

Survey garners more than 110,000 responses to explore demographic data about the Association for Computing Machinery.

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A Look in the Mirror: ACM Demographics

THE ASSOCIATION FOR COMPUTING MACHINERY (ACM) is a global scientific and educational organization, but who are we and who do we represent? In this first annual report on ACM demographics, we explore those questions using demographic data provided by 110,407 survey respondents, including members, authors, participants, and ACM records for the calendar year 2024.

What we find tells us something about who we are. This snapshot shows a global community witnessing major generational demographic differences. An older respondent was likely to live in Northern America (62%), be male (85%), identify as white (66%) with Western European ancestry (35%), and may identify as having a disability or impairment (10%). Meanwhile, a younger respondent was more likely to live in Southern Asia (50%), less likely to be male (61%), likely to identify as having Southern and Southeastern Asian ancestry (40%), to be Asian (66%), and less likely to identify as having a disability (5.9%). Since this first report is

just a single snapshot in time, we do not yet know if these generational differences translate to temporal shifts. These results highlight major differences which might point in that direction.

Why a Demographics Report?

ACM's mission is global, and it encourages participation and contribution from all people. When we purport to serve the globe, it is important that we understand how well we reflect the global community. The demographics of those engaged in ACM help us understand who we are and who is participating. Demographic information helps us understand how well we are meeting our goals and whom we serve.

These are just some of the reasons why the ACM Council decided to commission this demographic survey and committed to reporting ACM demographics annually. This first snapshot gives us a glimpse into who we are, who is represented, and who is not.

When and How the Data Was Collected

The collection of the demographics survey data in this report was requested by the ACM Council, with the aim of having all appropriate sub-units within ACM participate. This allowed for the collection of data from ACM Membership, conference registrants, and authors, as well as participants in activities such as TechTalks. Compliance with General Data Protection Regulation (GDPR) standards meant demographic data held by ACM pertaining to those in the U.K. and European Union (EU) could only be used in this study if the individual opted in to such use. Consequently, the U.K. and EU are systematically and unavoidably underrepresented in this report.

The data was gathered during calendar year 2024 through four sources: from ACM Members, through publishing, through registration at ACM events, and through ACM records. ACM members provide answers to our questions when they join or renew their membership. If they have previously answered the questions, they may update their answers but are not required to re-complete the survey. All authors of accepted publications must go through the eRights process to give ACM rights to publish. We asked corre-

This snapshot shows a global community witnessing major generational demographic differences.

sponding authors of accepted papers to provide demographic information via this mechanism. We surveyed conference participants via the registration system; this mechanism was incomplete for 2024 but captured most ACM conferences. Furthermore, we also surveyed ACM TechTalk attendees. Conferences and TechTalks were an important source of information on non-members. Finally, we used the ACM records to gather demographics from those in leadership positions and those receiving ACM recognition. ACM has many levels of leadership. For this report, leadership comprises ACM Council members, ACM boards, SIG chairs, members of ACM Awards Committees, and editors-in-chief of ACM journals. For this report, those who received recognition were ACM Award recipients (not including SIG award recipients), ACM Fellows, ACM Distinguished Members, ACM Senior Members, and ACM Distinguished Speakers.

As per the conditions placed on the

ACM on Diversity, Equity, and Inclusion

Anyone, from any background, should feel encouraged to participate and contribute to ACM. Differences—in age, race, gender and sexual orientation, nationality, religion, caste, physical ability, thinking style and experience—bring richness to our efforts in providing quality programs and services for the global computing community.^a

a <https://www.acm.org/diversity-inclusion>

use of the survey data, we only report data where the identifiable group is larger than 50. We use the terminology “reportable respondents” to indicate that not all responses are reportable, and thus not all responses are necessarily represented in this report.

The Questions

The survey had six questions; three were based on prior work by publishers to establish a set of demographic questions that would apply globally in terms of gender, ethnicity, and race.¹ ACM was interested in two additional dimensions of diversity, so a question about age and a question about disability were added. ACM conducted a pilot test with 1,300 members to confirm the usability for our population. This pilot survey included a question about suggestions for improvement of the questions. Based on this pilot, the ACM DEI Council suggested some small wording changes to the three original questions, and the A/B pilot testing was used to determine the most usable format for the questions about age and disability. Some questions were formulated with an opt-out, such as “Prefer not to disclose.”

