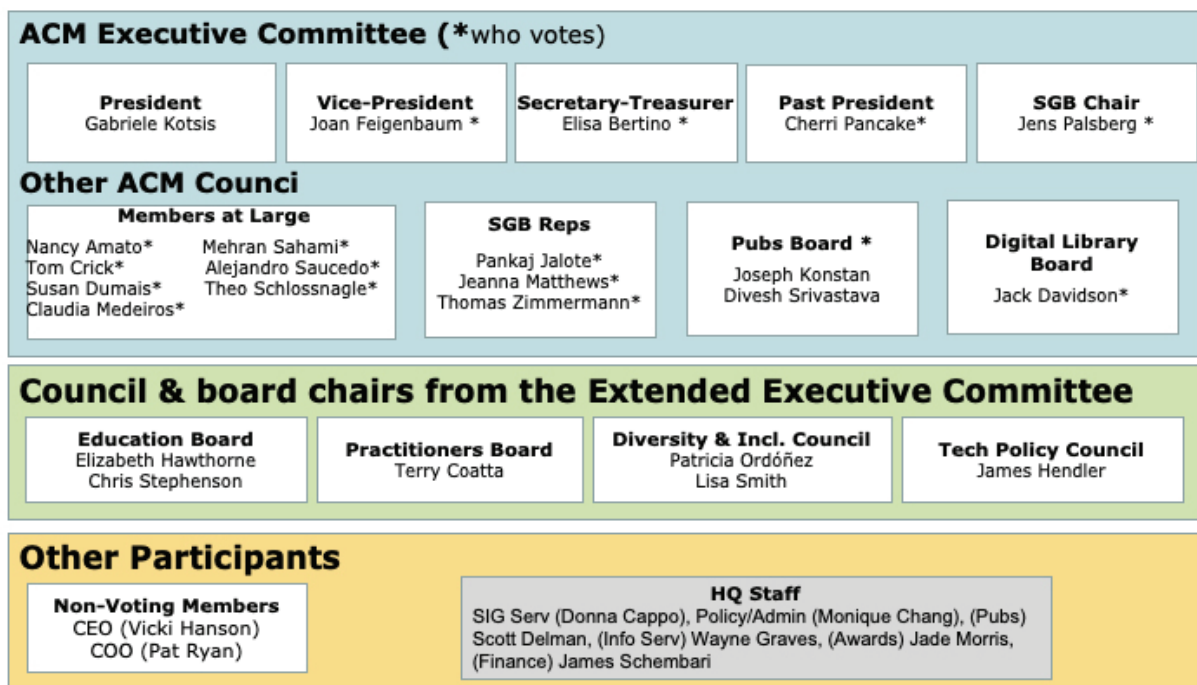

Figure 1: ACM's Current Council
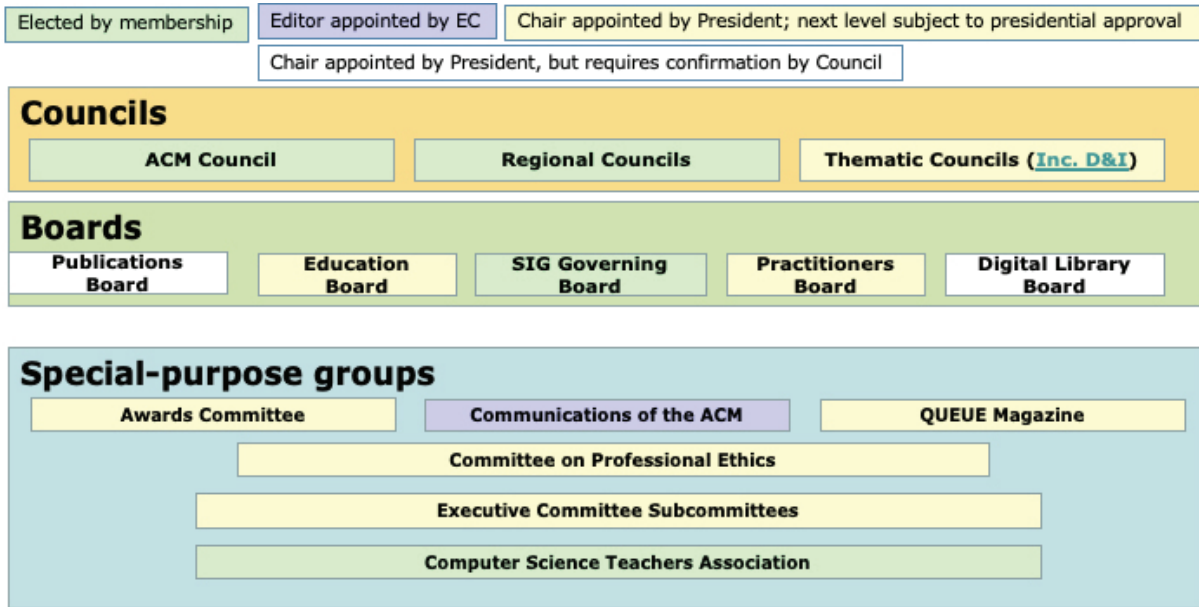
Figure 2: ACM's Councils, Boards, and Special-Purpose Groups

ACM is a large and complex organization with a current staff of 66 (plus 9 staff vacancies that were not filled due to a COVID-19-related hiring freeze) at its New York City headquarters. The most senior staff members are Chief Executive Officer (CEO) Vicki Hanson and Chief Operating Officer (COO) Patricia Ryan. Policy and decision-making at ACM rest primarily with multiple levels of volunteer leadership. The ACM Council is the Association's highest decision-making body and consists of a member-elected President, Vice President, Secretary/Treasurer, Past President, three Special Interest Group (SIG) Governing Board Representatives (elected by the SIG Chairs), and seven member-elected Members-at-Large. There are currently three Regional Councils: China, Europe, and India. The Thematic Councils include the Diversity and Inclusion Council (formed in July 2019) and the Technology Policy Council (also formed in 2019). (The President appoints all thematic Council Chairs.) The Chairs of the Special Interest Group Governing Board (SGB) (elected by the SIG Chairs), Publications Board (appointed by the President and confirmed by Council), and Digital Library Board (appointed by the President and confirmed by Council), the Education Board (appointed by the President), and the Practitioners Board (appointed by the President) are also invited to attend and participate in Council meetings. The Council meets twice per year and is responsible for:

- formulating the policies of the ACM and supervising their execution,
- sending an Annual Report to members of the ACM,
- adopting an annual budget for the ACM, and
- adopting, maintaining, enforcing, and publishing a public code of professional ethics.

The ACM Awards Committee is a sub-organization of the ACM Council and the ACM President appoints the Awards Committee Co-Chairs. This committee is responsible for overseeing the ACM Awards Program (including the Advanced Member Grades), approving the establishment of SIG Awards, and populating the Awards subcommittees. Each award has a committee that is responsible for reviewing nominations and selecting award recipients.

The ACM Executive Committee (EC) is responsible for managing the association's activities between meetings of the Council. This committee is composed of the same member-elected President, Vice President, Secretary/Treasurer, Past President and the Chair of the SIG Governing Board.

The Chairs of the Education Board, the Publications Board, the Practitioners Board, the Digital Library Board,

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the Diversity and Inclusion Council, and Technology Policy Council are members of ACM Extended Executive Committee and participate in specific EC meetings (although not as voting members). The Technology Policy Council and D&I Council chairs are invited to attend as well. The EC often considers specific issues (e.g., annual budget) in advance of Council meetings and makes recommendations to the Council on those issues. The EC also oversees a large number of subcommittees that manage how the association functions (e.g., subcommittees on the Constitution and Bylaws, Nominations, Elections, Professional Ethics, Public Policy, and History).

ACM's four Boards (SGB, Publications, Digital Library, Education, and Practitioners) manage the association's services. Each Board has a distinct role and focus:

- SGB: has responsibility for managing ACM's 38 SIGs.

- Publication Board: is responsible for maintaining ACM's position as a publisher in computing and as a curator of publication data for the field.

- Digital Library: is responsible for the oversight of the Digital Library and supporting technology platforms.

- Education Board: is responsible for developing and recommending computing curricula, currently at 6 comprehensive curriculum volumes covering computing education generally and 5 sub-disciplines. It also drives topical task forces addressing critical issues in CS education (e.g., ethics, retention, diversity).

- Practitioners Board: is responsible for developing programs that support the professional needs of ACM members as well as promoting computing as a profession.

Beyond the Councils, Boards, committees and subcommittees, ACM currently supports 38 SIGs. The SIGs are possibly the most visible embodiment of ACM and its policies for individual members. Each SIG represents a major area of computing and addresses the interests of technical communities that drive innovation. The SIGs' responsibilities include: advancing the skills of their members, keeping them abreast of emerging trends, and offering opportunities for networking with colleagues.

Individual SIG's missions are facilitated through conferences, publications, and related activities. Volunteers carry out all SIG responsibilities (including serving as conference chairs).

Two other ACM volunteer groups that are critical to ACM's diversity story are the Diversity and Inclusion Council (D&I Council) and the Standing Committee on Systemic Change. ACM's Executive Committee create the D&I Council on July 1, 2019, to serve as a cross-cutting group to coordinate and promote diversity and inclusion efforts throughout the organization. The D&I Council is facilitated by two co-chairs. The ACM CEO (a staff position), ACM President (an elected position), and ACM COO (a staff position) also serve in ex-officio capacity. The D&I Committee members were appointed by the co-chairs in consultation with the ACM President to achieve a balance across the type of organization, size of organization, geographic region, race and ethnicity, and gender representation.

The Committee on Systemic Change (commonly referred as the Systemic Change Committee) began as an outgrowth of a Zoom discussion between several of the signatories of the Heartfelt Concern letter, ACM's D&I Council Co-Chairs, the ACM CEO, and the ACM COO. From this and follow-on discussions, the committee mission emerged and a charter for the committee was developed. The committee's co-chairs were then appointed and the co-chairs, in turn, appointed members of the committee. The committee now sits under the D&I Council. The first full committee meeting occurred in November 2020.

1.6 The ACM Volunteer Data

At its foundation, ACM is a professional association, which means that its security and longevity depend upon understanding and meeting the needs of its membership. However, much of the responsibility and energy for defining and achieving ACM's professional and education goals falls to the member volunteers. Accordingly, in managing organizational change, it is critical to know who the members and member volunteers are. This is especially true in times where the entire social discourse is highly fragmented because the general social fragmentation may or may not be reflected within the member population,

and this will necessarily impact change management goals and strategies. Unfortunately, determining who the ACM members are is more difficult than one might expect.

As is the case for many organizations, privacy laws and norms make it difficult for ACM to collect sensitive personal information about members. For ACM, this challenge is exacerbated by (1) the global distribution of the membership, (2) the fact that many (possibly even most) members chose not to provide answers to demographic questions, and (3) the fact that in many countries it is illegal to require members to provide this information. Data collection involving historically marginalized populations is further complicated by the fact that marginalized populations differ from country to country and the terminology used to describe these populations is similarly non-uniform. For example, in the U.S. indigenous populations are commonly referred to as "American Indians" or "Native Americans" while in Australia they are referred to as "Aboriginals" and in Canada as "First Nations and Indigenous Peoples". Regardless of the challenges, though, understanding ACM's membership is a critical facet of establishing a baseline from which representation progress can be measured going forward.

The data described below was mined from member profiles and not sourced from a distributed survey. Members create these profiles when they join ACM. ACM members also have the opportunity to fill out the demographic information each year that they renew,

but may choose to simply renew and not fill out the information.

This initial baseline data provides a useful overview of ACM's current demographics. The information provided below consists of the membership data, including that of Boards and Councils, as of September 2020 and the conference data from 91 conferences that answered at least one of a series of four demographic questions and 71 conferences that answered all four demographic questions. To provide a more holistic view of ACM's current membership, the charts below show all the data currently available.

The chart below shows, as of September 2020, there were more women than men in ACM volunteer leadership positions.

The data on race and ethnicity is less comprehensive. As shown in Figure 4, only 2039 ACM members and six of the volunteer Board and Council members provided this information in their profiles and none of the ACM Council members or SIG leaders chose to do so. However, the data does show that the percentage of leaders on ACM's Boards and Councils who identify as members of an underrepresented racial or ethnic group exceeds the percentage of ACM members who define themselves as being a member of an underrepresented racial or ethnic group. It also shows that members of underrepresented racial and ethnic groups are missing entirely from ACM Council and across the SIG leadership.
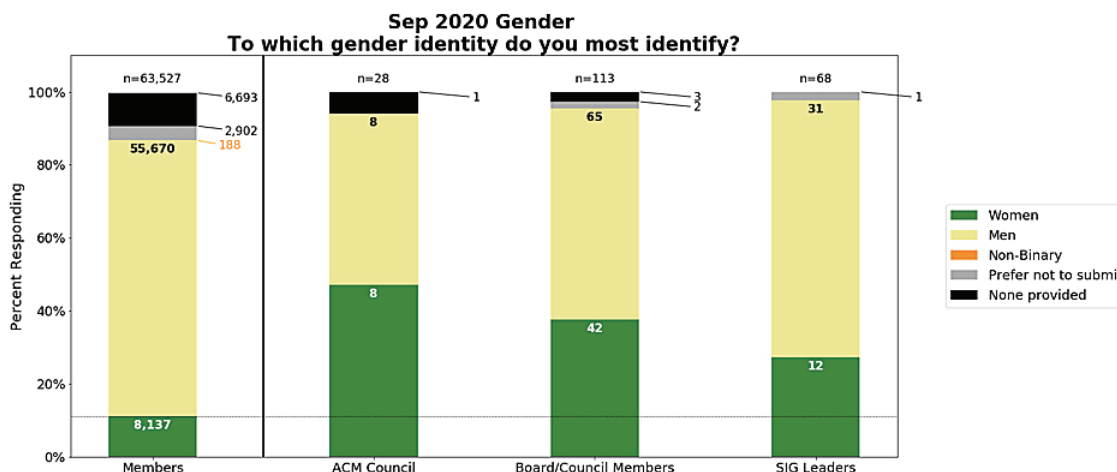
Figure 3: ACM Member Gender Diversity
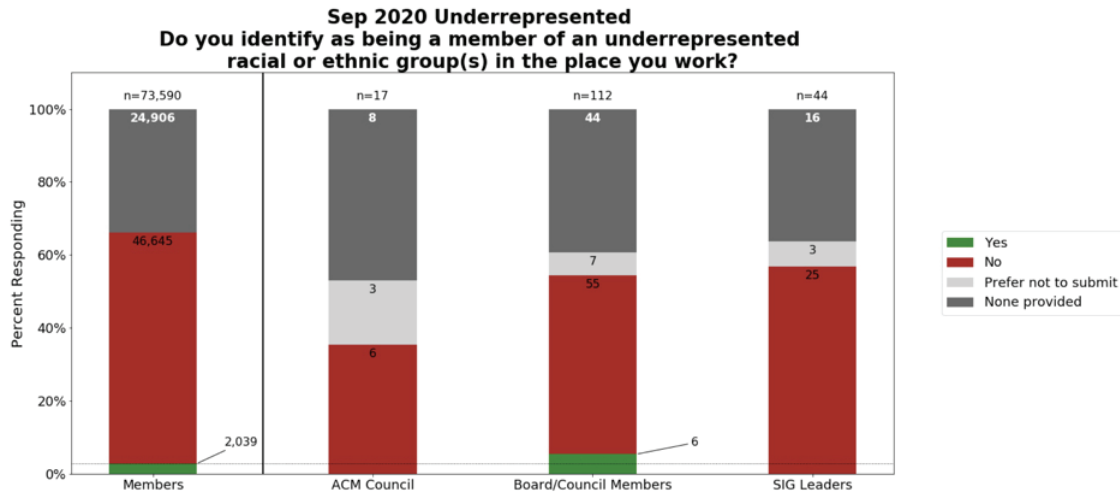
Figure 4: ACM Membership by Race/Ethnicity

Although the membership numbers are considerably smaller for people who define themselves as having a disability or special need, the representation pattern here is even more stark, with a single disabled/special needs representative on an ACM Board or Council and none at all on the ACM Council or among the SIG leaders.

This pattern of underrepresentation in ACM leadership positions and membership raises critical questions:

- Would more diverse leadership encourage more diverse membership over time?
- Is the diversity of the membership an inevitable outcome of the lack of diversity in the discipline of computing,

How ACM addresses these questions will play a large role in how it chooses to address diversity, equity, and inclusion.

PART TWO

2.0   DIVERSITY, INCLUSION AND REPRESENTATION

ACM's history is consistent with and reflective of the technology world's challenges with longstanding issues of diversity, inclusion, and representation. To date, ACM has expressed its commitment to diversity and inclusion through a variety of sub-organizations that address different aspects of diversity, including:

- Geographic: Regional Councils for Europe, India, and China.
- Ethical: the ACM Code of Ethics and Professional Conduct
- Gender: ACM-Women, which focuses on supporting and advocating for women in computing.
- Historically Marginalized Groups: Richard Tapia Celebration of Diversity in Computing conference.

As is typical for many ACM initiatives, volunteers drive and manage ACM's efforts to increase equity and diversity within the association and in the computing community as a whole. At an organizational level, ACM defines diversity as bringing individuals around the table "from a variety of backgrounds and experience, leading to a breadth of viewpoints, reasoning, and approaches (the who)" (https://www.acm.org/diversity-inclusion/about). ACM further notes that inclusion is achieved when the environment is characterized by behaviors that welcome and embrace diversity (the how).

ACM currently collaborates with several other organizations on its diversity and inclusion work. ACM and the Center for Minorities and People with Disabilities in IT jointly sponsor the Richard Tapia Conference. ACM assumes all financial and legal responsibility for

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this event and provides the conference proceeds for investment in future events while the Tapia organizing committee manages the conference organization. ACM also has provided substantial financial support for the CRA IDEALS workshop (formerly named the CRA Grad Cohort - Widening Participation). It also contributes annually to the National Center for Women in Technology (NCWIT) and AnitaB's Grace Hopper Celebration of Women in Computing.

