Analysis of MICRO Conference Diversity Survey Results

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Respondent Demographics

There were 216 respondents to the survey. Demographic breakdown is as follows:

Role
43.5% faculty
20.4% Student
28.7% Industry
 7.4% Postdocs and Other

Years of Experience
15.8% < 5 years
20.9% 5-10 years
26.0% 10-20 years
37.2% >20 years

Gender
78.4% Male
20.2% Female
 1.4% Non-binary

Race/Ethnicity
80.9% Non-URM
19.1% URM

 # Times Attending MICRO
17.3% Never
22.4% 1 time
24.8% 2-3 times
18.2% 4-5 times
17.3% 6-10+ times

Papers Published at MICRO
38.0% None
20.2% 1
22.5% 2-3
10.8% 4-5
 8.5% >6

Papers presented at MICRO

63.4% None
19.2% 1
14.1% 2-3
 3.3% 4-5

 # Times Served on MICRO Program Committee

70.9% Never
 6.0% 1 time
 8.9% 2-3 times
10.8% 4-5 times
 3.6% 6-9 times

 # Times Served on MICRO External Review Committee

63.8% Never
 8.9% 1 time
15.5% 2-3 times
 8.9% 4-5 times
 2.9% 6-10+ times

 # Times Served on MICRO Organizing Committee

86.9% Never
 8.9% 1 time
 4.2% 2-10+ times

 # Times Organized Workshops and Tutorials

81.7% Never
12.2% 1 time
 6.1% 2-4+ times

 # Papers Reviewed

46.0% None
 1.0% 1
22.1% 2-10
11.3% >10
17.4% >50+

% Who Read SIGARCH Blog: 88.8%

Level of concern about data in the blog going forward in the computer architecture community"
Not concerned
51.6% Little concern
29.6% Moderate concern
9.9% Large concern
8.9% Not concerned/Did not read blog

Summary of thoughts and reactions to the blog post

One hundred sixteen people offered comments to this question. The predominant response was to express concern regarding the low participation of women in major computer architecture conferences and professional organizations. About a third of those responding were surprised by the statistics presented in the blog; a similar percentage felt that those numbers were consistent with their experiences. This group put forth several suggested actions that MICRO might take to increase participation of women in the conference:

1. Promote transparency by monitoring and publicizing participation by gender and race for all MICRO committees and events.
2. Review existing MICRO policies and bylaws to determine whether current practices for appointing people to committees, selecting chairs, and reviewing submissions are equitable and free from bias. In cases where policies are flawed or nonexistent, new policies should be created. Some respondents felt that the MICRO Steering Committee should take on this review; others felt that a Diversity Committee should be created for this purpose.
3. Some respondents reported witnessing instances of gender discrimination at the MICRO conference. MICRO should consider adopting a "Code of Conduct" for participants to complete a registration.
4. Implement strategies for making the MICRO conference friendlier to women including: free childcare, sessions on topics of interest to women, travel grants and other awards for female students, female keynotes and session chairs. It may be helpful to interview or survey female attendees for suggestions on what would promote participation.
5. Although the data presented in the blog are not disaggregated by years of experience, several respondents believe that female participation is greater among younger participants. Mentoring, reduced registration fees for first time attendees, sessions for junior members might be useful to encourage participation from younger people, including women.
6. Promoting role models for women at all levels in the organization, e.g. key note speakers, session chairs, reviewers, steering committee members.

Approximately one fourth of the respondents commented that the problem was not with MICRO or other professional organizations per se, but with the field itself. Their view was that the percentage participation of women in MICRO was consistent with the percentage of women in computer architecture fields. Some respondents suggested that MICRO could play a leadership role in promoting increased engagement of women in computer architecture by:

1. Conducting or publicizing studies on female participation in computer architecture. Reporting on trends regularly.
2. Showcasing the value of a more diverse computer architecture workforce.

3. Creating or publicizing scholarships, travel awards, and other mechanisms to support females in computer architecture.
4. Regularly including a series of sessions at MICRO addressing diversity and women's issues.
5. Exploring MICRO's role in K-12 outreach or undergraduate programs to encourage more women to consider computer architecture as a field.

About ten percent of respondents thought that the data presented in the blog were inaccurate or exaggerated. Some were opposed to the idea of examining participation by gender, suggesting, "merit should prevail over gender" and that it would be necessary to "lower the bar" to increase female participation in MICRO and other conferences.

Summary of general thoughts on gender diversity and inclusion in computer architecture.