Where we could, we applied international standards in the formulation of the questions. For example, when we asked participants where they live, we listed geographical regions according to the United Nations M49 standard.⁴

ACM Demographics Survey Questions

1. When were you born?
2. Where do you currently live?
3. With which gender do you most identify?
4. What are your ethnic origins or ancestry?
5. How would you identify yourself in terms of race?
6. Do you identify as having a disability or impairment?

Age. When were you born?

We asked respondents to indicate their age in terms of five broad generational bands: 1945 or earlier, 1946–1964 (Baby Boomers), 1965–1980 (Generation X), 1981–2000 (Millennials), and 2001 or later (Generation Z). The deci-

Figure 1. Age Distribution. Respondents were asked their age in terms of five generational bands, corresponding to pre-war (1945 or earlier), Baby Boomers (1946–1964), Generation X (1965–1980), Millennials (1981–2000), and Generation Z (2001 or later).

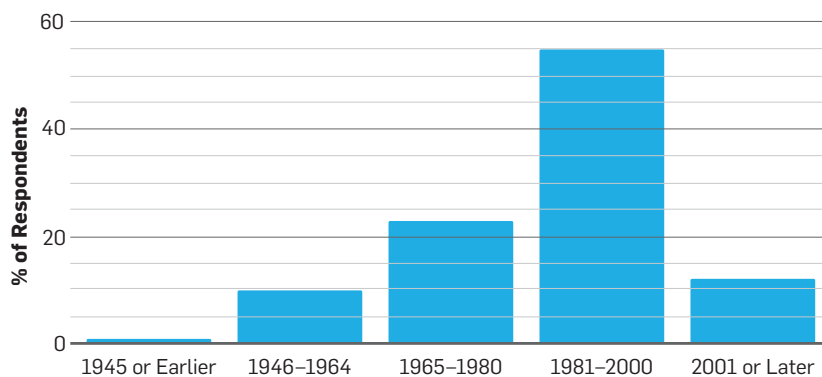


Figure 2. Regional Distribution. Respondents were asked to nominate the region in which they lived in terms of the United Nations M49 standard.⁴

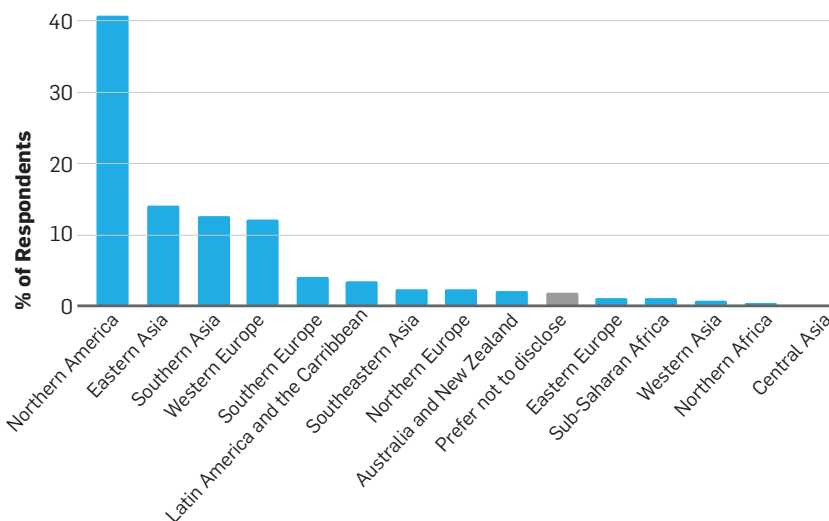
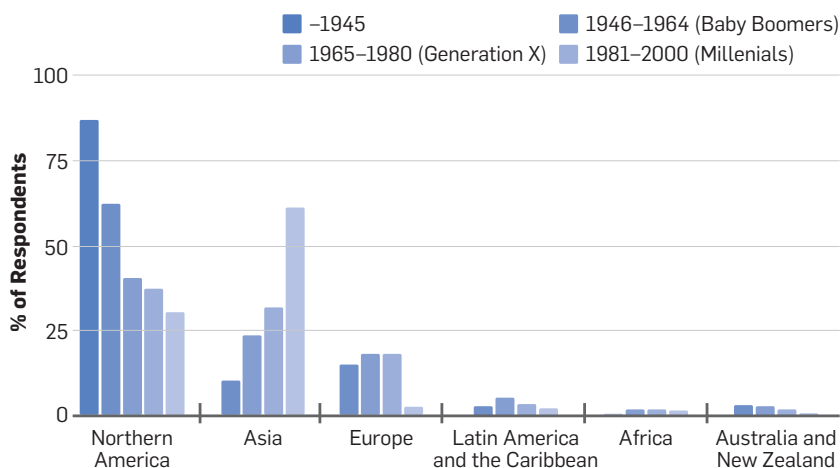