2.1   ACM-W

The founding of the Council on Women in Computing (ACM-W) was one of ACM's earliest large-scale equity efforts. In 1990, ACM formed a committee to address the underrepresentation of women and minorities in computing. This committee included several well-respected women in computing. In 1993, ACM then formed a new committee called the Committee on the Status of Women in Computing, which was later renamed the ACM Committee on Women in Computing (ACM-W) under its first Chair, Amy Pearl. According to its mission statement, ACM-W "supports, celebrates, and advocates internationally for the full engagement of women in all aspects of the computing field, providing a wide range of programs and services to ACM members and working in the larger community to advance the contributions of technical women." Over the years, ACM-W has championed ground-breaking work, including Tracy Camp's project monitoring the status of women in computing, which resulted in the publication of the much-cited article, and winner of the SIGCSE 2021 Test of Time paper award, "The Incredible Shrinking Pipeline" (Camp, 1997). As will be described in greater detail in the data analysis section, ACM's approach to ACM-W overall was conservative, involving a small budget that increased in increments as ACM-W demonstrated its productivity and value to ACM.

ACM-W has grown significantly since its inception and now includes professional and student chapters, regional celebrations of women in computing, scholarships and awards including the ACM Rising Star Award and the Athena Lecturer Award. Beginning in 2005, ACM-W became more global in its focus, with program members from many countries including Australia, Canada, Germany, India, and South Africa. The ACM-W

Ambassadors program (1999-2011) also provided a more global perspective by including representatives from other countries. ACM-W has also raised awareness of gender equity issues among other ACM organizations such as the Education Board and many SIGs. It is also possible that ACM-W's influence and actions have played a significant role in the strong growth of female representation in ACM volunteer leadership, including several women ACM Presidents, which correlates to the rising visibility, activity, and influence of ACM-W both within and beyond ACM.

Despite these improvements, the playing field within ACM and in computing in general is still not level for women. As noted in a 2020 Slate article, nearly all of the prestigious ACM awards are still given to men:

> *Since the Turing Award's inception in 1966, 70 computer scientists have won it, only three of whom have been women. The first female recipient didn't win until 2006—it took 40 years to recognize a woman. Some hypothesize that the dearth of women Turing Award recipients reflects women's underrepresentation in the field. However, the roughly 4 percent of women recipients does not approximate the fact that women currently earn 21 percent of the Ph.D.s in computer science, down from the 1987 peak of 37 percent.*

This gender imbalance in award recipients is not because there have not been a number of women who have made pioneering contributions to computing. Even former Turing Award winners such as Vint Cerf and Robert Tarjan noted in this article that the nomination process itself is problematic because, in relying on support letters from prominent computer scientists, it simply reinforces the old boy network that thrives in the discipline.

2.2   The Diversity and Inclusion Council

Despite limitations caused by COVID-19, the D&I Council has initiated a number of projects intended to have both internal and external impact. With the goal of ensuring greater diversity for ACM's various volunteer Boards and Councils, two staff members conducted a detailed analysis of ACM's demographics at the D&I Council's request and shared the findings with the D&I Council chairs who then presented it to ACM's Executive

Committee and Council. The D&I Council also manages (on ACM's behalf) funded partnerships with external organizations focused on diversity and inclusion. Examples of funded programs and organizations include Code Afrique and the CRA-WP Grad Cohorts. The Council also continues to provide sponsorships for events such as the NCWIT annual summit, the Grace Hopper Celebration of Women in Computing, and the Richard Tapia Celebration of Diversity in Computing that pre-date the Council's existence.

Additionally, the D&I Council launched and manages the "words matter" initiative. This effort is intended to replace offensive terms in computing (e.g., slave and master relationship, white hat and black hat) with terms that are more descriptive and more inclusive. Additionally, "words matter" raises awareness of the impact of language on members of the community and encourages use of more inclusive terms. It also has several efforts underway to identify and publicize with the wider ACM community, best practices for accessible conferences, mentoring, and travel grants.

During the interview process, members of the D&I Council acknowledged that their efforts were slowed due to more conservative ACM budgeting arising from concerns about the impact of the pandemic on the Association's revenues. ACM staff noted, however, that the co-chairs were informed that funding could be made available through the Development Fund should they have a particular project that required additional funding. The D&I Council members also noted that since its launch, the Council has been in startup mode and the efforts needed to find its place in the larger organization has diverted some energy away from its programmatic efforts.

2.3   The Heartfelt Concern Letter

On June 12, 2020, ACM D&I Council published a statement on inclusivity on its website. This statement began as follows:

> In the United States, and throughout many regions around the world, current events have brought attention to the urgent need for equality and respect for all individuals. We have witnessed racism and violence against Black people in the

United States and in our communities. Most recently, the killings of Ahmaud Arbery, Breonna Taylor, and George Floyd have re-focused attention to the long-standing racism and injustice that plagues the United States and many other nations. In response, there are worldwide demonstrations and protests. ACM members are directly impacted by these events and we, the volunteer leadership of ACM, are outraged by this all-too familiar pattern of enduring injustice. Black Lives Matter.

It also included a commitment to make a number of changes to ACM's practices and policies. According to ACM leaders, this statement was posted in response to societal issues in the U.S. at the time. Shortly after that statement was posted, ACM received a letter (referred to as the Heartfelt Concern letter) addressed to the ACM Officers and Governing Body. This letter called on the organization to take a number of actions to address systemic racism and the underrepresentation of Black scholars and computing professionals within the organization and in the computing world at large. As noted in a June 14, 2020 blog by Harrington, et al. the letter was written in response to a perceived lack of engagement and a lack of substantive communications by ACM's leadership and a wish for a more substantive, specific, deep, and actionable position by ACM.

> [W]e are concerned with the vagueness and brevity of the ACM's stance on the systemic racism and other social injustices that are currently causing civil unrest and being brought to the forefront across the world...As researchers, scientists, and ethnographers, we understand the importance of specificity and transparency in how we discuss and address injustices that disproportionately impact marginalized communities. The current statement presented on the ACM website, while generally reaffirming the ACM's commitment to inclusiveness, is woefully inadequate and warrants a more insightful actionable position from the ACM leadership.

The letter was composed by Black scholars, academic researchers, graduate students, and practitioners and

was signed by 51 ACM members and affiliates. Although these 51 members represented a very small percentage of ACM's membership, ACM's Chief Executive Officer, Vicki Hanson, noted that it was not at all unusual that ACM would take the letter very seriously as all emails from members are taken seriously and can lead to action.

> "The Heartfelt Concern letter helped provide a catalyst for change at ACM. It arrived at a time when societies across the US and other parts of the globe were realizing the need to address issues of equity in our communities. The Heartfelt Concern letter provided information about specific aspects of the ACM activities that needed such attention, suggesting some concrete steps that could be taken. It also was signed by a number of people who, by signing, indicated their interest in helping ACM make needed changes."

The letter (quoted verbatim below) outlined the following steps that ACM could take in several areas.

ACM-Related Recommendations for Immediate and Long-term Action:
- *Revise the ACM's official statement to specifically condemn acts of violence against Black people, systemic racism perpetuated in our professional community, and indifference.*

Position (Representation and Leadership)
- *Nominate and recruit Black scholars from within the ACM community for leadership among ACM Boards and Committees.*
- *Include Black scholars and their scholarly contributions in computing or computing-related curricula as an example of epistemic resistance—rejecting academic strategies that silence the scholarship and testimonial authority of Black scholars in computing.*
- *Engage scholars, students, and departments from Historically Black Colleges and Universities (HBCUs) and other Minority-Serving Institutions (MSIs) in the larger ecosystem of the ACM to acknowledge the contribution of research coming from these institutions. (This support may look like long-term scholarships for students or programs that support conference attendance.)*

People (Publication Review Boards, Conferences)
- *Create a board of ethics to execute the values and aims of ACM's Code of Ethics, including a specific mandate to govern the way technological research is promoted among marginalized and vulnerable populations, especially those that have been proven to disproportionately impact Black and Brown communities.*
- *Ensure that all panels feature representation of Black and Brown scholars who are knowledgeable in the topic discussed. This should be especially ensured for panels and workshops that focus on topics of race and technology, such as intersectionality or critical race theory. Black and Brown scholars should not be drowned out from these conversations, particularly Black women scholars who have contributed to the canon of intersectionality.*
- *Further diversify conference organizing committees, persons serving in conference leadership roles, and scholars invited to serve as plenary/keynote speakers.*
- *Include sessions and activities at conferences and workshops focused on combating implicit bias and other forms of bias, particularly as applicable to technological development and impacts on creating a more inclusive society.*

Practices
- *Publish annual reports from each Special Interest Group (SIG) about demographics of participation in their sponsored events and initiatives, to whom and where funds are being allocated.*
- *Ensure that there is a diverse body of participants to inform and evaluate technology research and development that stands to exacerbate inequalities and inequities.*
- *Set aside money directly to fund events that focus on amplifying the scholarship of Black+Brown scholars in computing, and funds to broaden the participation of Black+Brown aspiring scholars in computing—undergraduate and graduate students, and junior researchers and faculty.*
- *Create an equal opportunity accreditation committee for U.S. institutions to evaluate colleges and universities with respect to their inclusion of historically disadvantaged groups. This committee will ensure*

that federal funding of computing is in alignment with existing statutes for equal opportunity, namely Title VI and VII of the Civil Rights Act of 1964.

- *Remove structural power structures in the ACM review process that disadvantage Black scholars and other marginalized populations (e.g., either full transparency of reviewers and authors or double-blind process in which reviewers and authors are unknown). Reviewers should be encouraged to reflect on how identities inherently denote biases through an optional statement of positionality.*

ACM staff leaders have noted that, upon receipt of the letter, they began conversations about the letter and its recommendations with various groups within ACM and initiating action on several of the recommended changes that were within their purview.

2.4   The Systemic Change Committee

As Goth (2021) noted, many organizations and institutions have begun "to explore systemic issues within the organization that perpetuated exclusionary practices that disadvantage members of the computing community." For ACM, the Systemic Change Committee provided a way of embodying and achieving its commitment to inclusion and its efforts to address cases where systemic change is needed to address injustices. The scope of the committee's remit includes but is not limited to:

1. Considering ACM volunteer activities where changes can be made to promote racial equity,
2. Developing a living document of a prioritized list of actions to address systemic change,
3. Working with volunteer leadership of relevant units within ACM to consider ways to address identified problems, and
4. Creating metrics to report relevant diversity numbers.

This committee operates under the auspices of the Diversity and Inclusion Council and includes two co-chairs, a liaison to the D&I Council, and five at-large members. To date, the committee members have identified three areas of ACM operations where change is needed to achieve greater diversity and inclusion:

- ACM Publications
- ACM Awards
- ACM People (connections with diverse communities (e.g., Historically Black Colleges and Universities and other Minority Serving Institutions)

As indicated in the interview data, when this committee was formed, the committee members and ACM staff leadership discussed whether it should focus solely on Black scholars. The consensus reached was that the work should start with the Black community and then expand after some of its initial goals had been met.

2.5   A Sampling of Current Diversity, Equity, and Inclusion Initiatives

Given ACM's size and the dispersed nature of its decision-making and program-generating process, it is hardly surprising that various parts of ACM are addressing equity, diversity, and inclusion concerns in a variety of ways. What might be surprising to some, however, is just how much work is currently being done at all levels of the organization. What follows is an overview of some of these programs and projects. Currently there has been no study of the impact of these efforts nor is there a set of common metrics by which impact can be measured and compared across initiatives.

The Diversity and Inclusion Council and the Systemic Change Committee

Actions and decisions by the D&I Council and the Systemic Change Committee have already resulted in the following recommendations, which have been implemented by ACM's staff and volunteer leadership.

- In 2021, ACM funded all student registrations at the Association of Computer Science Departments at Minority Institutions (ADMI) conference, a conference for computing and engineering students from HBCUs.
- ACM began offering one-year complimentary memberships to students at HBCUs.
- ACM Headquarters has committed to providing training for conference leaders on combating bias.
- ACM hired an expert to develop a sexual harassment video training session to be taken by all ACM volunteer conference leaders.
- ACM is also planning to hire an expert to develop a bias training video for all members.

- The Systemic Change Committee has been involved in determining how to improve the collection of demographic data from ACM members and volunteer leaders.
- A joint IEEE-ACM panel was presented on "Valuing Diversity, Equity, and Inclusion in Our Computing Community" and is available on the ACM website for viewing. The panel was developed by ACM Fellow Timothy Pinkston and funded by the University of Southern California, Viterbi School of Engineering.

The Education Board and Education Advisory Committee Initiatives

The ACM Education Board and Education Advisory Committee (EAC) oversee the education-focused activities of ACM including production and ongoing updating of ACM's curricula, conduct of studies such as the NDC Study of non-doctoral granting departments in computing, and a variety of grassroots activities designed to address challenges in computing education. These grassroots activities include focus areas such as broadening participation, increasing diversity, and increasing institutional capacity in the face of higher enrollments. The Education Board provides the decision-making and fiscal oversight of this work while the EAC members serve on the self-identified project-based task forces that address key issues in computer science education.

In 2020, the Education Board established the Diversity, Equity, and Inclusion in Computing Education (DEI-CE) task force with new and existing EAC members to undertake the challenge of addressing the historical marginalization of various groups in computing education and the systemic barriers that perpetuate this marginalization. From the beginning, the task force co-chairs (Fay Cobb Payton, Professor, Information Technology/Analytics University Faculty Scholar, NC State and Alison Derbenwick Miller, Vice President, Oracle) articulated that their challenge was weighty and complex and that their approach would be well-considered rather than hasty.

The first hurdle they faced was internal: how to take a diverse group of strangers with various definitions of and levels of comprehension of racism and discrimination and enable them to develop a shared understanding and language to serve as a foundation for their work

together. The second was external: how to determine the best possible action to take within the scope of their remit. The task force tackled the first hurdle by sourcing and participating in a series of coaching sessions with Kelly Mack, Vice President, Undergraduate STEM Education at the Association of American Colleges and Universities. The chairs simultaneously tackled the second challenge by inviting key community members from within ACM (for example the co-chairs of the Systemic Change Committee) and external to ACM (Allison Scott from the Kapor Foundation and researcher Jane Margolis) to meet with the taskforce and discuss their work on racism, discrimination, and exclusion in computing education. These three activities took place during the DEI-CE task force's inaugural year (2020-21).

Despite best intentions, efforts to be deliberately inclusive in its own membership at the Board, EAC, and task force levels and to advance the work of the DEI-CE task force have not always gone smoothly. The Education Board had invited a number of Black faculty and industry representatives to join the EAC in 2020, and automatically placed a number of them onto this task force. As a result, many of the task force members had no previous experience of, or relationship with ACM's structure, culture, or people and few came with any particular reason to be trusting of the institution or these individuals. Additionally, there was early confusion about the DEI-CE task force's scope and how its work would align with other DEI efforts at ACM, including the Diversity and Inclusion Council and the Committee on Systemic Change. Another challenge was the inordinate volunteer time required of the co-chairs. Consequently, one of the co-chair's employers asked her to step down from this volunteer role. The EAC DEI-CE task force continued until the end of the year with a solo task force chair and the Education Board co-chairs providing support.

The work of the EAC DEI-CE task force has continued and adjusted despite these challenges. And while the co-chairs of the Education Board have acknowledged their early mistakes, they continue to express confidence in the members of the task force, their support for the process the task force is following, and their belief that positive things will come from the thoughtful and dedicated work of the task force members.

ACM SIG Events and Programs

ACM SIGs operate with considerable autonomy, focusing on the issues of greatest concern to their constituencies. The SIG diversity and inclusion activities described below are relatively recent and some preceded the work of the D&I Council. At present, there is no comprehensive record of all SIG diversity and inclusion activities and such an effort falls outside the scope of this project. While these examples do not encompass the entirety of the efforts by ACM's SIGs, they are illustrative of the various ways in which the SIGs are working to improve diversity, inclusion, and equity for ACM members and the professional computing community at large.

SIGACT (966 members): fosters and promotes the discovery and dissemination of high-quality research in the domain of theoretical computer science.

- TCS Summer School is a one-week online summer school that exposes undergraduates to exciting research in the area of theoretical computer science and its applications. It encourages applications from students who are members of groups that are currently underrepresented in theoretical computer science.
- STOC Spotlight Workshop on Women focuses on women in theoretical computer science with a main focus on doctoral students close to graduation.
- Women in Theory Event provides mentoring for graduate students and advanced undergraduates.
- STOC Conference Junior-Senior lunches provide a way for PhD students to get to know senior researchers at other schools/labs with the goal of providing students with a greater sense of belonging in the professional community.

SIGARCH (1,233 members): focuses on hardware and its interaction with software.

- CARES: In 2020, SIGARCH worked with ACM to extend CARES' mandate (previously focusing on sexual harassment) to include violations of publication policies (such as plagiarism) and the code of ethics.
- Talent Development Grants: provide financial support for initiatives aimed at developing talent, improving well-being, and advancing diversity and inclusion for the computer architecture community.

- Student Mentoring: provides students with the opportunity to meet one-to-one with a senior (academic, industrial, or student) member of the community for about half an hour at the conference with the goal of providing students with a greater sense of belonging in the professional community.
- Companion assistance and childcare: provides travel grants for companions for childcare or disability support for those attending professional meetings while traveling. Also now supports on-site childcare. These efforts are intended to increase opportunities for women with children to attend professional meetings and events.

SIGBED (1,018 members): focuses on all aspects of embedded computing systems and cyber-physical systems, including both software and hardware.

- The recently elected chair appointed a Board of Governors that is composed of an equal number of females and males to improve the gender balance of the SIG leadership. It was previously all male, and probably had been all male or nearly so for many years.
- Supports SIGBED Scholars trips to events such as ES Week and CPS-IoT Week for approximately six under-grads, with an emphasis on undergrads from disad-vantaged groups. (The implementation of this pro-gram has been delayed by COVID-19 and will return when conferences return to being in-person events.)
- Offers conference travel and diversity grants to foster connections among women in communications and networking research.
- Provided child care financial support for researchers with young children to attend ES Week 2019 (its last major event before COVID-19).

SIGBIO (258 members): bridges computer science, mathematics, statistics with biology and biomedicine.

- Expanded the Women in Bioinformatics Panel that is part of their flagship conference (ACM BCB) into a Diversity and Inclusiveness Panel to also bring in underrepresented minorities such as Black Americans. They also moved the event to the lunch hour and provided lunch so everyone at the conference could attend.