One hundred ten people responded to this question. While a small proportion believe that gender diversity is increasing in computer architecture and nothing needs to be done, most expressed the opinion that unless specific actions are taken, the participation of women will not increase appreciably. Several respondents felt that inclusion was a big challenge at MICRO. They relayed stories of being "the only woman in the room" at sessions or meetings, witnessing instances of sexual harassment during MICRO, and reporting evidence of "old boy networks" influencing awards, reviews and leadership appointments. Many of the suggested actions parallel those above:
1. MICRO should develop a statement of diversity and a code of conduct for meetings.
2. MICRO should routinely collect and report data on gender participation such as: # of proposal submitted by gender, # of acceptances by gender, gender composition of reviewers, presenters, chairs, speakers, etc.
3. MICRO should intentionally feature women in visible roles to provide role models for other women in the organization.
4. Instances of discrimination and harassment should be handled quickly and with due process. The current practice of "talk to the session chair" is not effective.
5. MICRO should learn from other organizations (e.g. ASPLOS) who have taken effective actions to include women.

Approximately ten percent of commenters do not believe that gender diversity is an important issue for MICRO to consider. As noted above, they expressed a tension between increasing participation of women in MICRO and lowering quality standards of the organization. Several commenters expressed the opinion that female participation in invited talks, leadership roles, presentations should equal their percent membership in the organization. If participation exceeds membership rate, they believe it is discriminatory against male members.

For MICRO specifically, how would you assess the current climate for women?
11.7% No problem
16.8% Small problem
29.9% Moderate problem
41.6% Large problem

For MICRO specifically, how would you assess the current climate for underrepresented minorities?
11.7% No problem
37.4% Small problem
33.3% Moderate problem
16.9% Large problem

For MICRO specifically, how would you assess the current climate for people with disabilities?
21.7% No problem
29.3% Small problem
26.1% Moderate problem
22.8% Large problem

Do you feel the climate in MICRO stands out from other computer architecture conference?
60.0% Same climate
35.9% Worse climate
 4.1% Better climate

Specific comments regarding the MICRO climate

Seventy five people responded to this question. A significant number of respondents criticized the MICRO Steering Committee for lack of diversity in membership and lack of sensitivity to diversity issues. Others mentioned that the MICRO audience was much more diverse than the "people on the stage". Comments indicated a need to give women and underrepresented groups more visibility in the MICRO program. About a third of participants reported that MICRO was more hostile to diversity issues than other meetings they attend. In particular, they mention lack of turnover in leadership, lack of diversity in reviewers, open hostility toward women in presentations, and lack of transparency related to decision-making. Some respondents viewed the MICRO community as "cliquish" and unfriendly to new attendees. Several respondents celebrated the move to a double blind review process as a positive step.

1. Seriously review the current Steering Committee composition, policies and practices. Membership should rotate and processes for joining and leaving the committee should be clear.
2. Create the organizing committee in ways that engage new members and reflects the diversity that MICRO seeks.
3. Promote public opportunities for members who wish to serve on committee to nominate themselves or others.
4. Adopt and publicize a Diversity and Inclusion statement for the organization.
5. Develop a Code of Conduct and discipline members (including leadership) who create a hostile environment.
6. Diversify keynote speakers, panelists, general committee, program committee workshop/tutorial organizers, authors, paper presenters and all other aspects of the organization to identify role models and reflect inclusive practices.

Almost 70% of respondents supported the creation of a Diversity Chair in MICRO. Suggested duties of the Diversity Chair include:

1. Review and revision of MICRO policies and practices to remove barriers and promote inclusion.
2. Review MICRO schedule to ensure diversity of topics and speakers.
3. Collect and publish diversity trends (national, field, other organizations, MICRO) annually.
4. Create diversity-oriented publicity and marketing initiatives for the organization.
5. Design diversity initiatives (e.g. membership recruitment, travel awards, scholarships, onboarding activities, etc.).
6. Work with Steering Committee, General Chair and Program Chair to insure diversity targets are met in terms of committee composition and participant engagement.
7. Organize outreach events to underrepresented groups.
8. Plan workshops and other educational events to promote awareness and understanding of diversity and inclusion within MICRO.
9. Serve a point of contact for code of conduct violations.
10. Identify and promote best practices for inclusion and diversity throughout organization.

A significant number of respondents, some supportive of the creation of a Diversity Chair and others not, were concerned that the Steering Committee should take responsibility for improving the diversity and inclusive climate of MICRO and that creating a "Diversity Chair" and assigning responsibility of diversity to one person would diminish the responsibility of the Steering Committee in this area. There was strong consensus that if a Diversity Chair were created—that position should have authority to act. Others felt that there was too much work for one person and that a Diversity Committee might be more effective. Another group of respondents suggested that rather than creating a Diversity Chair, that all committees should adopt diversity activities and practices.

About 5 percent of respondents felt that creation of a Diversity Chair would "undermine the quality, purpose and focus of the conference" and "lower the technical bar" for the conference. They expressed a concern that MICRO could experience "reverse unfairness".