Figure 3. Regional Distribution by Age Cohort. While the ACM's oldest members are overwhelmingly Northern American, 31.7% of the largest age cohort (Millennials) are from Asia and 61.2% of our youngest members are from Asia.



sion to use generational bands rather than year of birth was based on the results of our A/B study, which indicated a much greater willingness to engage with this formulation of the question.

The survey results, shown in Figure 1, indicate ACM has a healthy age profile, with a majority (55.2%) born from 1981 to 2000 and 9.6% more born from 2001 onwards. On the other hand, 10.5% of respondents were born before 1965, which indicates a strong segment of senior participants. In future annual reports, we will be able to determine whether this age profile is shifting.

Region. *Where do you currently live?*

We asked respondents to identify where they currently live in terms of the geographical regions defined by the United Nations M49 standard.⁴ Survey results indicate that the ACM population is regionally concentrated, with notable imbalances across global regions, as seen in Figure 2. Northern America^a dominates (40.5%, $n = 44,680$), which is much higher than any other region. Eastern Asia is the next-largest constituent population (14%, $n = 15,439$) of respondents, followed by Southern Asia (12.6%, $n = 13,868$), and Western Europe (12.1%, $n = 13,353$).

However, note that due to the restrictions of the GDPR, Europe is likely to be under-represented in this data. Smaller but still notable groups include Southern Europe (4.1%, $n = 4,524$), Latin America and the Caribbean (3.5%, $n = 3,912$), South-eastern Asia (2.4%, $n = 2,720$), Northern Europe (2.4%, $n = 2,677$), and Australia and New Zealand (2.1%, $n = 2,329$).

The geographic distribution of respondents changes markedly across generational age cohorts, as shown in Figure 3. While 62.5% of Baby Boomers (1946–1965) reside in Northern America, this falls to 40.6% for Generation X, 37.5% for Millennials, and 30.7% for Generation Z. On the other hand, a majority (61.2%) of Generation Z respondents reside in Asia, while only 10.5% of Baby Boomers reside in Asia. Mean-

^a Throughout the survey and in this report, we use the nomenclature of the UN M49 Standard for identifying geographical regions. This standard includes idiosyncrasies such as 'Northern America.'⁴

while, those residing in Europe fall sharply from Baby Boomers (15.0%), Generation X (18.4%), and Millennials (18.2%) down to Generation Z (2.4%). A similar fall can be seen for those residing in Australia and New Zealand, dropping from 3.1% to 0.5% across generations.

These dramatic geographical differences across age cohorts strongly suggest a demographic shift over time. However, our data is from a single year, so it is premature to conclude there has been a shift over time. For now, all we can conclude is that the age cohorts show strikingly different geographic distributions. Nonetheless, this information can inform geographically oriented decision making, such as consideration for where conferences should be held, and strategically for ACM, where resources should be placed for member recruitment. For example, the survey reveals there are more ACM Student Members in Asia (47.3%) than in Northern America (40.9%).

Gender. *With which gender do you most identify?*

Survey responses, as shown in Figure 4, indicate ACM is heavily gender skewed. Of the 110,446 respondents, 69.1% identified as male, 23.5% as female, and 1.1% as non-binary or gender diverse, while 6.3% preferred not to disclose their gender identity.

Among the reportable responses from Distinguished Members and Fellows, 81% identified as male and 19% as female. ACM leadership is more balanced, with 63.0% of reportable responses identifying as male and 37.0% as female. This complex picture points to a heavy skew that is well-entrenched among the older generations. The less-pronounced skew among leadership might point to growing awareness of the possibility of demographic skews becoming self-reinforcing.