- The SIG is also working on ensuring that keynote speakers at their conferences are more reflective of diversity goals.

SIGCOMM (402 members): is concerned with all aspects of computer communications and networks including analysis, technical design, engineering, measurement and management.
- Supports a diversity and inclusion workshop yearly (in cooperation with N2Women).
- Holds a dinner/luncheon gathering at the main SIGCOM conference.
- Has a CARES committee to aid reporting of violations of ACM policies, especially those related to harassment and bias. This committee has created a list of recommendations to key players (such as technical program chairs, reviewers and authors) with measures to help avoid harassment/bias incidents during the publication process.
- Provides travel grants to students and young faculty from underrepresented groups (for in-person events) and free conference registration to attendees (for virtual events).
- Supports multiple regional events and provides student grants and speakers, with a focus on underrepresented regions of the world.

SIGCSE (2,711 members): focuses on issues related to the development, implementation, and/or evaluation of computing programs, curricula, and courses, as well as syllabi, laboratories, and other elements of teaching and pedagogy.
- The SIG is in the process of forming a committee to increase diversity within the SIG leadership and ensuring that these changes are sustained through future SIGCSE Boards of Directors. A group of community members has distributed a survey to the SIG members and presented their findings to the SIG Board. The Board is hopeful that they will put together a charter and be approved soon.
- The SIG Board planned to launch affinity groups (e.g., Hispanics in computing, Blacks in computing, LGTBQ+ in computing) lunches at their flagship conference (SIGCSE Technical Symposium) in 2020 but this effort had to be postponed due to the cancelation of in-person conferences. The current plan is to have this program in place at the 2022 conference for in-person attendees and those attending virtually.
- Strategic planning is underway to ensure diverse speakers for conference keynotes.
- The SIG is systematically recruiting to ensure more diverse conference committees and SIG volunteers.
- The SIG provides travel grants to support underfunded participants. The rubric used for evaluating grant applications and making awards was recently redesigned to better emphasize diversity.
- Are planning to launch a "conference format" survey that seeks to understand how the conference might need to evolve to better support underfunded and diverse members of the community.

SIGDOC (176 members): focuses on design of communications.
- Released an official response to injustice, highlighting the SIG's commitment to assessing their organizational policies and procedures through the lens of anti-racism.
- Put beliefs into practice by creating a permanent budgetary line for small research, community, or pedagogical projects focused on dismantling systemic injustice through the lens of language, design, and user experience
- The new Designing Justice Research Fellows Program provides grants of $2000 to a wide array of proposed projects (need not be traditional research projects) with the stated focus above. Proposals must be from SIGDOC members

SIGMETRICS (229 members): focuses on computer systems performance evaluation.
- Created a diversity and inclusion committee in 2019.
- Developed and published a Diversity, Equality, and Inclusion (DEI) plan.
- Launched a new mentorship program and student activities focused on increasing diversity.
- Added inclusion and accessibility guidelines for its conferences.

- Currently developing a CARES program for reporting and support related to harassment.
- Exploring the addition of a diversity talk at future SIGMETRICS conferences.

SIGMOD: is concerned with the principles, techniques and applications of database management systems and data management technology. It has created two initiatives:
- *DBCares:* which aims to create an inclusive and diverse database community with zero tolerance for abuse, discrimination, or harassment; and
- *D&I in DB:* which coordinates diversity and inclusion efforts across the data management community to make diversity and inclusion a first-class aspect of their conferences and educate their community about adopting a more inclusive mindset.

SIGMM (456 members): provides a forum for researchers, engineers, and practitioners in all aspects of multimedia computing, communication, storage, and applications.
- Every executive committee meeting now includes a standing agenda item on equity and diversity.
- Introduced a dedicated inclusion position on their executive committee: Director of Diversity and Outreach. (SIGs are allowed to determine their own executive committee positions.)
- Run an analysis on gender aspects and diversity for all SIG events and committees.
- Have committed to taking 10 actions to achieve at least 25% female participation at all levels of its organization and for all roles on all levels in its conferences and other scientific events by the year 2025.
- Changed bylaws to commit to fair gender representation in all SIGMM sponsored conferences and on all SIG committees.

SIGPLAN (1899 members): explores programming language concepts and tools, focusing on design, implementation, practice, and theory. It has launched two initiatives:
- SIGPLAN CARES: provides members who are approachable and willing to listen to and help people who experience or witness discrimination, harassment, or other ethical policy violations either at their events or related to ACM publications. These subcommittee members can provide advice

on the steps necessary to have the matter further investigated by ACM.
- SIGPLAN-M: This subcommittee organizes an international long-term mentoring program to increase global diversity among programming languages researchers.

SIGSOFT (1,481 members): provides a forum for computing professionals from industry, government, and academia to examine principles, practices, and new research results in software engineering.
- The major SIGSOFT conferences have Equity, Diversity, and Inclusion chairs and internal guidelines on the kinds of activities the chairs can initiate and run. The conferences also have a Code of Conduct and a Conference Diversity and Inclusion Plan that is being finalized.
- The SIG is working on guidelines for session chairs, the review process, and onsite response teams for dealing with the Code of Conduct.
- Conferences have dedicated diversity and inclusion programs that include special lunches for affinity groups, events for local college students, and mentorship tables and circles.
- SIGSOFT is creating a larger community of people who are regularly thinking about EDI subjects: EDI conference chairs, participants of diversity panels, conference participants (when subscribing to Code of Conduct or selecting pronouns), etc.

SIGWEB (302 members): focuses on hypertext in all its forms, social networks, knowledge management, document engineering, digital libraries, and the Web as an information tool and a social force.
- SIGWEB always considered conference travel grants as one of its priorities and provided about $10K annually for student travel support to each of its main series (where diversity increase was one of the selection criteria). The impact of these grants was small due to the limited resources and large expenses required for travel.
- To better support diversity, SIGWEB has also worked with several of its sponsored conferences to provide further discounted and free registrations to researchers from underrepresented regions.

ACM Technology Policy Council

ACM's Technology Policy Council and D&I Council co-sponsored a free screening and public discussion of the film "Coded Bias" and how those in computer science fields can address issues of algorithmic fairness. The discussion, held on March 29, 2021, was archived, and "Coded Bias" is now viewable on both PBS and Netflix.

2.6   Conclusion and Key Questions

Diversity and inclusion initiatives, programs, and policy changes have been and continue to be carried out by groups at various levels of ACM with the specific goal of eliminating or mitigating systemic racism within the organization and in the wider computing community. These actions and initiatives represent the willingness and desire of many ACM members and leaders to address these challenges in a substantive and impactful way.

As with a great many organizations, change agents and ACM leaders are working to improve diversity and inclusion. Efforts to make substantive, organization-wide change, however, are hampered (or at least slowed) by ACM's size, its complex organizational structure, and a dispersed decision-making process which makes it profoundly challenging to achieve fundamental change quickly. In addition, ACM's reliance on volunteers to drive decision-making and implementation is becoming problematic as so many volunteers are already overwhelmed and overloaded in their personal, professional, and volunteer lives.

There are more pertinent and critical questions that must be asked and answered if ACM expects to be a leader in DEI in computing.

1. Is the success of current efforts being systematically measured and evaluated in ways that can inform future work?
2. Can the current incremental changes facilitate or encourage more widespread improvements?
3. Is the current way in which these changes are being enacted and institutionalized sufficient to ensure systemic and sustained change?

PART THREE

3.0   ACHIEVING SYSTEMIC AND SUSTAINED CHANGE

At its core, this study is about whether those interviewed for this study believe that ACM should and can change and what barriers might stand in the way of any desired changes. For this reason, it might be helpful to briefly situate this study, and most especially the results described in Section Five, in the context of organizational change. Fortunately, there is a very rich body of research and writing on this topic. This section draws on a small selection of writings on education, industry, and association change to illustrate a selection of key aspects of organizational change that provide a useful context for the data analysis and for ACM's future efforts in the diversity and inclusion space.

As noted in Parts One and Two, ACM is a large and complex organization with a global membership, a multi-level and often opaque leadership structure, and a long history of "how things have always been done". It is also situated in an academic field and an industry that has always struggled, and often failed, to successfully address issues of representation, sexism, and racism. In other words, ACM is like many other organizations now grappling with how to achieve systemic and sustained change despite historical and structural barriers. Fortunately, there is a robust body of research to provide guidance for how the organizations such as ACM might evolve to achieve these goals.

Organization-wide change often begins with expressions of dissatisfaction or concerns expressed by a group of people (internal, external, or both) who are dissatisfied with the status quo. As they begin the work of making things better, they inevitably find that the current state is expressed in and perpetuated by the organization's culture, which Peterson and Spencer (1991) define as the "deeply embedded patterns of organizational behavior and the shared values, assumptions, beliefs or ideologies that members have about their organizations or its work" (p. 142). As Eckel et al. (1998) noted, systemic and sustained change touches upon values, beliefs, and structures, is intentional, and occurs over time.

Kania and Kramer (2011) noted that change succeeds when it is achieved through cooperative action and impact. Wide-scale change begins with "a core group of community leaders deciding to abandon their individual agendas in favor of a collective approach" (p. 36). It is driven by a community commitment to a shared set of goals, and must be rigorously evaluated based on a set of stated metrics. But as Heifetz (1994) noted, systemic change efforts cannot succeed unless those seeking the change are able to read institutional culture and to develop strategies that are consistent with the culture while they are simultaneously trying to change it. As Kezar and Eckel (2002) also noted, change strategies that violate cultural norms and standards are usually viewed as inappropriate and stifle the change process.

According to Kezar and Eckel (2002), at each stage, the change process must be supported by "a centralized infrastructure, a dedicated staff, shared measurement, continuous communication, and mutually reinforcing activities among all participants" (p. 38). It is also dependent upon stakeholders who are willing to learn about the root causes of the problem and then change their own behavior to support the solution.

In an ACM webinar entitled *Horizontal Leadership: Practical Lessons for Driving Company-Wide Strategy and Action* (Andersson 2021), Eve Andersson details the core requirements/processes for achieving systemic change in large organizations as:
  • understand the problem space,
  • set objectives (short and long term),
  • influence,
  • streamline,
  • measure, and
  • communicate (internally and externally, and provide a unified story).

Each of these processes, she noted, are iterative and several have multiple elements. For example, understanding the problem space requires knowledge of the current state, creating the business case, and awareness of any relevant research (including best practices that have been applied successfully in similar circumstances). Objectives should be both short term

and long term and should, to the greatest extent possible, be both aspirational and achievable. Short term goals should also be rigorously prioritized.

Andersson also contends that the means for achieving systemic buy-in are primarily determined by an organization's authority structure. In instances where an organization-wide mandate is possible, the outcomes may be more certain but compliance is in no way guaranteed. Additionally, without an accompanying commitment of hearts and minds, sustainability is unlikely. In less hierarchical organizations or organizations where authority is more dispersed, achieving buy-in is both more complex and requires more time. In these cases, it is necessary to develop different business cases to match the priorities of different parts of the organization. It is also important to tap into existing reporting and incentive structures.

Streamlining involves the provision of whatever is needed to make the change as easy as possible to implement, track, and measure over time. This can include *education* (how to do it), tools and processes, and any centralized services that will make the change easier to implement and sustain. *Metrics* also provide a way of understanding the current situation, determining successes and shortfalls, and ensuring a continual process of review and improvement. Metrics provide an important piece of the change process but are insufficient if not linked to desired outcomes or communicated in ways that provide critical context for specific audiences. *Communication* is critical and should involve a continual process of information-sharing and updating within the organization. It should also include continual external communication to members, stakeholders, funders, and society at large. These larger external communications can come in the form of reports but should also share how the changes are impacting real people within and outside of the organization.

Regardless of the root cause or catalyst, change is almost never neutral. Some will wholeheartedly embrace change while others will fight it with every resource they have at hand. Achieving deep systemic and sustained change therefore requires a willingness to take risks and to accept the consequences of those risks. As Hefetz and Linsky

(2004) pointed out, even good organizational changes driven by a sincere desire for improvement can have unanticipated or unpleasant consequences because real change inevitably leads to resistance:

> *To lead is to live dangerously because when leadership counts, when you lead people through difficult change, you challenge what people hold dear—their daily habits, tools, loyalties, and ways of thinking...People push back when you disturb the personal and institutional equilibrium they know. People resist in all kinds of creative and unexpected ways that can get you taken out of the game: pushed aside, undermined, eliminated. (p. 2)*

But the willingness to embrace risk to do what is right and just is where true leadership comes into play. This kind of leadership moves beyond solving acknowledged problems to confronting problems that have never been successfully addressed. It is also, as Fullan (2001) noted, the nexus at which personal leadership and social justice meet: "Leadership requires commitment to and internalization of the moral purposes of social justice and the ethics of deep democracy...it challenges policies, practices, and structures that impede community participation and create injustices." (pg. 28)

PART FOUR

4.0   RESEARCH METHODOLOGY

The qualitative research underlying this paper is a case study of a bounded system over time. It involved what Denzin and Lincoln (2000) described as a process of attempting "to make sense of, or to interpret, phenomena in terms of the meaning people bring to them" (p. 3). It draws on in-depth data collection involving multiple sources of rich contextual information. The data is drawn from interviews with ACM employees, current and previous volunteer leaders of various Councils, Committees, Boards, and Special Interest Groups (SIGs), and a selection of external experts who bring special expertise to ACM's operations within the larger computer science professional and educational community.

4.1   Data Collection and Participants

The participants for this case study were chosen to provide an array of viewpoints and were selected in a variety of ways. I used ACM's organizational chart and staff list to identify individuals fulfilling a variety of roles and representing different aspects of ACM's operations. Once I began conducting the interviews, I also received suggestions about other possible interviewees. This constituted a purposeful sampling intended to provide information-rich interviews.

Two survey instruments (See Appendix A) were developed: one for ACM staff and volunteers and another for external experts. There were 22 interviews in total, ranging from 30 to 80 minutes. The interviews were conducted via virtual meeting tools. All the interviews were recorded using a voice recording app and transcribed (using the same app). The interview transcripts were edited to identify the individual speakers (researcher and interviewee) and to clean up errors caused by the transcription app. To ensure accuracy, the interviewees were invited to review their transcript and to provide any desired corrections and clarifications and to add any additional information they had forgotten to include in the interviews. To ensure privacy, the interviewees were assigned numerical identifiers. These codes were used to organize participant responses in a database and for the attribution of quoted text.

4.2   Data Analysis

The interview process and data analysis were carried out simultaneously. This allowed me to stay close to the data throughout the process and strengthened the validity of the analysis by minimizing the time between coding, analysis, and reflection. The interview text was coded using a framework drawn directly from the interview questions.

The data analysis process surfaced seven major themes (and 65 subthemes):
- social justice,
- the computing context,
- inclusion and representation,
- ACM's leadership and decision-making structures,
- perceptions, progress, and expectations,

- opportunities for change, and
- systemic and sustained change.

New themes were continually added until all the transcripts had been coded. The framework was also revised and expanded as additional themes emerged from the interviews. Additional identifiers were added to the interviewee code to preserve the distinct voices of the volunteers (V), staff (S) and external experts (E). Once the coding was completed, specific quotes from the interviewees that were particularly illustrative of a given theme or subtheme were used to build the narrative for the data analysis section.

PART FIVE

5.0   DATA ANALYSIS

For readers not familiar with qualitative research, this data analysis will seem very strange because it is primarily a collection of quotes reflecting the major themes and subthemes from interviews. In qualitative research, the data analysis process involves uncovering meaning and nuance and then weaving a story from the data that will make some sense (temporal or thematic) to the reader. So essentially, this data analysis section is a story drawn directly from the voices of the people interviewed. In this case, that seems especially appropriate because the primary issue underlying concerns about ACM's efforts to improve diversity and inclusion is voice. Who has voice? Who does not have a voice? And whose voice has the power to create or prevent change. The interviewees for this research represented a collection of very diverse voices...insiders, outsiders, people of different races and ethnicities, people of all genders, young people, and older people. I have done my best to portray and represent these voices in a consistent and respectful way.

When you read this data analysis, I ask that you do so with a specific filter. While many of the interviewees have expressed criticisms and concerns about how ACM is navigating this challenging time, even the most critical comments came from a place of deep caring about ACM and its future. While it might be tempting, it would be a waste of time to try to ascribe any of the comments to a particular demographic or individual because the data supported no clear patterns of opinion across the interview groups. In addition, people often don't think or feel the way we are inclined to presume. Humans can be very surprising.

It is also important to note that ACM's diversity work is ongoing and not static. It continues to change and evolve over time. Even in the three months during which this data was collected and analyzed, change was occurring. This study is only a snap-shot at a specific point (April-June, 2021) in ACM's history. During that time, and in the intervening time, programs have been launched, leaders have been elected, members have transitioned on and off Boards, Committees, and SIGs and progress has been made. As a result, some interviewees' comments may now be outdated or incorrect, but they are still useful because they illustrate the sense of urgency and passion with which they regard ACM's efforts to be a truly diverse and inclusive organization.

5.1   Social Justice

George Floyd and Black Lives Matter

For the majority of participants in this study, the murder of George Floyd and the events which followed provided a visceral understanding of the persistent and pervasive destructiveness of racism in a way that made it no longer possible to dismiss it as rare or isolated. Perhaps for the first time, many White people began to understand that for many Black people in the United States (U.S.) and globally, this kind of inhumane experience and all the accompanying fear and anger, are a part of everyday reality.

> It has become palpably evident that people of color in particular are under enormous stress and it's been hidden in many ways from the rest of the population and that is now inescapable for several reasons. One of them is videos like George Floyd's situation. The second reason is the Black Lives Matter movement, which is doubly devastating because we saw that people marching peacefully and wearing masks during the pandemic were essentially attacked. (V. 1013)

Many interviewees (both ACM members and external experts) noted that in shining a spotlight and creating a sense of urgency, the murders of George Floyd and Breonna Taylor became a catalyst, not just for anger and disgust, but also for activism across and within institutions and associations.