Would you attend a MICRO-endorsed workshop that focuses on diversity issues?
39.4% Yes
21.2% No
39.4% Not sure

Should the workshop be part of the main conference program or one of the Sat/Sun Workshops?
30.5% Main program
22.0% Sat/Sun Workshop
22.0% Either
25.5% Not sure

Topics to be included in a Diversity Workshop

Eighty five responses were obtained. Popular suggestions for topics included
1. Trends in diversity for MICRO, computer architecture, STEM fields in general

2. Career opportunities in computer architecture
3. Identifying and reducing micro-aggression, implicit bias and structural inequity
4. Strategies for marketing and recruitment of underrepresented groups
5. Effective outreach strategies for minority communities
6. Mentoring and advising techniques for underrepresented populations
7. How to raise interest in computer architecture as a field
8. Professional networking
9. Creating guidelines for MICRO regarding diversity

Those people who were in favor of the workshop stressed that experts should be engaged as facilitators. Some respondents questioned whether a separate workshop was the right mechanism and advocated that diversity should be imbedded in the regular program. Several respondents mentioned that there is already a Workshop on Minorities and Women in Computer Architecture and wondered if this workshop could be incorporated into or linked to that in some way. Others wondered how it would be different from that event. Another concern expressed is that the people who are likely to attend this workshop are those who are interested in diversity, not those who are contributing to a non-inclusive climate.

A few individuals suggested that the workshop should teach women and underrepresented minorities "self-reliance, minding your own business, and focus".

People who should be invited to give talks

Seventy four responses were submitted. Most did not nominate specific people, but suggested that presenters should be experts in diversity and may need to be outside the field of computer architecture. They suggested that it might be good to hear from organizations who have purposely increased diversity or individuals who have successfully mentored underrepresented students/employees. Some respondents favored technical talks by members of underrepresented groups who are leading figures in the community. ISCA'18 bias busting workshop was cited as a good example of a successful effort.

Suggested speakers
1. Sheryl Sandberg
2. Kathryn McKinley
3. Margaret Martonosi
4. Jennifer Rexford
5. Natalie Enright Jerger
6. Kim Hazelwood
7. Sarita Adva
8. Srilatha Manne
9. Eve Riskin or Joyce Yen from University of Washington ADVANCE Initiative
10. Jennifer Sheridan (WISELI)
11. Representative from University of Michigan STRIDE
12. Juan Gilbert
13. Timothy Pinkston
14. Leaders of WICArch

Would you be interested in a MICRO-endorsed official mentorship program for students?
64.6% Yes
14.1% No
21.4% Not sure

Goals and Activities of a Mentorship Workshop

90 responses were obtained. Suggestion included:
1. Building connections between established scholars and young researchers
2. Promoting networking with representatives from academia and industry
3. Matching activity to connect mentors and mentees
4. Model after ISCA "Meet a Senior Member" or Programming Languages Mentoring Workshop
5. Increasing enthusiasm for computer architecture as a career
6. How to get the most out of the MICRO conference
7. Manuscript preparation
8. Work-Life Balance
9. Career guidance

It was mentioned that this workshop should include pre-training for potential mentors as well as training for mentees on how to work with a mentor. Several respondents felt that mentoring should be available for all students, not just those from underrepresented groups. It was also suggested that while the mentoring would begin at MICRO—that the relationship should continue throughout the year. Some respondents thought that it would valuable to recruit from non-research universities—since those students are in need of good mentors.

Would you be willing to volunteer as a mentor?
Approximately 70% of the 97 respondents indicated that they would be willing to volunteer as a mentor.

Other ideas for enabling more diversity and participation of women and underrepresented minorities at MICRO?

Seventy four responses were submitted for this question. Common themes included:
1. By the time students reach graduate school it is too late. Diversity efforts must start in K-12 and undergraduate programs. MICRO could lead these.
2. Diversity issues should not be segregated. They should be integrated into the regular committees and processes and visible throughout the conference.
3. The Steering Committee is viewed as seriously flawed and a significant barrier to diversity. New processes for appointment, terms, composition, transparency and accountability must be established.
4. MICRO could benefit from an enforceable Code of Conduct.
5. Install strong oversight by ACM SIGMICRO and IEEE TCuARCH.

6. The governance of MICRO and its visible face (program chairs, general chairs, key note speakers, steering committee and panelists) must be more diverse and processes for selecting and retiring them be made transparent and equitable.
7. Provide travel grants and other support for students from underrepresented groups.

A small group of respondents feel strongly that if diversity is increased in MICRO that technical quality will suffer and "reverse discrimination" will occur. Some respondents believe that the field of computer architecture is not diverse, so there is little that MICRO can or should do.

Summary
In general, respondents to this survey supported actions to increase diversity and improve inclusive practices in MICRO. Highly endorsed actions included:
1. Reviewing and revising MICRO policies and practices to promote inclusion.
2. Adopting term limits, democratic appointment policies and transparent processes for the Steering Committee, General Committee, Program Committee, and panelists.
3. Ensuring that speakers at MICRO represent the various dimensions of diversity in the organization.

There was moderate support for adding a diversity workshop and mentoring program to the MICRO agenda. Respondents felt that "the devil was in the details" and that if MICRO took on these new activities they should learn from the successes of other organizations and not "recreate the wheel" Several respondents indicated willingness to volunteer to be mentor.