> *George Floyd's murder and the response to it created an opening for organizations, volunteers, members, and staff to say what they've been thinking and feeling forever, which is, these things are broken and oppressive and we need to do something about it. I think it gives organizations a real opportunity to fix things that are broken and to do it in an active way. We're well past the opportunity for anyone to be proactive. We need to acknowledge that we need to address White supremacy in many forms and in all of our structures. (V. 1015)*

> *Many of us are now looking for opportunities within our sphere of influence and externally to push structural change. People are asking these questions now in different ways. This will force us to think completely differently about how we can provide access and achieve equity. (E. 1018)*

> *Sometimes it is hard to tell what the social temperature is but I still think that this is the time when an organization could take a big step and radically overhaul things and look like they're doing it for the right reasons. This desire for change is not new but there seem to be all kinds of barriers that prevent organizations from changing, all kinds of good reasons why they don't change. But this is the opportunity to sort of ride on the coattails of the current demands and make substantial changes. Things that looked completely radical in 2019 don't look so radical now. There will always be people who argue strongly against rocking the boat but now we can ride the wave that's out there. (V. 1008)*

And for some interviewees, this became a moment in which the political had particular professional relevance.

> *Social inequality has truly lifted the veil and now we're dealing with the aftermath and what has always been here but wasn't, until now, brought to the forefront. It has led us to have these conversations and dig into where we need to do the work to make sure that there's fair equitable representation precisely because ACM works in technology and technology impacts everyone. (V. 1020)*

> *The George Floyd murder, in addition to the other cases of police killings and brutality, coupled with the pandemic, produced a moment where racial inequality in this country could not continue to be ignored. In our field of computing, we are seeing more opportunities now to really think boldly about racism and structural inequality. (V. 1019)*

Like many organizations, ACM has come under increased scrutiny from members and volunteers who are deeply concerned with issues of racial justice, diversity, and inclusion. And many of them are both cynical about the breadth and depth of ACM's motivation or its willingness and capability to undertake systemic and sustained change. One external expert, for example, noted that ACM's history does not demonstrate a deep commitment to equity:

> *Some organizations, who are by virtue of their being very public and influential, face social expectations that they be involved and on the right side of history. But there are others where people just don't really expect them to do anything because of what or who they are. I would argue ACM probably fits in that latter category. I don't get the sense that people have a lot of expectations of ACM being an organization that has justice and equity and fairness as part of its DNA. (E. 1016)*

A long-time member and volunteer also noted that ACM's membership cannot be assumed to be uniformly supportive of increasing diversity and inclusion:

> *I think that there are parts of our community who don't believe that [this should matter to*

ACM]. They are not sure these issues fall within ACM's scope or possibility that the issues exist. Or they think these issues exist but not within our community. (V. 1019)

A previous volunteer also expressed concerns about the willingness of ACM staff leadership to facilitate substantive change:

I would say ACM is a complex and many-layered organization. I think many of the volunteers involved, especially at the SIG level, think that this is something that should happen. I think that the paid staff would like to pretend it doesn't have to happen and they will move as little as possible and do the most window dressing. (V. 1021)

Several interviewees, however, expressed a deep certainty that many organizations, ACM included, will pay a significant price if they fail to change. As one SIG leader noted:

I don't know that many organizations, including ACM, are taking the initiative to seize this momentum and actually work to effect change. I think we have an opportunity to propose radical systemic changes. We could do that. There's a mood and a temperature in society right now to embrace equity in ways they may not have prior to what went on over the summer [of 2020]. So organizations who don't do much are going to continue to come under fire. (V.1008)

As one external expert noted, however, fear of negative repercussions is not the most substantive or successful rationale for systemic change:

A good reason to be engaged is a sincere concern for justice itself. You shouldn't have to be compelled by some historic generational tumult to be concerned...It isn't about what you do when it is an opportune time and it is normative to get involved or you are being compelled to be involved. It is about something that you would do if you weren't being pressured, if you were alone in the dark by yourself. (E. 1016)

The Heartfelt Concern Letter

The correspondence that came to be known as "the Heartfelt Concern letter" was a call for greater representation, inclusion, and equity for Black scholars within ACM. This letter provided a community-driven rationale for ACM's direct engagement in issues of racial justice following the murders of George Floyd and Breonna Taylor. As one of the letter's authors noted:

As a Black person, you feel like a single voice. But I wanted to find the collective voice that we're not always in a position to express. I wanted to express how we were feeling, what we were thinking, and what we know to be our truths. We know our N is small and our issues do not always come to the surface. So we produced an actionable list and we said "Here's some things you could do right now, some things that we wish people would pay attention to. You don't have to reinvent the wheel or do a whole bunch of research. Here's what you can do that would have a huge positive impact on us and on the community. (V. 1019)

This interview also noted that the intention behind this letter was to start a critical conversation that would begin in ACM, but also resonate outward:

What we hoped would come out of this effort is that it would start conversations in professional societies and in workplaces. It will take time to see if that actually happens, but we had to start somewhere. Sometimes just knowing and acknowledging that things need to change is an important place to start. (V. 1019)

As one external expert noted, ACM's original response to the rising calls for engagement in general, and to this letter in specific followed a fairly common pattern for these kinds of communications:

Some are broad general statements of solidarity: "I stand with this community or that community" or "I support racial justice". These statements are about communicating your central values and that is fine. The PR and comms people know which specific words to use to signal a particular

ideological orientation. They know how certain words trigger certain political and social positions. So the next step, the doing, is about clarifying what you mean by these banner words and how they relate to the work you are doing. (E 1016)

This description is consistent with previous research by Mull (2020) who noted that such statements of support are typically awkward, vague, and bland and is further supported by comments of another interviewee who referred to this kind of communication as "equity boilerplate". Some interviewees noted that, however bland, these statements can provide needed information to members:

I wanted to know the perspectives of my professional societies and of my workplace. What is the leadership thinking about this? So from a communication standpoint, statements play a role. You have your vision statement and your mission statement to speak to who you are and what the organization is about. (V. 1019).

Another, however, felt strongly that such statements, especially if they do not include a commitment to a course of action, can cause more harm than good:

The statements after the George Floyd incident felt more traumatizing than the incident itself. And the reason why I say that is because when they all landed, they were written in a way that was very structured, probably by some organizational speech person. They were so carefully crafted that it all felt insincere. I've heard this before. And it was a way of covering both for litigation or for public display and it was painful….It was a lot of swirl around "Let's get a statement out" as if a statement means anything without action. (V. 1006)

Global Versus U.S. Focus
The receipt of the Heartfelt Concern letter and calls from within and outside of ACM for a more substantial response to social justice issues have raised questions of how an association that considers itself global in focus can respond in a genuine fashion to concerns which may be perceived by some as relevant only in the U.S.

As one of the staff members noted:

ACM is not necessarily like many other professional societies based in the U.S....ACM is a global organization and fewer than half of ACM's members are actually in the U.S. So while ACM can't operate without taking U.S. values into account, U.S. values alone can't be the driving force. (S. 1004)

This view was echoed by a long-time volunteer leader who noted that differing cultural views regarding privacy can also be a barrier to engaging in issues of diversity and inclusion in any substantial way:

As a global organization, we cannot demand of our chapters and SIGs a uniform response to this request. In different parts of the world, some of these factors are considered private. The color of someone's skin is private information. Even if there's a camera and you can tell someone's race or disability from the recording, even collecting that information would create a firestorm in Europe because of the data protection laws. So we should not be overly cavalier in our attempt to redress the situation because there may be places where you can't actually even get the data to figure out how well we're doing. (V. 1013)

A number of interviewees (staff and volunteers) however, argued that the marginalization of diverse populations is actually a global issue and that ACM has a responsibility to work towards its elimination:

There has been almost a global awakening or questioning about experiences of racism and inequality in so many countries. Systemic racism, White supremacy, colonization, inequality, and oppression exists in some form in societies across the globe. So it is a global issue. You see more evidence of this in the fact that global companies are being called on to respond and change. (E. 1018)

ACM has to sit down and do the serious work of figuring out how an international organization responds to issues that happen in any of the

countries where they are based given that racism of some kind exists everywhere in the world. It manifests in different ways. You have technologists leaving the Middle East and going to Europe where they're facing horrible discrimination because of their religion, their ethnic background, or their national origin. ACM doesn't talk about that any more than they talk about the issues of Black people. (V. 2021)

[I]t is a matter of ACM ensuring an inclusive atmosphere for all -- where computing students and professionals can feel they belong regardless of their race, ethnicity, gender, global region, age, sexual orientation, ability / disability, and age. ACM needs to show diversity in these myriad cases in ACM's multinational community (ACM has members in 190 countries). Constituencies representing all of these sides of diversity need to be included, respected, and represented throughout ACM's activities. (S. 1004)

One external expert stated that ACM has an even greater responsibility than many organizations to engage on DEI issues because computing itself is global:

For the ACM, a global organization focused on computing, there is also the critical issue that technology is global and has implications for advancement of societies and for also driving inequality in many ways. (E. 1018)

A long-time volunteer noted that ACM's role in education should be seen as a moral imperative to act in a way that recognizes the real impact of racism on the lives of students and faculty:

I get that it's complicated, but I don't think they can get away any longer with just saying, "We're an international organization" not when it feels like a Black person is being shot by the police in the U.S. every day. And when our computer science col-leagues are trying to get up every day and do their job in the face of this endless horror. I have students who just cannot take any more. Not when, every time they get in their cars, they have to think about

whether they will get pulled over because they are driving a fancier car than police think a person of color should drive. That's real and it affects students' abilities to do their work and prepare for their internship interviews. ACM as an organization needs to be talking about this. (V. 1021)

Overall, the interviewees felt strongly that ACM needs to find a way to respond in a substantive fashion to the call for greater diversity and inclusion, not despite but *because* of its position as a global organization, and that failing to do so while so many other organizations are finding ways to respond is neither a sustainable nor defendable position:

I have to say that my least favorite quote is "Well, we're a global organization so we can't say anything about things that are going on in the U.S. because we have to think about all of our global membership. We can't make statements about things that only affect the U.S". But discrimination and lack of diversity is a global issue. It may look different depending where you are on the globe, but it exists everywhere. There's no place on the planet that is without some group being marginalized, being discriminated against. You can stand up against racism in all of its forms. Other organizations have figured out a way to stand and say things that are impactful. It's not like nobody else has ever done it. I want ACM to stand up about these things that are happening right now. I feel like they're hiding behind legal issues or this global excuse. (V. 1008)

Not a single interviewee suggested that ACM should not take action to become more diverse and inclusive. Some expressed doubts about its ability to overcome current structural and attitudinal barriers to change, but they all expressed the view that change needs to happen. And while it is possible that this omission is the result of a sampling error, the level of conformity on this issue was both notable and surprising.

Optics and Equity Theater
As indicated above, the interviewees differed in their perspectives on the necessity for and the impact of ACM's public communications regarding the need for

greater diversity and inclusion within the organization. One of the major themes arising from the data was a deep dissatisfaction with what many interviewees perceived as "equity theater," that is, with responses that were crafted to sound supportive but had no real substance.

One interviewee described the expectations of ACM as follows:

After George Floyd's murder, we were really trying to understand what ACM's position was and a lot of people took note of its response at a public forum…It felt like so many organizations were launching statements and it felt like "diversity theater." Anyone can release a statement, but unless you are saying "This is what we're doing differently" or "This is what we commit to do very specifically," we don't just want to know that you care. We want to know what you are going to do to make change. Give me the actions. (E. 1011)

Several interviewees, however, noted that such statements of support have a purpose but will inevitably feel hollow if not accompanied by actions:

There is a role for statements but it's absolutely not enough to just say that you stand for something or you agree or disagree. There's a time when you have to put up or shut up. Decisions have to be made. How are things going to be in practice every day when the cameras aren't watching and the streets are not erupting. That's where it moves from the performative to the substance. (V. 1019)

and that to be credible and impactful, such communications have to begin with the admission that things are not as they should be:

I want a real acknowledgement that there's a lot that's wrong, and here are the very specific actions we are taking that are going to make it better. Here's all the stuff that we are doing to fix the things creating the problems. It seems like there has been so much duck and cover in a very corporate way, things done to cover our behind

so we don't get sued for race discrimination or gender discrimination or any other kind of discrimination. (V. 1009)

and that this admission needs to be accompanied by a plan of action or redress:

Because ACM does not have specific goals, clear measurable outcomes and transparency in sharing this context more broadly (i.e., internal and external) the interpretation is they do NOT value diversity or at least NOT enough to show the external community diversity is embedded in their values. (V. 1020)

One external expert also stated that the perceived sincerity of the person delivering the message also impacts how the message is received:

You have to be candid. You have to share how this is a shift from what they might be accustomed to so they can decide. And it has to be offered with complete sincerity. The messenger matters. The person asking has to be very sincere and an honest broker. There are a lot of cases where this isn't the case. If it's honest, then there's a difficult path to bridging the sense of distrust which is ubiquitous. (E. 1016)

Some long-time ACM members indicated that previous ACM responses to issues of diversity and inclusion have been similarly lacking in sincerity and substance:

We can go back seven years ago to various efforts to improve diversity. ACM's response was a day late and a dollar short. There was no real support from the top because they didn't meet the perfect (but unknown) definition, so projects were cancelled/allowed to die. (V. 1010)

Other interviewees noted, however, that it was important to view any critique of ACM's response in the national historic context:

The United States has already been down this road at the end of the 19th century. We've seen

before what we're capable of as a country. This is a similar moment and ACM can choose to just stay quiet, to not act, to see it all as a kind of political normalcy and just wash their hands of it. Or ACM can decide to do something in the space in which they operate. That's the challenge that all of us have as individuals and certainly as representatives of significant organizations. (E. 1016)

and in the context of other similar organizations:

I have heard people say "ACM is not doing enough." But when you look at other professional organizations, most are not doing enough unless it is a specialized organization dedicated to people of color. And so, how do we begin to make the needed changes? The leadership of professional organizations need to make a commitment to a DEI platform and be a model for others. (E. 1011)

And although some interviewees expressed a certain cynicism about whether substantive change within ACM was even possible:

If the world changes around the organization, then absolutely it will matter. But if everybody is entrenched in the optics of change as opposed to real change, then I don't think it's going to make any difference at all. The same people who are in power will stay in power and the same voices of frustration will continue to be frustrated, so in the end nothing will actually change. (V. 1009)

there was considerable agreement that failure to substantially engage and to be perceived as doing so would have lasting negative consequences for the organization:

Any organization that does not take this as an opportunity to change is going to send a really clear message to people of color that it is not an organization that cares about them. I do question whether this really matters to ACM, but there will be a clear outcome if it doesn't use this opportunity for change. (V. 1015)

But if, after all the talk, nothing changes now, it will be like the boy who cried wolf. There will be no trust in the organization going forward and the members who are marginalized are very likely to leave and create a more inclusive organization. This is what happens in member-based organizations. (V. 1015)

One aspect of ACM's response to demands for change around which there was considerable consensus, is that even the best intentions to achieve substantive and sustained improvement to diversity and inclusion require accountability:

If an organization wants to achieve an objective, it's helpful for everyone to understand in what way they are accountable for helping the organization get to where it wants to be. It also helps if the organization has clear guidance as to how it will measure its success in this space. (V. 1013)

The organization has to have a published commitment with actionable consequences for people who don't follow the published commitment. There are also specific processes that can be put into place to ensure greater fairness and these do lead to better diversity. (V. 1009)

This issue of accountability will be discussed in more detail in the section focusing on ACM's leadership and decision-making structures. (See Section 5.4)

5.2   The Computing Context

As noted previously, efforts to effect systemic and sustained change have to be situated and viewed within their larger context. Not surprisingly, the question of ACM's place within the computing field was particularly relevant to many of the interviewees. Several noted that the ubiquity of computing should engender a strong sense of social responsibility among organizations and individuals working in the field:

Maybe 30 or 40 years ago it would have mattered less. But now, there is no facet of anyone's life that is not impacted by computing. Thirty years ago, you could get by without using a computer. You could live a full life, but not so much anymore.

Look at the pandemic we are in now. People cannot visit their doctor unless they can do telehealth visits. (V. 1019)

Everybody uses these mobile devices, everybody is tweeting, or on Facebook. But we don't do enough to address the implications of the software being built in computer science education. I teach software engineering courses including Fundamentals in Computer Science and we talk to the students about the ACM Code of Ethics. But people are still developing software that can be misused. So much more could be done by ACM to help students learn about ethical software development and learn best practices. (V. 1003)

Others noted that given the very public critiques of representation in the computing industry and in computer science education, ACM should be especially responsive to demands for change:

[T]he computing field is highly skewed with regard to gender and race and also socioeconomic status. It is not representative of the population at large and so when you are working in this field, it behooves you to take even more proactive steps to try to even out that distribution. (V. 1012)

ACM may have a more genuine impetus for change because the sensitivity regarding the lack of diversity in computing has been an ongoing concern for so many years...They [ACM] are better positioned than a lot of organizations to help drive change. (V. 1009)

Many expressed the view that, as an organization with influence on what happens in the workplace and education, ACM has a greater responsibility to improve opportunities for historically marginalized populations:

ACM is paramount to education and tech and both of those streams are intended to even the playing field as a lot of people see it and have conceptualized it. We also know that tech is one way to enable economic mobility. And that

is so critical in Black and Brown communities, underserved communities, and for indigenous populations now. Not having those kinds of skills and acumen is just going to create a greater divide. So it is incumbent for your ACMs, your IEEEs, your AISs, for all of those organizations to really do more than release a statement. (V. 1006)

My students are very diverse. They're not traditional four-year students...These students have different mentalities, different perspectives, and different ideas. And the politics that they're living in right now, the terrible things that are happening right now in this country and in the world are directly impacting their lives. And ACM needs to be speaking to this. Whatever courses these students are taking, fundamentals of computer science, or computer programming, or computing in general, they should be aware of the consequences of the technologies being developed. (V. 1003)

to better serve its members:

I think it's absolutely imperative that ACM have a public stand AND action items if they're willing to stand up for what they believe is right for their profession. We're not asking them to say what's right for the country, but within their profession, what are the expectations for people with regard to ethnicity, disability, and so on. If they're not willing to stand up for all of these people, then they have no business representing them. (V. 1010)

and ultimately to lead by example:

Every space needs a leader. It needs someone who's going to be at the frontier pushing everybody else to consider things that they might not otherwise consider, or to go into places where they might otherwise not be comfortable. I don't know that ACM has done this, but it clearly desires to be a leader in computing education, computing at large, and around issues of computing equity. ACM certainly has the opportunity to become a leader and I think it could even be a very effective one because the

people who hold it dearly are not the people who would themselves necessarily be engaged in this fight for equity and justice. (E. 1016)

A number of interviewees noted that the increasing public concern with technology bias and its impact on historically marginalized communities should also be driving ACM to demonstrate leadership in this area. One interviewee, for example, focused on the importance of educating computing professionals on this issue:

A lot of people working in computer science think that this is not a real concern. They believe that technology itself doesn't have an agenda, doesn't have racial bias, etc. We are only learning that this is wrong. We are only beginning to think about this issue. The research that has been done and the papers that have been published with respect to bias in artificial intelligence have made us aware that bias is there and racism is relevant. I think this is something that a lot of people need to learn. (V. 1007)

A second pointed to the potential to better educate and inform the public:

Right now, the industry is making glib statements about how baked-in bias leads to biased outcomes. But even I don't really understand fully what that means. ACM could take a strong stance and could help clarify what is happening on the technical and social frontiers and how they intersect with each other. ACM could provide clear consistent drum beats about these things. If they did this, I would know ACM is doing something real, something worthwhile. (E. 1016)

and a third expressed the belief that ACM has both an opportunity and a responsibility to influence the next generation of developers through education:

If we are not providing students with the technology methodologies and concepts they need to understand how to build inclusive technology, technology that does not tear down the people who are consuming the technology,

we've missed the mark. We've done a disservice to everyone on earth. (V. 1020)

Other interviewees expressed the importance of ensuring that future software developers are sufficiently diverse to both protect and reflect the needs of future users:

The effects of algorithms are felt across the world. And if we're going to design tools that affect people so broadly, the perspective has to include the inputs of the people that they impact. For that reason, I would say there is an inherent moral imperative in our profession to become more diverse. (V. 1005)

Being a cancer survivor and female, I may have built a different mammogram machine to detect breast cancer, based on my experience. This technology is used in such a delicate and personal area of the body and it does not give you great joy to use it. You utilize this technology, because you have to in order to preserve your life. Not because the experience in utilizing this technology is enjoyable during the most emotional and possibly challenging time of your life. (V. 1020)

Overall, the interviewees saw multiple opportunities for ACM to take a leadership role in addressing diversity and inclusion internally:

I think ACM is a completely plausible source for a trickle out effect and change of some sort. I think the most significant change often happens in association with and in response to funding. I think ACM has some potential to influence change, but perhaps even more, it has the potential to change itself. (V. 1005)

Both external experts and ACM members and volunteers noted several possible channels for ACM to demonstrate external leadership and influence, including policy:

There are so many things ACM could do to advance research, thought leadership and policy on these critical topics ranging from access to

broadband and computer science education to the implications of technology like facial recognition, disinformation, extremism, algorithmic bias, etc. We know there are also biases embedded in the validation of knowledge in academic circles-- and to the extent that ACM plays a critical role in driving knowledge in computing--there is a key role for ACM to play. (E. 1018)

research:

ACM can and should consider its mission to elevate research and discussion on this issue of the potential harm of technology with regard to systemic racism and algorithmic bias. ACM is a prestigious community with lots of ways to elevate this issue and technology and racial justice. You can accept papers, and create conference tracks, select keynote speakers, and use your publications to uplift the conversation...ACM could play a really big role in just saying "We think this is super important, we want to elevate this discussion and we value scholarship on this topic." (E. 1018)

and education via conferences and publications:

ACM can and does play a big role on the academic side. Academics have a mandate to publish their work, and participation in professional associations and discipline-based service work are valued by universities. Universities pay attention to these things, so its influence could be very positive. If ACM could be seen as making substantive efforts to elevate more diverse voices and to showcase those voices, this would help us with recruiting more diverse students into computing, more undergrads and graduate students. (V. 1014)

5.3   Inclusion and Representation

The terms, *diversity* and *inclusion*, stand as placeholders for a broad range of social justice challenges and considerations. In the context of large organizations such as ACM, they most commonly center on issues of representation (what does the organization look like), inclusion (who is truly welcome), voice (who is heard, and power (whose word carries weight). All these themes are present in the interview transcripts.

One interviewee captured an idealized vision of diversity and inclusion across ACM as follows:

Everybody who wants to contribute can contribute to ACM in whatever role and whatever positions are open for everyone. That every voice is heard and we have found mechanisms of managing conflicting opinions. Because diversity also means that not all people share the same values and share the same ideas, we have found a way to include all these voices. (V. 1007)

Interviewees also noted even the most well-intended people can make the wrong decisions on issues critical to the organization if there is an absence of direct expertise from people in those communities:

We need diverse people around the table because there are things they understand that others don't. We've seen this with the SIG Governing Board around the issues of double blind reviews. Most of the people on the Board thought that moving to double blind reviews for all publications would be a step toward supporting diversity and inclusion. And it wasn't until someone noted that there was a lot of conversation about this question among Black scholars and many were saying that the double blind process may actually hurt them rather than help them. So we need more people with a deep understanding to speak to these issues and we need to trust them. It's their lived experience and we need to consider that when we're thinking about these kinds of issues. (V. 1008)

Others noted that achieving diversity requires both action and appreciation. It is more than just waiting for people to show up and not actively turning them away:

We need to be having a very open dialogue with people who are not in our sphere. They need to be invited in. This includes people from community colleges, tribal colleges, the HBCUs, and Hispanic serving institutions. And I put an asterisk next to that one as not all "Hispanic serving institutions" were designed to meet the cultural needs and not just the enrollment needs of the Department of Education. (V. 1022)

it also requires being respectful of their contributions:

> You have to feel that you are a welcome member and contributor and that what you do is valued. (V. 1006)

One interesting side theme revealed in the data centered on the challenge of finding enough people from historically marginalized communities to help guide and drive ACM. As one interviewee noted, there are not an unlimited number of people from these communities to serve all the organizations trying to make improvements in this area:

> One of the challenges is that when everybody wants all of the people of color on their committees, you run a very big risk of burning people out. There's not enough people of color to put them on every subcommittee. There's fewer than 50 Hispanic full professors in CS in the entire country. (V. 1008)

Another noted the dangers of assuming that diverse communities are homogeneous and that one person can speak for everyone:

> [W]hat I've found is that there is only a small subset of people who are asked to give their opinion. This feels like it is just to satisfy a checkbox. But we're not a monolith, right? So I think it is very important to recognize that many others are doing great work who are often not heard from. Not just the few "go-to Black and Brown people" as I call it. (V. 1006)

And a third interviewee noted that, given the dearth of people from historically marginalized communities currently involved with ACM, it is imperative for the organization to find strategic solutions to ensure that a community is spoken for even if there isn't someone from that community present in the room:

> We need to be strategic and also focus on advocates and allies who maybe don't come from one of those underrepresented groups but could represent them at the table, lift up their voices,

and make sure there's a pipeline to getting those voices to the table. We have to lift up those voices in a very purposeful way and not just tell every committee to go find someone from a minority-serving institution. (V. 1008)

Many interviewees (both ACM members and external experts) shared that they look specifically to power positions and leadership roles within ACM as an indicator of inclusion:

> We need to look at all the leadership positions in ACM. It should be much more diverse than it is. Yes, we have a lot of female volunteers and have had several female presidents and a female CEO but we don't have good diversity otherwise and we need to see it. (V. 1014)

> We need leaders on the ACM boards, committees, task forces, and commissions who recognize critical components in decision-making through diversity lenses. (V. 1003)

> You have to have leaders that are representative of our nation's population for systemic change to occur. Decision-making needs to be transparent and you need to engage a broader audience before decisions are made. And if your current leadership is not already diverse you need to have listening sessions so that you're bringing people around the table. (E. 1011)

Several also noted that ACM faces issues of inclusion that extend beyond considerations of race, ethnicity, and gender:

> There are many types of diversity in the ACM community: racial, ethnicity, gender, region, sexual orientation, ability / disability, and age. Technical area also has become a diversity area in the organization of ACM-wide activities. Each of these dimensions of diversity need to be represented in ACM. How do all get fair and equitable representation across ACM programs? ACM needs to strive to provide support for all. (S. 1004)

And while many see achieving diversity and inclusion within and across ACM as an issue of fairness and doing the right thing, one interviewee made the point that, in this case as in so many, doing the right thing ultimately benefits the organization as a whole:

> This is why it is so important to invite people from marginalized communities and who are not enculturated into the organization already into the discussion. These people will bring a new perspective and won't be limited by the vision of what has happened before. (V. 1015)

None of the interviewees, however, underestimated the challenge of achieving this kind of change. One external expert expressed concerns that there is a growing tension around perceived increased focus on some historically marginalized populations and not others:

> Even recently, I've been in so many meetings around diversity and inclusion but, ironically, none of the speakers were Hispanic. (E. 1011)

Several, like the interviewee quoted below, also noted that ACM's effort to improve the representation of women has been a long and fraught process:

> ACM realized that this needed to happen with women, that there was a large gender gap that had to be addressed in the organization and the industry. And it has taken decades for that effort to find some success. Now we need to do the same thing for African-Americans, indigenous peoples, and Hispanic populations. We need more voices and so we need to focus on improving diversities at all levels of ACM (including the SIGs) and in the industry as well. Having alignment between industry and SIG Membership is not enough. We need to be doing more. (V. 1014)

Despite a recognition of the underlying challenges of achieving more diverse representation and voice, the majority of interviewees indicated that they have grown tired of what they perceive as excuses for inaction:

> We need to stop talking about diversity as if it is only a pipeline problem. The problem is that we're not nurturing and elevating the brilliant, strong, smart people of color already in our community and giving them the same kinds of roles and opportunities we give to the white kids and the white people. And as white people, whether we're willing to say it or not, we're not willing to step aside or to give up our power to make room for others to lead. (V. 1009)

and believe that ACM can achieve systemic and sustained change if it engages more positively and proactively:

> Let's stop looking at this from a position of negativity that focuses on all the reasons we can't make this happen, and let's start talking about this as something where of course we can make it happen. We either don't think about it or we don't talk about it as a solvable problem. We talk about all the reasons we can't solve it. (V. 1009)

5.4   ACM's Leadership and Decision-Making Structures

While the interviewees were very much aligned in their conviction that ACM should strive to be a more diverse organization, many expressed doubts about its willingness or capability to do so. Some of this doubt is grounded in previous efforts which are perceived to have been either unsuccessful or insufficient:

> You can go back into ACM history and find efforts to build more diversity. In 2016 there was an effort to set up a D&I Council. It began with a working group, and then there was a proposal that was submitted to staff. This proposal recommended a stem to stern study. It recommended that, if they didn't want to hire a DEI person to oversee this work, then ACM should bring in a consultant to do it. And the staff leaders absolutely hit the ceiling. They thought that it was up to the SIGs to make diversity happen and that it was a non-issue at headquarters. (V. 1021)

Complexity and Opacity

Several interviewees, however, noted that the real challenge lay in the complexity and opacity of ACM's leadership and decision-making structure, which many

felt made it almost impossible to understand the distribution of power and the levers of influence that enable change:

> If you are coming in as someone who is not already entrenched in the culture, you have to understand the organizational structure, the board versus the council, who is elected and who's nominated. Who are the people in these positions of power and how can you get them to share their knowledge? (V. 1019)

In particular, many interviewees expressed confusion about the roles and authority of the staff and volunteer leadership:

> What has surprised me is the understanding of the power dynamics between those two verticals [the staff and the volunteers]. I was at AAAS before so I am used to professional societies where there are these two verticals, the volunteers and the staff, but at ACM the staff seem to be powerless to make real change. This is just confounding. (V. 1019)

> It feels like there's a very small group within staff and volunteer leadership that has a lot of power and I don't know what sort of change they want to make. So it is important to really hear from top staff officials that they want to make change and see them taking the needed steps. (V. 1015)

There was also a sense among some volunteers that the very opacity of the power structure benefits those most interested in preventing rather than facilitating change:

> There is an old boy's network within ACM and they perceive their role as maintaining the status quo. I don't think they're bad people but I think people are more comfortable not making waves and saying "Wow we haven't thought about this and we should think about it" and then do nothing impactful. (V. 1010)

and that these power structures are baked into the documents that direct ACM's operations at every level:

> There certainly are expectations that the volunteers will do all the work but there is no way that they have the kind of power that leads to any structural change for ACM because ACM hides behind the bylaws. (V. 1021)

Power and Decision-Making

The interviewees see this issue of autonomous versus centralized priority-setting and decision-making most clearly at the SIG level. As noted in Part 2, many of the SIGs are already concerned with and focused on improving diversity and inclusion:

> We're talking right now at the SIG level about how we could create spaces for people from underrepresented groups and minority serving institutions. There has to be a way we can create a space that will explicitly enable these people to bring forward their issues and their voices. (V. 1008)

> A lot of what I see seems to be coming from the SIGs and I wish I could see something active from a higher level of ACM that highlights inclusion and diversity. We can act very strategically to make this happen systemically. (V. 1003)

There was also agreement from active SIG members that participation on DEI efforts at the SIG level offered the most direct opportunity to achieve positive impact:

> I've been very involved with my SIG…and I was working on some of these diversity and inclusion efforts. This work was rewarding because I could see the fruits of my efforts and it felt easier to make change at this level. Trying to make large structural changes across ACM is just enormously difficult and frustrating. (V. 1014)

> The interesting thing about the diversity issue and the plethora of SIGs is that there's so much work to be done in the diversity area that they could do just about anything with any focus and make progress without substantially moving outside their own charter. There's such a lack of diversity that just about anything would be helpful. (V. 1013)

Several interviewees, however, expressed the need for ACM to provide more facilitation and oversight of SIG DEI activities to effect more systemic and sustained improvements:

> I would have all the SIG leaders and a designate of their choice come to ACM and have a meeting on what this means and have them discuss how it relates to their particular area, how do they envision enacting something like this? I would then charge each one of those groups to come up with a deliverable and a list of what supports they need to make it happen. If they're not interested you can't make them do it, but if they are interested and willing to put time and effort into it, then you know what they need to accomplish this. (V. 1010)

Staffing, Budgeting, and Volunteers

Three other themes regarding ACM operations that were frequently mentioned as impediments to substantive engagement in and progress on DEI issues were staffing, budgeting, and organizational expectations of volunteers. Several interviewees noted that ACM has surprisingly few staff members for the scope of the work it undertakes and its role as a representative of the computing discipline:

> My experience has been that ACM, as an organization, is very staff lean when compared to other organizations of a similar size such as IEEE so it seems as though the diversity and inclusion work is falling very very heavily on the volunteer base. (V. 1014)

and while some volunteers raised questions about ACM's staff diversity, an ACM staff member noted that:

> HQ staff is actually quite diverse. (S. 1004)

An ACM staff leader noted that perhaps not surprisingly, many interviewees (both volunteers and staff) drew a direct connection between staffing and fiscal decisions:

> [I]ncreasing staff would require additional funding from ACM's budget. Right now, the ACM budget is very conservative as we continue to feel the effects of COVID and as we work towards being

in a financially sustainable position to make the DL [digital library] fully open. There was actually a staff hiring freeze last year. (S. 1004)

Some, however, noted funding is the more reliable signifier of what an organization values:

> [The clearest indicator of ACM's willingness to improve diversity and inclusion] would be hiring someone who's devoted to doing all this stuff. Hiring someone is not the end of the story. It's the beginning of a story that shows that you have commitment. The second act of that story is about the kind of resources that person has available to them to really be able to address issues in the community in a substantial way. It's like that saying, "Show me your budget and I'll show you your priorities". Hire someone and give them a non-trivial budget to do real work. Let that person figure out the details of what needs to be done. (V. 1012)

Many of the interviewees also saw a worrisome connection between ACM's low staffing level and increasing expectations of its volunteers, that even the most dedicated volunteers were finding increasingly untenable:

> It is also critical [for ACM] to realize that member's time is limited. The volunteers are volunteers. The vast majority of them have full-time jobs or more-than-full-time jobs. They want to contribute to ACM because they care about the discipline, but they don't have ten hours a week to devote. So there needs to be some realization of what the volunteers can actually do and what attentional resources are needed to support the volunteers. (V. 1012)

> I am a SIG chair and I love being a SIG chair because I love the community and I love doing the service. But it has to take a back seat to the job I am actually paid to do...It is just not reasonable to expect someone who has a full-time job to manage all of that. And I'm not even talking about keeping the SIG running and this

does not include things like managing volunteers, charting the course of the discipline, figuring out what programs to launch, and helping the people managing the conference. (V. 1008)

The interviewees also noted that the allocation of volunteer and staff tasks and time should be closely aligned with their particular strengths:

If you look at your volunteers, they likely have amazing computing knowledge but do they have the expertise needed to do system DEI work? Of course you want them to be a critical part of this work but you can't afford to focus all your volunteer time on things that are not within their expertise. You have to use your volunteer time carefully and you have to put the right staff support in place to make sure the DEI goals of the whole organization are being achieved. (E. 1018)

Another interviewee also noted that expecting that the volunteers will do the majority of diversity and inclusion work is most damaging to marginalized communities:

Volunteerism only gets us a little way…People are overloaded. And this burden is also not evenly distributed, as during the pandemic women are doing child care, and working, and volunteering and all these other things. (V. 1019)

5.5 Perceptions, Progress, and Expectations

When the interviewees were asked to evaluate ACM's progress, they did so with the understanding that the year-long pandemic has made it significantly more difficult to know what ACM is doing with diversity and inclusion and how it has responded to demands that it engage more substantively with social justice issues:

I think that due to the pandemic and the resulting virtual meetings this past year it has been particularly difficult to discuss ideas or make connections with others, but it has always been the case that people seem primarily engaged in the activities of their own units. (S. 1004)

Despite this recognition of current communication challenges, most of the interviewees expressed concern

that ACM has not been working at a sufficiently deep/systemic level to ensure real, sustainable change. While all of the interviewees agreed that these efforts are well within ACM's purview and responsibility:

[T]he fact that there is poor handling of diversity, equity, and inclusion in the computing businesses that rely on computing is a valid position for ACM to explore and to have an opinion about. And of course, that becomes very broad because we can speak to education, we can speak to job availability, we know there's a number of things with regard to accessibility for certain kinds of groups that are not adequately accommodated. (V. 1013)

some noted that ACM's remit in this space must be deeply considered:

ACM needs to be asking itself, "How do we organize the words that we use in public and the actions that we take to demonstrate what we prioritize? What boundaries of discomfort will we tolerate and what risks are we willing to take because of these convictions that we have? How do we calibrate the cost of conviction that we're willing to pay?" All those things are leadership questions, but they're related to the way that ACM perceives its role in all of this. (E. 1017)

and thoughtfully scoped:

In the case of ACM, it would have to choose the right tone and also the right framing, in my opinion, to speak on this matter. I think the BLM specifics, for example, are a bit outside of ACM's footprint. (V. 1013)

The interviewees also recognized that there is a strong risk that not everyone will embrace the needed changes:

You need to have a common agenda and a common message. You need to unequivocally name what this bold move is about. You have to give people the understanding that this will not be for everyone. If you go bold, stuff is going to

happen and you have to be willing to let some people go because they just won't be able to take this journey. (E. 1017)

and that it will require proactive outreach to, and engagement of, new people with the lived knowledge and the commitment needed to drive the change:

When you think about computer science as a community of scientists from the 1950s to the 2000s, I think a lot of people didn't care and they would say this work is not ACM's purview. We're all about the machine, what the machine can do and how we help the machine do things. But when you try to diversify the field, you deliberately bring in people who, because of their lived experience, bring a set of concerns with them. These people help drive the conversation about the fact that we're not diverse and what we have to do to become more diverse and, in this way, you can raise awareness of these issues within the majority population in the field. (V. 1021)

As one external expert also pointed out, these new people are also less likely to be hampered by the organizational enculturation that dulls an individual's drive for change over time:

[T]o be successful in these big businesses and in organizations, you have to be parsed down, to speak in a certain way, to conduct yourself in a certain way, and to express your preference a certain way. And all of this grinds down your radicalism. Even people who feel themselves to have some revolutionary bent or radical ideology suppress those in the interest of getting to a place where they believe they can attain a certain level of influence and can exercise those radical ideas. But by the time they get there, they've forgotten how to be the person that they think they were. They've sacrificed it all along the way. (E. 1016)

The Diversity and Inclusion Council
As noted earlier, efforts to address diversity and inclusion within ACM are widely dispersed across the organization with initiatives at multiple levels. For example:

- the D&I Council has undertaken several new programs including "Words Matter,"
- the Education Board has formed a Diversity, Equity, and Inclusion in Computing Education (DEI-CE) task force, and
- many SIGs have instituted new diversity programs.

But among the interviewees, there is a shared perception that not enough is being done, and what is being done is moving too slowly.

Some interviewees who have had interactions with the D&I Council noted that its establishment was a step in the right direction but it has yet to produce a substantive outcome:

I get the sense from meeting with the Diversity and Inclusion Council that there is a genuine commitment among people who are working at this to try to do something that makes a difference and I think that's really important. You have to start with recognizing that change is needed. At the same time, I had the very strong sense that they didn't really know what they could do that would be big and significant and powerful. (V. 1019)

I believe they did the right thing in creating the Diversity and Inclusion Council. And I believe that Pat [Ryan COO) and Vicki [Hanson, CEO], the senior staff, think this is important and do care about it. But it is not yet internalized to the extent that it outweighs the arc of how the organization has always behaved, that arc of ACM history. And until they take it that seriously, the grade is always going to be middling. (V. 1005)

Others, however, questioned whether the Council has sufficient power to make substantive change happen:

Making it a council sort of says it is equally important to the missions of ACM. It is equivalent to the Ed Board and the Pubs Board. It indicates that it's equal to and not a lesser consideration. I think that's really good. But it is also true that the D&I Council has no real power. We have to then

go to other groups at ACM and lobby them to make changes. (V. 1014)

Even the construction of the D&I council was done in a way that was guaranteed to make it, at best, minimally effective, in terms of who was on it, how it was placed within the organization, and the fact that it was all volunteers. (V. 1021)

Interviewees noted that the concentration of DEI work in this single body had also raised concerns that other diversity efforts at ACM would be undermined:

When the Diversity and Inclusion Council was established, the ACM-W activities came under that larger committee...they felt that women would get sidelined. I agreed that there was some risk in this, but ACM had to move forward. (V. 1021)

The Push for Change
Despite shared concerns about the impact or potential of the D&I Council, many interviewees noted that there are external and internal pressures on ACM to change and that this pressure has generated a greater awareness of the importance of addressing critical issues of diversity inclusion and social justice across ACM:

There's a lot of chatter on social media particularly around events, but there's baseline chatter most of the time calling out ACM for not doing enough, not moving fast enough, not moving far enough, not being open enough. That's the reaction I see. In some cases it has been effective in getting ACM leadership to continue the conversation, and or move the ball forward, when others have been slowing things down. (V. 1005)

One of the best things that happened is we had to turn the mirror inside and look at ourselves and really take stock of ourselves in our committee. (V. 1006)

The issues about racial discrimination, at least in ACM, have arisen more recently, and I have to admit there is still a long way to go. We haven't really achieved a lot yet, but there's definitely a need for improvement. At least I think what we

have reached is a certain level of awareness. This would be the first step, that you really see this as an issue that must be addressed and I think we have accomplished that. (V. 1007)

Some interviewees noted that profound changes always take more time than expected or desired, and that progress often occurs incrementally:

The devil's all in the details. If you pick one big vision, you're going to have too many details. Let's take one small step and work on it. Once we've taken that step, we can take another one building on it. I don't believe that you can sit down and figure out an overarching solution that's going to be wonderful. So it's better to pick a slice and start hammering out the details and learning from that. (V. 1010)

but many felt strongly that either current efforts are too slow or insufficient or that there is simply not enough organization-wide understanding of what is and is not being done:

I would say it has been slow and mired in bureaucracy. I know it takes time to make changes. Change doesn't happen overnight and these are especially difficult times for everybody so I think that's also been a challenge. (V. 1014)

After you do all your talking and all your analyzing you need to deliver to the masses. ACM needs to stop going on and on and deliver something tangible, even if it is a small thing. We are just talking and most of the talk is going up in the air. It's not getting us anywhere and it's not moving us forward. We keep reinventing the wheel. (V. 1010)

The Price of Inaction
Despite some mixed feelings about how the change process was currently being handled within ACM, the data revealed a widely-held conviction that ACM will face significant consequences if it is ultimately perceived as not responding quickly and substantially to the call for greater diversity, inclusion, and social justice. Several interviewees noted the potential harm to ACM's reputation:

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If ACM wants to position itself as the computing society, it needs to be inclusive and provide a voice for everyone in computing. If ACM is not actually doing things that engage in a meaningful way and promote diversity and they are not taking the action to show the community that this is something that's important to them, that becomes alienating to members of the community. (V. 1012)

The value of ACM as a professional society is what it can collectively do for computing professionals. If the organization is not effectively representing the community needs it could, and arguably should, cease to exist. (S. 1004)

And at least one person felt that ACM as an organization could be at risk:

This isn't just a few ACM volunteers who want to see real change. There's a lot of upset and people are talking about it on social networks. People are saying "I'm still an ACM member only because I get the conference discounts" or "I'm only a SIG member and not a member of ACM but I am unhappy about how ACM is handling this". People, younger people especially, are going to leave unless the suits start to lead by example. If headquarters doesn't begin to move on the diversity stuff, I think it could eventually lead to the SIGs becoming independent organizations. (V. 1021)

Many interviewees also expressed deep concerns about ACM's ability to attract members and volunteers in future if it avoids fundamental change now:

If people perceive that there are biases or that they don't have a voice then they lose interest in being part of that organization. Always serving the same group of people is dangerous for an organization's membership. People want to know "What's in it for me?" and "What am I getting out of this organization in terms of programming or opportunities if my needs are not considered"? You end up losing membership in the long run. (E. 1011)

It is not just a case of who is invited to participate or submit papers, but what does the leadership look like and are you welcoming to diverse voices. If something doesn't happen, organizations like ACM will experience an even greater degree of non-participation at all levels. (V. 1006)

and noted that a perceived lack of commitment to diversity and inclusion would significantly hamper ACM's ability to attract and retain young members who are more likely to be concerned with social justice issues and less patient about seeing change happen slowly:

I think you're going to see people start to demand to know that the organizations they work for, hold stock in, or purchase from are really doing something. It is not enough to just make a statement. People are going to keep coming back and asking "What are we doing? Why didn't we do this? Why didn't you respond fast enough? What are you doing that is meaningful and strategic?" (E. 1018)

It's really important that ACM get this right, especially for younger members of our community. Some of them are starting to question the value of ACM and whether they should be members of an organization that doesn't understand or reflect the changing demographics. Our younger members are really looking for an organization that supports their values. And these younger people do have different values...younger people are also looking for true recognition and response to these social justice issues and keeping and continuing to grow membership means that ACM has to pay attention to what they are looking for now. (V. 1014)

Younger people are tired of the excuse that we tried it before and it didn't work...There's a popular Grace Hopper shirt about asking for forgiveness rather than permission and I think a lot of younger people feel that way. That is part of it, but there is more. Being a black woman coming from a group that is not well represented, I know that I am not in the center of the membership

from an identity perspective. And communities who are not in the center have been traditionally excluded. So I think it's not just about younger people because there are people who've been fighting this fight for 30 or 40 years. (V. 1019)

As mentioned earlier, many interviewees believe that the complexity and opacity of ACM's current structure make substantive change deeply challenging. But perhaps surprisingly, current circumstances have led many of the interviewees to see the need for much more proactive and prescriptive decision-making at the highest levels of ACM's staff and volunteer leadership. While some acknowledge that ACM's culture has always been to ascribe power as being situated in the membership:

It is much more of a bottom-up process than people understand. What people don't realize is that the CEO doesn't have the power to just say "This is what we're going to do and these are the changes we're going to make". So even when people are doing their best, it feels slow. (V. 1014)

this desire for a more proactive response to the internal and external calls for greater diversity and inclusion has also created a strong desire for more centralized policy setting and decision making:

[O]ne thing that has been deeply frustrating to me...is the degree to which ACM chooses to be decentrally governed. And it seems to me that it is unnecessarily strict about the enforcement of that idea that "We don't tell you what to do. We can't do that because the SIGs are independent and they do what they want to do." I think that it can come across as a convenient excuse for not acting frankly...There are lots of opportunities where ACM HQ could help make change. When ACM takes that stand in favor of decentralized governance at the expense of change it signals that we can't do anything about what these subgroups do. (V. 1005)

What I'd like to see is for the leadership on the staff side to take a stand...I want them to say "this is a priority for us as an organization and this is what

we are going to do" and then make it happen. But it doesn't work that way. It's so dispersed that no one seems able to respond in a timely way. I'm trying to have some grace and understanding about why that's not happening as much as I would love to see. (V. 1019)

There needs to be an official ACM position on things—not an amalgamation of the voices of thousands of volunteer leaders, though those voices should be heard and considered in formulating the official position. If ACM wants to continue to defer to volunteers, then it should take an appropriately small role as an organization that facilitates volunteering. It's not reasonable to claim a position of leadership without doing the work and making the investments that both earn that position and make an organization accountable to the position it takes. (V. 1009)

Interviewees also noted that, for change to be systemic and sustained, ACM needs strong, committed leaders who are willing to hold other parts of the organization accountable:

Achieving organizational change requires awareness on the part of leadership and this focus on diversity and inclusion has to be a foundational pillar of the organization. If you agree to be a leader within this organization you should understand that this is your job to go out and do it. Setting this as an expectation helps everyone understand and is a bar to be measured by. (V. 1010)

The leaders have to say, "That's not acceptable" or "Here are the ground rules". Leadership sets the tone and if people feel that no one's going to call them on their statements, or there's no ramifications for bad behavior, there won't be real change. You can't make change unless there's accountability. (E. 1011)

5.6   Opportunities for Change

Beyond their recommendations for a less diffuse and more directive policy setting and decision-making process at ACM, the interviewees identified several

key areas where changes could be enacted to address current diversity and inclusion deficits and improve ACM's attractiveness to future members. For many, the first steps in this process require deep honesty in acknowledging the extent of the problems:

> Part of what would be an indication for me is a clear acknowledgement across all of ACM that they see White supremacy as a problem that is active in the structures of ACM and an outline of steps that will be taken to address it. I also think there's a deep need for knowledge building on the part of the White staff, committees, and members. I understand the caveat that this seems to be a U.S. issue and ACM is a global organization makes this more complicated. But this is a very clear opportunity to be very upfront about what the problems are and to say "Here are the things that we've done wrong and here's how we want to get better." There's a lot of room for leaders to acknowledge past wrongs and to ask for grace in this time of change. I believe that would be understood and respected by the larger community. (V. 1015)

to make a substantive and comprehensive commitment to fixing it:

> The strategies that have a diversity and inclusion lens should be scanned and implemented across all sub-teams so that while one sub-team is focused on data science and another on cyber security, all of those groups have an inclusive lens and language and processes to support greater diversity embedded within everything they do. (V. 1020)

> Leaders have to have an equity mindset when they are making decisions. Are we reaching out to people with different perspectives? Are we inclusive of the membership in decision making? Is our leadership representative of our members' demographics? What does our leadership look like? What's our role as a professional organization with regards to developing new leaders who are diverse? (E. 1011)

and to integrate that commitment into everything ACM does:

> Diverse people would have a voice at the table. Not just on one Board or committee, but at the highest levels and within ACM's subsidiary groups...We also have to include all the levels of practice in this work. In our education work, we need people from the community college level and the university level to make sure we have systemic processes in place that include these diverse perspectives. (V. 1020)

Leadership
Consistent with the earlier comments about the importance of voice and representation, many members noted that making ACM's leadership more diverse would be a powerful and concrete indicator of ACM's willingness to serve, welcome, and value diverse members and elevate them to leadership roles:

> It is also important to be actively looking at leadership, encouraging and developing new leaders, especially women and people of color in academia and in industry. It seems to me that ACM can be more proactive when they're putting together committees or developing new programming. They could take a deep dive into inclusion so that people could really see a big shift at ACM. (E. 2011)

> If ACM were to make a commitment that the next ACM leader is going to be African-American, that would be a good indicator. If ACM made a public commitment to have people with different perspectives and from different backgrounds in critical positions. For example, I think what Biden did in hiring a Native American as the Secretary of the Department of the Interior was so smart. He brought in someone with a different voice and a different background into a leadership position in an organization that, historically, has been so biased and so racist. (V. 1009)

The interviewees also expressed a shared belief that achieving and maintaining substantive improvements across ACM requires a particular kind of leadership:

There has to be a leader who truly believes the change is necessary. This leader has to be someone who has been able to hold on to their sense of radicalization. These leaders are rare but they do exist. And this leader needs to signal that they are leading a critical reform. They have to personify it in ways that people see it and believe it. They have to be revolutionary. (E. 1016)

and new ways of getting things done that do not rely unrealistically on volunteer time and expertise:

As a volunteer, I don't have the time and expertise to watch over and communicate all the diversity and inclusion work being done throughout ACM and I don't have the authority to tell any other part of the organization what to do. But somebody needs to do this. It needs to be someone's paid job. (V. 1022)

And as one interviewee noted, it also requires that current leaders keep in mind the importance of growing future leaders:

Students are the next generation of leaders and so to impact change, it is important to work with our youth and empower them. We need to provide opportunities that enable them to have societal impact and impact within their communities. We've been talking about the importance of leadership in DEI and I think caring more about how the student orgs can have more DEI focus as part of their mission could be very helpful. (E. 1011)

Staffing

Many interviewees specifically recommended hiring a paid staff person who could focus exclusively on ACM's diversity and inclusion work going forward:

When you are trying to get everything done through volunteerism, it is hard to achieve and sustain change. There is constant overturn in leadership and everyone is working at a different cadence. You have a leader who is committed to making change and two years later there is a new leader who feels differently. That is why you have to have someone on the staff side to provide continuity over time and through all of the verticals. (V. 1019)

There needs to be an accountable point person. This person also needs to be the external communications person who ensures more transparency around what's going on and who can answer knowledgeably for the whole organization when the membership has questions or brings up issues. ACM needs a staff person who is keeping their thumb on these things and who understands the problem and can make meaningful statements. There needs to be a person who knows what resources ACM can put behind these efforts or what it has already done that's worth talking about. (V. 1012)

Some interviewees, however, noted that hiring someone with the needed expertise can be challenging:

There are also expertise elements that have to be in place in terms of helping an organization figure out how to deal with systemic racism. The truth is, I don't know if those experts exist in the world for real...I don't think there are necessarily very many people who are trained in the psychology of changing culture to be more diverse. If those people exist and ACM could actually hire for it, that would make a huge difference. (V. 1009)

and that such employees can become a scapegoat for inaction rather than an empowered source of change if the role is not imbued with sufficient power and resources:

I am very skeptical when organizations say "We're going to create a DEI department and say they're handling it" because the problems are not isolated. They are in everything we do, so I don't think it can just be this person or this team is dealing with it. There does have to be someone who is empowered to manage the process, to support different groups within the organization who are doing parts of the work, and to communicate what is actually happening as they're making change, but it can't be about just getting a stamp of approval from the DEI office. (V. 1015)

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or they do not follow existing models that have shown success in similarly large organizations:

You can create a new staff position and it can still be window dressing. But you can look to other organizations that have done this. The Hewlett Foundation took it on and it took them longer than they thought. They started with a lot of soul-searching and analysis of their attitudes around issues of equity and diversity...They realized it wasn't enough for them to understand their own internalized isms. They have to fundamentally weave this into the work of their organization. (V. 1021)

As an ACM staff member noted, hiring such a person requires a financial commitment which can be particularly challenging in the current economic climate:

Increasing staff would require additional funding from ACM's budget. Right now, the ACM budget is very conservative as we continue to feel the effects of COVID and as we work towards being in a financially sustainable position to make the ACM Digital Library fully open. There was actually a staff hiring freeze last year. (S. 1004)

Some interviewees also expressed the belief that having a staff person who managed information gathering and sharing on diversity and inclusion work throughout the organization would help alleviate some challenges with organizational opacity and complexity:

Being on a committee and talking to other people, it's not always clear what the links are between the two verticals, between the volunteers and the staff or between the various committees who have diversity and inclusion mandates. It's murky. So you have to spend time to understand and make sense of it because it is complex and hard for people to engage and figure out where they fit in. You can't determine what needs to be done if you don't fundamentally understand what already exists. So you need more transparency around how it all really works and where the power actually lies. (V. 1019)

enable a more holistic understanding of efforts and progress throughout ACM:

Someone needs to be working at a high level to lay all of this out more transparently so people know what's going on in the subgroups. It doesn't have to get super granular. Who are those people? Where are the overlaps? Where are the places where they're trying to do some work? This requires oversight at a high level of the organization because you can't expect someone in any one of these sub-orgs to have the responsibility of knowing everything that is happening across the organization. That's not what they signed up for. The organization needs to be responsible for keeping track of the larger organizational pattern. (V. 1012)

and provide a more concrete manifestation of ACM's diversity values:

Demonstrating transparency gives everyone the understanding of the ACM in a way that builds trust. It will allow those in key ACM positions to truly evaluate their contribution in a way that drives change towards a more inclusive environment and draws the broader community in. (V. 1020)

Communication
Communication (both internal and external) was also a prominent theme in the interview data. A number of interviewees expressed dissatisfaction with how ACM is communicating its diversity and inclusion work within and across the various ACM sub-groups:

[We] don't necessarily know what ACM's current priorities are or what other parts of ACM are up to. If we did, we would know better what kind of initiatives collaboration would really resonate with these groups. I feel that we're sort of separate and we can raise issues with the Pubs Board or the Ed Board but it's harder to make progress. (V. 1014)

[I]f we don't know what is happening in the rest of the organization, then we end up duplicating

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work, exceeding our scope, or duplicating efforts. And all this just exacerbates the sense that nothing is happening. (V. 1022)

You also need a consistent communications channel so that everyone in the organization is aware of what we're doing to achieve your goals and what progress is being made. (E. 1018)

and to the membership at large:

When certain problematic things come up, like issues around diversity and inclusion or what's going on right now around awards, the membership needs to be engaged and it feels like that engagement is not happening. At least not at the level it needs to happen. (V. 1012)

There's value in getting really specific about what inclusion within ACM would look like. I think the membership would really rally behind specific designs for change. (V. 1015)

More interviewees expressed greater concern, however, with how ACM is communicating on diversity, inclusion, and social justice issues to the world outside of ACM. Some indicated that there has been too little communication:

I haven't seen something that summarizes what's going on in the ACM family. In fact, it's tempting to suggest a CACM special issue or a special section might be composed to tell people "this is how we are reacting and responding to this whole question of equity and inclusion...The CEO could write an editorial on this topic. There could be more visible activities. We could put up a YouTube channel and could use social media to draw attention to some of the work that we've done. (V. 1013)

The way they message certain things seems so wishy-washy. I think improved communications could also really signal a commitment to change. Look at the communication around the Turing award, for example. People are really frustrated

with it. More direct communication would signal that they really are committed to increasing diversity and inclusion and are not just trying to justify what has been. (V. 1014)

If I were not part of ACM, I would have no idea that ACM was doing anything at all. (V. 1009)

while others were concerned with what they perceived as a lack of clarity, specificity, and consistency in ACM's communications:

I think the first thing [needed] is a very clear message from the organization's leadership about what matters and is valued. And this needs to be accompanied by a willingness to reinforce those values with the right kind of investments. I can imagine a statement from Vicki [Hanson, CEO] and Pat [Ryan, COO] that acknowledges that ACM is an organization with biased structures that are influenced by White supremacy, and we need to address those… That sort of statement from the very top would be an interesting signal to me that things were really changing. I know that when Pat says she's going to do something, it happens. So if Pat said that, it would really mean something. (V. 1015)

Randi Weingarten of the American Teachers Federation exemplifies how this can be done. Whatever she does, whenever she opens her mouth, we know what she's going to be advocating on behalf of teachers' rights, their justice, their efficacy, the lack of support they receive. (E. 1016)

A number of interviewees also suggested that improving ACM's internal and external communication would help reach the very people ACM needs to become a more diverse organization:

Communicating frequently across the internal organization and external communities the ACM's strategy, help needed, and unintended results. By doing so, ACM will naturally attract more people to the table who are from these diverse communities. If people felt invited to the

party, then asked to actually dance with them, then those that do NOT normally engage and actively participate will begin to, because they see that the ACM values it. (V. 1020)

Metrics

As noted in Section One, at the D&I Council's request, ACM staff combed the ACM member profiles to begin identifying how diverse its membership is at this point in time. And while some interviewees acknowledged the difficulty of collecting organization-wide diversity metrics, many more noted that metrics are the only way to really understand your starting point and measure your progress against it:

I'm a big proponent of data. For associations, that may mean knowing who's attending specific conferences, looking at what parts of the country participants are from, and what institutions they are from. Then you can use this data to inform change (e.g., to know who you have to target). The data is the beginning for being informed. (E. 1011)

We look at statistical significance and make decisions based on that. We interpret importance and make decisions based on the N. We look at how many people in the community are affected rather than the actual impact on people's lives and the right or wrongness of things. We tend to forget that these are real people's lives we are talking about. (V. 1019)

I think if we could have a dashboard to measure each SIG within ACM, what's happening with conference representation, what's happening with publications, what's happening with leadership inside of these groups...I think having some targets and saying "Hey, we're gonna be evidence-based and we're gonna measure". I think that measurement would be a signal to me that I may not see it all, but I know it's been measured and measured in a way that doesn't mask the data. (V. 1016)

Awards

Given the recent controversy regarding the Turing Award, it is not surprising that many interviewees saw

the ACM awards as a powerful mechanism for signalling a strong commitment to diversity and inclusion within the organization and across the discipline. As one interviewee noted, the recent controversy is an indication that the broader community is watching and judging ACM's action in this space and that many ACM members are supportive and even anxious for ACM's awards to reflect a more diverse vision of accomplishments within the discipline:

Look at the recent issue with the Turing award. I don't believe that there haven't been people who felt similarly about previous awardees, but they did not feel empowered enough to share their concerns. I don't believe that was the first time this has happened and I imagine that's not going to be the last. So as a community, an organization, we have to work through who we are and where we are. We have to decide what is right and take a stand. (V. 1019)

These discussions highlighted the fact that D&I definitely does matter to those in the ACM community. This controversy has raised questions as to how issues of diversity and inclusion should be considered even with technical achievement awards. It is now up to the ACM Awards team to systematically go through our various processes and really consider the implications of every process in terms of diversity and inclusion. Already for Awards, some very specific process changes have been made. (S. 1004)

and more accurately reflect the contributions of groups who have been historically marginalized in computing:

I can remember when Fran Allen won the Turing award and that was just amazing. It sent a very strong signal that women are playing at the highest levels of computing and our contributions are being recognized. So we need to do the same thing for African American scholars or Hispanic scholars. The great work is there and it needs to be recognized and celebrated. Seeing this happen at the highest levels of ACM would be a substantive change. (V. 1014)

I know that the community wants to be valued and for recognition to come from an organization like ACM. To underscore this again, not just those who typically tapped to represent the race or the gender. That would be a signal that they're serious, it's not theater, and it would be an important signal to younger scholars. That this kind of recognition is attainable. Their work will be recognized. (V. 1006)

Some interviewees noted that the problem with the Turing award springs from the discipline's historic lack of diversity:

One of the problems is there's such a long queue of white Caucasian men old men in line for receiving recognition. So this is one of the problems that we are facing...The key people we put on stage need to be different, it needs to be better. (V. 1007)

Others acknowledged this historical problem but expressed the belief that the solution lies in becoming more enlightened and more persistent:

It is still all white guys all the time. I love white dudes. I'm married to a white dude, they're great. But sometimes these diversity things just look like an afterthought because the prominent awards always go to white dudes. It is true that a lot of the pioneering work in the seventies and eighties was done by white dudes, but a lot of other pioneers were simply made invisible by the white dudes...So we need to work harder to elevate a more diverse group of people with our awards. I'm convinced that there are more diverse people sitting out there who should be honored. We just have to be more proactive and go find them and not just wait for the white dudes to nominate them. (V. 1008)

and to additionally put into place structures and processes that demand greater inclusivity:

Awards rely on nominations from the community. ACM's awards committees can only select recipients from among the nominations they

receive. Thus, what is needed is to increase the diversity of the candidate pool. In talking with the Awards Co-Chair, we are developing ways to accomplish exactly that. There will be changes to the awards processes for next year. (S. 1004)

As the interviewees noted, improving diversity in all ACM awards is important on many levels. Greater diversity has the potential to bring into broader recognition those whose contributions have been shadowed and disavowed throughout computing's history due racism and misogyny. It can also provide assurances to young scholars and innovators that excellence will be recognized regardless of recalcitrant remaining prejudices. And it will serve as a profound signal that the oldest scientific and technical computing organization in the world is committed to making substantial change.

I think a change to how ACM gives awards could also be a very strong signal. ACM's awards figure prominently across the industry and with the public. When ACM announces a major award, it is reported in the New York Times. I think there's an opportunity to say "We've been giving out awards using the wrong criteria for the last however long and we're gonna change that starting now. Here's who's fixing them and we're gonna take their recommendations and move forward." (V. 1015)

ACM staff also acknowledge that, while they have already begun to make changes to the nominations and review processes, ACM awards committees can only choose from among those for whom nominations have been submitted. This means that ensuring more diverse award winners requires the membership to more actively nominate more diverse individuals.

Policy
While ACM's bylaws (in accordance with regulations governing non-profits) directly prohibit it from lobbying, some interviewees also see the recent activities of the ACM Technology Policy Committee as potential roadmap for driving change by engaging proactively in the policy space:

We could show up in policy settings where equity is important. (V. 1013)

When you see something happening around policy, you can tell right away that there's something going on. When there is some new issue in computing, some new immersion area, you learn about it because of conversations about policy. (V. 1003)

It could be a policy effort relating to legislative mandates for computing. Somebody has to be saying out loud that there is clearly inadequate infrastructure. So when these governors make these broad announcements there is someone asking how these things can be achieved. (E. 1016)

Conferences and Events

The interviewees also noted that conferences are one of the most public artifacts of ACM's presence in industry and education and that they provide a strong external manifestation of ACM's diversity and inclusion goals. Some conferences have already demonstrated their willingness to embrace great diversity and inclusion as part of their mission:

[W]ho's on the agenda for these SIGs events and conferences?...It sends a signal that they're serious and they're doing something. This year's SIGCSE agenda looks totally different than last year's agenda. I definitely felt that this year at SIGCSE. It sends signals, not just to those of us who are here, it signals to the broader community and those coming behind us that they can engage, that their voices will be taken seriously as well. And they need to include the voices of those who are not typically heard. (V. 1006)

5.7   Systemic and Sustained Change

Buy-in and Compliance

Despite expressing some doubts as to ACM's understanding of the imperative for improving diversity and inclusion and its will to revise its policies, procedures, and culture, every interviewee expressed the conviction that change is needed and needed now. The larger question of how this change should be achieved, however, produced some very nuanced opinions. Many expressed the need for both positive and negative reinforcement:

We need carrots and sticks. We need to say "Listen, we really care about this diversity thing. We really expect all the chapters and the special interest groups to work hard to attract a wider range of interested parties and we will be measuring you on that metric. These will be the consequences if you weren't able to meet these targets in five year's time", or something like that. (V. 1013)

Others noted, however, that an incentives-based approach would need to provide different incentives for different parts of the organization:

What should the incentives be if you want a different outcome and can I change the incentives to achieve that objective? What incentives can we put in place that will cause different outcomes in the ACM? This would require some analysis of ACM's different spheres because for the chapters it's one thing, for the SIGs it's something else, and for the organization as an employer it's a third thing... Often it may not even be the case that somebody in the senior management position can actually force something to happen. The best they may be able to do is to induce movement in a direction because they've created some incentives to do that. (S. 1004)

Several interviewees noted that ACM culture has never been comfortable adopting a stick-based approach to social change:

ACM is not prescriptive about social change, recognizing the varied communities served by the organization. Think about the progress that has been made related to issues of gender and regional diversity, which relate to ACM as a global organization. It was the right thing to do and recognized as such by volunteer groups. (S. 1004)

I think if Council said "Every special interest group and every chapter has to demonstrate its commitment to this and here's how we will measure it" you still have to ask what benefit do they get from trying to achieve this objective or what punishment if they fail? We have to be thoughtful and careful about how that works. (V. 1013)

Another interviewee felt strongly that there should be a direct link between achieving organizational diversity and inclusion goals, metrics, and funding:

If funding was tied to positive progress, people would become more involved. People are driven by recognition and involvement. (E. 1011)

Most of the interviewees agreed, however, that ACM can only achieve systemic and sustained change if diversity, inclusion, and a social justice perspective are inextricably woven into the fabric of ACM and not something for only one part of the organization to address:

Is diversity and inclusion a standing agenda item for every meeting or is it just perceived as something the DEI committees need to work on? It has to be incorporated into the core work of the organization. (E. 1018)

This would require constant assessment and iteration:

Another thing you need is an opportunity for feedback. You need to create an opportunity for people to say, "Hey, I think we did 90% of this really well but we really missed this one opportunity." This enables you to have a culture and process for continual improvement that can be incorporated back into our process. It can't be just a strategy that lives on the shelf. There needs to be continuous improvement and openness to feedback and change. (E. 1018)

and buy-in at every level:

Of course nothing will happen unless there's real buy-in at the grassroots level. (V. 1013)

Collaboration and Commitment
Another key theme drawn from the data is that sustained change will also require an openness to collaboration and external assistance:

No one owns this space--not one group has the answer. It needs to be a collective response and set of reinforcing actions. I think that we all have

to be aligned in how we're responding because there are huge issues. (E. 1011)

You also can't achieve and sustain change by having a leader who decides on their own to make it happen. It is really important to get the perspective of people who are external to the culture, who can see it from the outside and have something important to share from their life experiences. (V 1019)

and a willingness to learn from other groups with more resources and expertise doing this work:

There's so many companies and NGOs in computing that are grappling with the same issues and they've put a lot more resources into it than ACM has. What can ACM learn from them? What are they doing that we can do? I think ACM could learn by going to see what the big tech players have been trying to do in this space. There's lots of stuff going on that we might say we're not happy with in industry as well, but despite that, there are some things that I think they have probably worked out. (V. 1012)

This is a place for ACM to use its relationships with other societies like the American Statistical Association or American Physical Society or others. You can be sure that these organizations are dealing with similar DEI issues. Some of these communities are in better shape than ACM and some of them are not, but we can leverage their learnings because some of them have been thinking about it for much longer. It's still important to engage certain members of the community, but when you are asking the same people over and over, you're also overburdening them. (V. 1012)

and listening more actively and openly to the diverse voices already within the organization who have always been intimately connected to diversity work:

Community colleges are part of the education world but we are also very connected to industry.

Our students are workforce-driven so we spend a lot of time understanding what industry needs and making sure our students can meet those needs. So community colleges can help ACM get a much broader perspective on the computing field as well as on the needs of diverse students. (V. 1003)

The interviewees also noted that achieving DEI goals demands the continued work of people within the organization who are willing to take up the mantle of mentorship and make a difference one-on-one:

I was lucky enough to meet Beth Hawthorne. She actually put me in contact with a lot of colleagues and that created a chain of people who helped me become part of a number of groups at ACM such as SIGCSE, the curriculum development committees including the data science report. This personal mentoring from Beth and others helped me percolate. Beth put me on my ACM path. And now I am able to contribute. It was not easy. It took me a couple years at least to learn what I needed to learn to get my voice heard. (V. 1003)

It will also require deep intention:

I don't want the ACM and the efforts made so far to go to waste or not be recognized. But the efforts so far are not enough. We're at a junction point where we have to excel in order to show the community that we are leaning in intently to meet the current and future social issues concerns of the community. This will truly support the organization in the present and better prepare it for the long term as well. (V. 1020)

and positivity:

Let's stop looking at this from a position of negativity that focuses on all the reasons we can't make this happen, and let's start talking about this as something where of course we can make it happen. We either don't think about it or we don't talk about it as a solvable problem. We talk about all the reasons we can't solve it. (V. 1009)

This concludes the analysis of the data drawn from the interviewees. In this section, I have done my best to describe the major themes and subthemes arising from the data by giving voice to the interviewees through the medium of their own words. The next and final part of this paper will draw some common themes from the data analysis with the goal of providing some final thoughts and recommendations for ACM going forward.

PART SIX

6.0   THE DESIRE FOR IMPROVEMENT

In 2021, events in the U.S. brought racism and social justice issues to the fore globally. ACM, like many institutions, organizations, industries, and individuals is now being called upon to respond in a substantive way to the demands for greater diversity and inclusion. As is true for many professional member associations, ACM faces the challenge of navigating an already fraught space while also balancing "the needs of the current members, potential future members, and the interests and expectations of the wider public" (Friedman, 2004, p. 4). At a time when not responding is seen as an abdication of social responsibility and an insincere or insubstantial response is viewed as "diversity theater," ACM is being called upon to do the hard work necessary to identify the cultural, structural, and process elements that support the current status quo, and bravely commit itself to replacing them with a culture, structure, and processes that are not just inclusive and diverse, but also welcoming, respectful, and transparent.

Research has demonstrated that achieving systemic and sustained improvement in diversity and inclusion begins with the radical steps of listening, hearing, and acting. None of these is a passive undertaking. Listening necessitates commitment. Hearing demands courage. And action requires resolve, planning, and ongoing evaluation. ACM must find a way to embrace the perspectives of those who point to current flaws or offer suggestions for change and often the strongest critiques come from within. When this happens, any organization's leadership might be inclined to hear betrayal in these voices. But critique can also be an act

of love and loyalty that stems from the deepest desire to see the organization grow and thrive, to change along with a rapidly changing world, and ultimately to be a better version of itself.

As noted in the previous section, the ACM members, staff, and external experts who participated in this research overwhelmingly support changes to improve diversity and inclusion throughout the organization. Many have been galvanized by the murders of Black U.S. citizens such as George Floyd and Breonna Taylor and movements such as Black Lives Matter. They have read the letters from Black computing professionals and faculty and from computer science educators. They believe that ACM can do and be better and expect it to respond in a substantial way. They do not want the empty words of performative equity. They want a commitment backed by a plan and ensured by ongoing measurement and, where needed, readjustment. And although there is no absolute agreement on how to achieve it, they want change that is systemic and sustained.

Many interviewees also expressed the view that ACM has a compelling moral imperative to be more diverse because it sits at the nexus of computer science education and industry. Several noted that the ubiquity of computing technology and its impact (for better or worse) on human culture, communications, employment, health, economic well-being, and democracy itself make ACM's response to social justice issues particularly relevant and possibly widely influential. Other interviewees expressed a strong belief that to survive and thrive into the future, ACM has to meet the needs and expectations of a new generation of potential members and volunteers who have no attachment to "how it has always been," and are more impatient for change than previous generations.

6.1 Infrastructure Improvements

Most of the interviewees (especially the current ACM volunteers) expressed a general dissatisfaction with how ACM has handled diversity and inclusion so far. Most expressed frustration with a perceived lack of an organization-wide commitment and action. Historically, ACM culture is situated in the belief that, as an association of professional members (formally represented by the elected volunteer leaders), the

power to change is situated in the membership rather than with the staff. As noted by the American Society of Association Executives (ASAE) (2006), this is typical of professional associations, which tend to have a classless structure where there are few distinctions between executives and the staff and a culture focused on shared values and a unified purpose. In these organizations, the role of Chief Executive Officer is primarily a stewardship role and that the organization's vision emanates from the membership rather than from the CEO or volunteer leaders. So while staff may vigorously support volunteer goals and expectations, there need to be enough people to carry out the work, clear statements of the problems, and actionable goals for solution.

This does not mean, however, that this kind of member-centered structure is without its challenges, specifically when issues are complex, deeply felt, and multifaceted and when there are profound issues of social justice at play. This tension is articulated by Moshe Vardi in an editorial published in Communications of the ACM. Vardi states:

> The gap between ACM members and staff is supposed to be bridged by ACM's elected and appointed officers, who together with at-large members, comprise ACM Council. The Council has the duty to formulate policies and supervise their execution. But while ACM staff are (by and large) employees, ACM officers are volunteers and their services are on top of their regular jobs. Furthermore, ACM officers have a short tenure, typically serving just two years. (Vardi, 2021, p. 4)

Vardi's comments not only echo the observations of many interviewees regarding the power structure of ACM, but they provide a cogent example of why ACM staff remain rooted in their position that it is not within their purview to make policy or issue mandates to address diversity and inclusion throughout the organization. Many of the interviewees, however, specifically stated that they want ACM's staff leadership to take a more proactive role in defining a vision, making a commitment, and developing and holding people accountable to success metrics for diversity and inclusion.

Most of the interviewees also noted the need for a means of measuring ACM's progress toward diversity and inclusion goals, noting that ACM needs to be more accountable and transparent. It needs to know where it is now and how much progress it is making over time in every part of the organization. This desire is consistent with a large body of research that points to the link between systemic and sustained change and rigorous and relevant metrics. Dowel and Jackson (2020), for example, noted that collecting metrics and regularly sharing progress reports is critical for ensuring organizational accountability and tracking progress on equity efforts. Metrics, they argued, provide transparency, assist with compliance (by providing checks and balances along with oversight and monitoring), and signal commitment to a continuous dialog and willingness to respond to shortfalls. These conclusions are supported by similar findings by Kania and Kramer (2020) who noted that "Collecting data and measuring results consistently on a short list of indicators at the community level and across all participating organizations not only ensures that all efforts remain aligned, it also enables participants to learn from each other's successes and failures" (p.40).

Volunteers who are newer to ACM also expressed a desire for greater transparency about where power is held and exercised in the organization. Many noted that they find ACM's structure complex and opaque. They expressed confusion regarding the division of authority and labor between staff and volunteers. For example, many newer volunteers noted that they were surprised that the staff was not taking a much more proactive role in setting new policies and changing processes that they perceived as hampering greater diversity and inclusion. This sense of frustration and confusion is likely enhanced by the fact that, when people ask for something from ACM, they make these requests to the staff. And when answers or changes are not forthcoming, they assume that the staff is resistant to change or deeply embedded in supporting the status quo when the reality is that the desired changes are often outside of staff control and/or structural in nature.

The interviewees also expressed dissatisfaction with a widely perceived lack of communication regarding how diversity and inclusion efforts are progressing throughout the organization. Because there is currently no staff member with the authority and responsibility for keeping everyone informed about diversity and inclusion efforts in a timely manner, many interviewees noted that this responsibility seems to fall upon volunteers who do not have the resources of time or connections to find out what is happening in other parts of ACM.

Beyond a lack of consistent and cohesive internal communication, many volunteers and external experts noticed that no one seems to be carrying the role of telling the story of how ACM is responding to its own members, let alone to external stakeholders such as industry, education, or the rest of the scientific community. This lack of internal and external communication creates an impression that nothing is happening when in fact, many parts of ACM are working on diversity and equity initiatives. These findings from the data are consistent with a previous ASAE study (2006), which found that while associations evolve over time, the key to sustained success is allowing members to find meaning and a sense of shared purpose and this sense is best propagated in the stories the organization tells about itself: "The most powerful stories, themes and images, are not only captivating, they are also the carriers of your association's shared history and values. They communicate what your organization is like and what it aspires to be" (p.8).

When searching for reasons for this lack of internal and external communications, many interviewees expressed the belief that the problem is rooted in how ACM spends its money. Several interviewees noted that ACM has far fewer staff than similar organizations and, as a result, ACM staff often carry unreasonable workloads (even before the pandemic-related hiring freeze). This sense of too few staff doing too much work is exacerbated by the fact that many volunteers feel that too much of the responsibility for ACM's work is falling on them and volunteers are spending far too much time trying to determine for themselves what is happening across the organization. The majority of interviewees stated that the only solution to this problem is for ACM to hire more staff, specifically to hire someone who is responsible

for managing, coordinating, and reporting on all of ACM's diversity work. This viewpoint is consistent with earlier research by Kania and Kramer (2020) who found that "the expectation that collaboration can occur without supporting infrastructure is one of the most frequent reasons why it fails" (p. 40). In the best of circumstances, they argue, these infrastructure supports enable an organization to "focus people's attention and create a sense of urgency, the skill to apply pressure to stakeholders without overwhelming them, the competence to frame issues in a way that presents opportunities as well as difficulties, and the strength to mediate among stakeholders" (p.40).

Several interviewees warned, however, that simply having a "diversity person" is not a panacea. Without a clear mandate, the authority, and the budget needed to do the work well, a diversity person can simply become the justifier of the status quo and a scapegoat for failure. As several of the interviewees noted, what you value is most clearly expressed by what you are willing to pay for, and having no diversity staff gives the message, however unintentionally, that the work is not valued.

While many of the interviewees expressed dissatisfaction with ACM's efforts so far, many also expressed confidence in ACM's ability to improve upon the current situation. Along with infrastructure improvements in staffing, metrics, communication, and budgeting, they identified the following programmatic areas where improvements can be made:
- representation in leadership
- awards
- policy
- conferences and events

6.2 Programmatic Improvements
Like most professional associations, ACM consists of two distinct but deeply connected entities: its people and its programs. Together, these entities are the external manifestation of its values, priorities, and rationale for existing. For this reason, the interviewees expressed the belief that changes in both of these areas would signal and drive ACM's desire to be a more diverse and inclusive organization.

Representation
The face of the ACM's leadership matters. It signals to the world, and most especially to communities who have been historically marginalized in the discipline, who is truly welcome and who is not. For the majority of interviewees, the most important thing that ACM can do to both signal its intentions and inextricably embed diversity and inclusion into its fiber, is to ensure that its leadership is diverse. This expectation goes far beyond the too common tokenism of a single person of color on a committee or Board. It is about proactively recruiting diverse people into the organization and creating mentoring relationships and pathways to leadership. It requires a repudiation of the excuse that ACM only has to be as diverse as industry and it demands that ACM fully embrace its potential to be a positive example to both industry and education. And, it means that, until more diversity is achieved, the current model of spending years in the organization "paying your volunteer dues" has to be put aside for a greater purpose.

Awards
Over the last several years, ACM has made a concerted effort to use its awards to expand perceptions of what matters in the field of computing. It has expanded the array of awards to celebrate scientific and innovation achievements, educational achievements, volunteer contributions, and most recently, contributions to mentoring. As one interviewee noted, however, the long years of celebrating "old white guys" has not simply permitted, but also has perpetuated the erasure of contributions to the field made by women, people of color, and LGBTQ people. This lack of celebrated diversity has been upheld by a nominations process which, while attempting to ensure fairness and rigor, has actually perpetuated sameness and restriction.

Recent events have led to criticism of ACM's Turing awards process, but they have also catalyzed a rethinking of the nominations and vetting process to make sure that the nominations process and awardees themselves are more representative of those who have excelled and contributed to the field. At the time this paper is being written (April–June 2021), it is not yet clear how the award nominating and decision-making process will change, but it is clear that the interviewees in this project overwhelmingly support efforts to make

ACM's awards more inclusive.

Policy

Although there are legal (relating to non-profit status) and organizational (ACM bylaws) restrictions on how ACM engages in the policy space, several interviewees (most especially those with education backgrounds) believe that policy is a rich and appropriate area for ACM engagement on issues of equity of access and social justice in computing. As noted in the Data Analysis section, many interviewees believe that ACM is well-placed to play a leading role in national and international conversations surrounding the social impacts of computing, innovation, and technology. Expanding ACM's U.S. Technology Policy Committee's (TPC) Hot Topics webinars and convening critical conversations on issues relating to technology bias, for example, could provide a powerful platform for broader learning and demonstrate ACM's commitment to diversity and social justice.

Conferences and Events

As with its awards, ACM's conferences and events are a public manifestation of who the organization is and with what it is concerned. As noted in Part Two, many subgroups within ACM, and most particularly the SIGs, have proactively and independently launched diversity initiatives focused on their conferences and events and some of these efforts are already demonstrating positive impacts. The challenge, however, is that despite the efforts of the SIG Governing Board, these programs/projects are largely ad hoc and dispersed. SIGs are focusing on different aspects of diversity, employing different metrics or no metrics at all, with little accountability to ACM HQ, and they have no formal way to share potential pitfalls and best practices with each other. Also, in the absence of mandates or incentives, some are doing nothing at all. In many ways, the SIGs are the lifeblood of ACM. They are the gateway to many new members, provide the professional development that members value, and build a sense of local community and belonging within a larger organization. Without more infrastructure and assistance, it simply isn't possible for so many SIGs working independently to determine what their efforts have already achieved or have the impact needed to ensure systemic and sustained change at the micro and macro level.

6.3   Recommendations

The following recommendations represent a set of actionable items drawn from the data. They highlight actions the interviewees suggested would serve as a critical signal of ACM's intention to improve equity and inclusion and promote social justice from a global perspective.

- Produce a comprehensive plan of action that sets clear goals, milestones, timelines, and success metrics for improving diversity and inclusion throughout the organization (top to bottom).
- Provide a system of incentives (likely financial) that would encourage all parts of the organization to improve diversity and inclusion and a clear set of remedial measures for sub-groups that fail to carry out this work.
- Establish an easy-to-use tool for all sub-groups to document and report their progress toward their diversity goals on a regular (e.g., quarterly) basis.
- Create and fund a new staff position focused on the organization's stated diversity and equity plans and goals. This person would have the authority and budget to collect and track metrics, regularly report on progress (or lack thereof), and hold councils, boards, committees, and SIGs accountable for meeting their diversity goals.
- Develop a comprehensive *internal* communications plan to facilitate regular sharing of information about and among all sub-groups who are working on inclusion and diversity programs to enable better cross-group coordination and collaboration, share best practices and strategies for success, and reduce duplication and wasted effort.
- Develop a comprehensive *external* communications plan to manage all relevant communications channels for ACM's diversity work.
- Allocate a specific annual budget to support the work of the diversity staff person(s).
- Create and oversee a communications strategy to build buy-in for diversity and inclusion efforts among members. Keep members, stakeholders, and the public informed of ACM's progress over time.
- Continue to expand recent efforts to amend ACM awards policies and practices to ensure that more diverse candidates are nominated and that all awardees are vetted to ensure that their history is

consistent with ACM's commitment to diversity and social justice.

- Continue to expand efforts by all ACM publications to re-evaluate their peer-review processes to ensure a commitment to diversity and equity.

- Include Black scholars and their scholarly contributions in computing or computing-related curricula as an example of epistemic resistance—rejecting academic strategies that silence the scholarship and testimonial authority of Black scholars in computing.

- Require all sub-organizations to proactively recruit and mentor diverse members and provide a pathway to leadership that demonstrates a commitment to diversity and inclusion.

- Convene a short-term advisory group to develop a plan and process for ACM to respond to social justice issues in a way that reflects its international membership and global perspective.

- Convene an annual meeting of Council, Board, and SIG leaders to exchange current challenges, achievements, and strategies for improving diversity and inclusion.

6.4   Opportunities for Future Research

This research was carried out by a single researcher over three months and involved data collected from 22 participants. For these reasons, creating a truly inclusive and holistic understanding of the potential for and barriers to achieving systemic and sustained improvements in diversity and inclusion at ACM would require considerably more information and analysis. Potentially rich areas for greater study include:

- A more in-depth analysis of ACM's membership and leadership data.

- A more wide-ranging exploration of inequities and inequalities across all underrepresented populations within ACM and within computing more generally.

- A better understanding of how issues of diversity and inclusion are perceived by ACM's non-U.S. members.

- A more comprehensive review of diversity and inclusion activities across all ACM groups and subgroups including some measurement of impact.

- A wider sampling of opinion across all levels of ACM engagements (members, volunteers, staff).

6.5   Final Thoughts

ACM is not alone in this effort. Institutions of all kinds across the U.S. and globally are struggling to respond genuinely and substantively to profound issues of racism, misogyny, and social justice. Even the interviewees who expressed the most profound desire for ACM to do this work, acknowledged that it is complex and difficult:

> It is actively reaching out and making sure you have a diverse group doing the work, it's building trust with communities who have no reason to trust either us as individuals or ACM as an organization, it's trying to create a common understanding and language for addressing a complex issue so that people can work together in harmony. It is dealing with the feelings of people who are mad at us for asking them to help us do this work because they believe our asking them to work on D&I issues comes from our assumption that they are not qualified to do more technical work. It's because the work itself is so emotionally fraught and so much has to be done to build trust and to build accord that it chews up tremendous amounts of time. And some people think you're doing too much and some people think you're not doing anything at all. (V. 1022)

it is uncomfortable:

> Of course, this makes us super uncomfortable, because we have to accept that every decision we've made and every structure we put in place is biased. We're not gonna get around admitting it. If we don't admit our biases, we just end up replicating them. I'm terrified of all of the things that I will have to take apart that make my current life and job easier in order to remove that bias. And it is so easy to make excuses not to do that when you're busy and there are a million things going on. (V. 1015)

and it requires great humility because, at its foundation, it is a process of restorative justice:

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It's been hard to hear the things that I've done wrong in this process and discover things I didn't realize. It's also been really hard to find time to prioritize this work in the way that it requires without letting other things drop. The hardest thing is owning the power that I have to make change and acknowledging that it hasn't happened as much as it needs to. (V. 1015)

Success in this work will also require *grace*. Grace that "calls us to change and then gives us the power to pull it off" (Max Lucado), grace "that provides courage under pressure" (Ernest Hemingway) and grace "that comes in and transforms us into something better" (Caroline Myss).

I think it is important to say something about grace. I'm trying to hold myself and other people in grace, recognizing that we're all under enormous strain from so many directions. I know for me and my committee, it is hard to sleep right now. There's just so much happening in the world and it is a lot. So I wish it weren't necessary for us to convince people that this work has to be done, that it is important. (V. 1019)

If it's honest, then there's a difficult path to bridging the sense of distrust which is ubiquitous. So the only way for us to reconcile is to have some grace in our dealings with each other. (E. 1016)

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APPENDIX A: SURVEY PROTOCOLS

PROTOCOL 1: External Experts

1. Has the recent social upheaval in the U.S. with regard to systemic racism created a situation where organizations like ACM may feel more compelled to address issues of diversity and inclusion, both internally and externally?

2. What would be the possible results if an organization was perceived as failing to engage with these issues in a substantial way?

3. How does the fact that ACM operates within the computing discipline impact the importance of this kind of work?

4. Could substantial improvements at ACM have a trickle out effect to the computing discipline as a whole?

5. From what you know of ACM's history and leadership, how likely is it that the organization will be willing and able to make substantive changes to address racism?

6. Have you seen indications that ACM is or is not dealing with systemic inclusion and systemic racism in a substantive way?

7. What would substantive change to ACM look like?

8. How would you characterize ACM's response so far?

9. Are you aware of specific steps it has taken to increase diversity and address systemic racism?

10. Given your understanding of organizational change, what are the absolute requirements needed for organization-wide systemic change?

11. And what are the absolute requirements for organization-wide sustained change.

12. Is there one change that ACM could make or one thing it could do that would signal it is tackling racism in a genuine and substantive way?

13. What advice would you give the staff and or volunteer leaders of ACM?

PROTOCOL 2: Current Volunteers and Staff

1. Has the recent social upheaval in the U.S. with regard to systemic racism created a situation where organizations like ACM may feel more compelled to address issues of diversity and inclusion, both internally and externally?

2. What would be the possible results if an organization was perceived as failing to engage with these issues in a substantial way? Does it really matter?

3. How does the fact that ACM operates within the computing discipline impact the importance of this kind of work?

4. Could substantial improvements at ACM have a trickle out effect to the computing discipline as a whole?

5. What would substantive change to ACM look like?

6. How would you characterize ACM's response so far?

7. Is there anything about what you have seen so far that makes you believe that ACM is or is not making a serious effort?

8. Do you feel empowered as an ACM volunteer leader to make the organization (or even your part of it) more inclusive and diverse?

9. What are the absolute requirements for organization-wide sustained change?

10. Is there one change that ACM could make or one thing it could do that would signal it is tackling racism in a genuine and substantive way?

11. What advice would you give the staff and or other volunteer leaders of ACM?

12. Is there one change that ACM could make or one thing it could do that would signal it is tackling racism in a genuine and substantive way?

13. What advice would you give the staff and or volunteer leaders of ACM?