Figure 4 shows the gender distribution across age cohorts. There is a striking correlation between younger cohorts and reduced gender skew. It may be tempting to interpret this as indicating that ACM is becoming less gender skewed. However, the data reflects a single point in time—the 2024 survey data—so it should not be misread as a time series. In subsequent annual reports, we will be able to ob-

Figure 4. Gender Distribution by Age Cohort. The diversity of the gender profile of ACM is heavily skewed and strongly correlated with age.

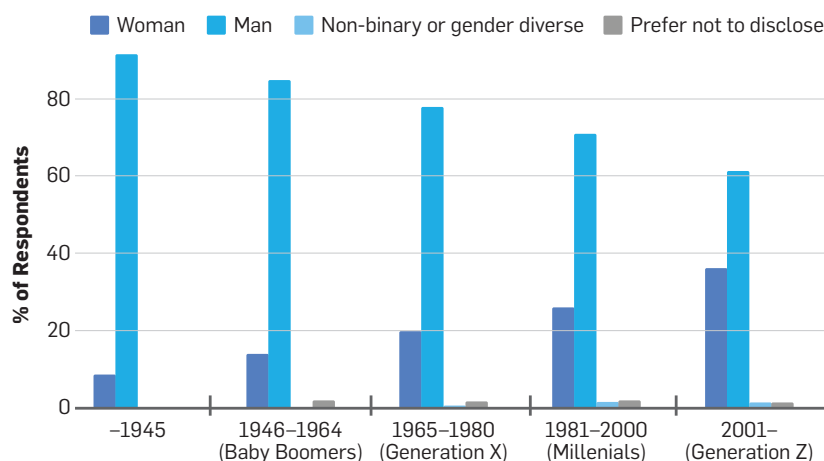
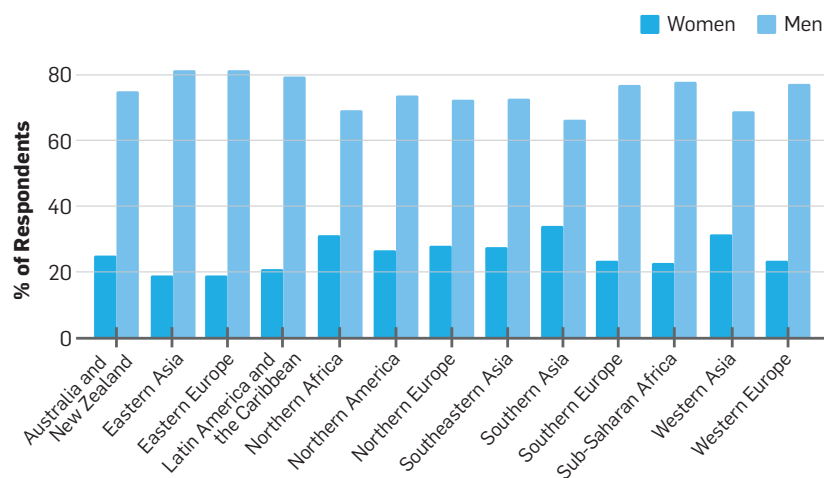


Figure 5. Gender Distribution by Region. Gender distribution is skewed across all regions, though regional differences are significant, ranging from 19/81 to 33/66. Responses other than woman and man are not shown due to data being below the reportable threshold once broken down in this regional analysis.



serve temporal shifts by comparing across survey years. An alternative interpretation is that the data points to women leaving ACM at a higher rate and, thus, being less well represented in the older cohorts—a trend that has been seen in U.S. academic faculty positions.³ However, the lack of historical data means we do not have the data to support that interpretation either. For now, all we know for sure is our younger respondents are substantially less gender-skewed than our older cohorts.

The proportion of people identifying as non-binary or gender diverse also varies by age cohort. The numbers are not reportable for those born be-

fore 1965. For the 1965–1980 cohort of respondents (Generation X), 0.5% identified as non-binary or gender diverse. For the 1981–2000 cohort (Millennials), this rises to 1.5%, and for the youngest cohort it is 1.2%.

The number of respondents preferring not to disclose their gender identity varied from 1.3% to 1.9%, with the numbers too small to be reportable in the oldest cohort.

Figure 5 breaks down gender differences by region, revealing clear differences. Northern America has the largest number of respondents. There women make up 26.3%, which is higher than many regions but still shows a significant gender gap. Eastern Asia is

Figure 6. Ethnic Distribution. The ethnic distribution reported by respondents.

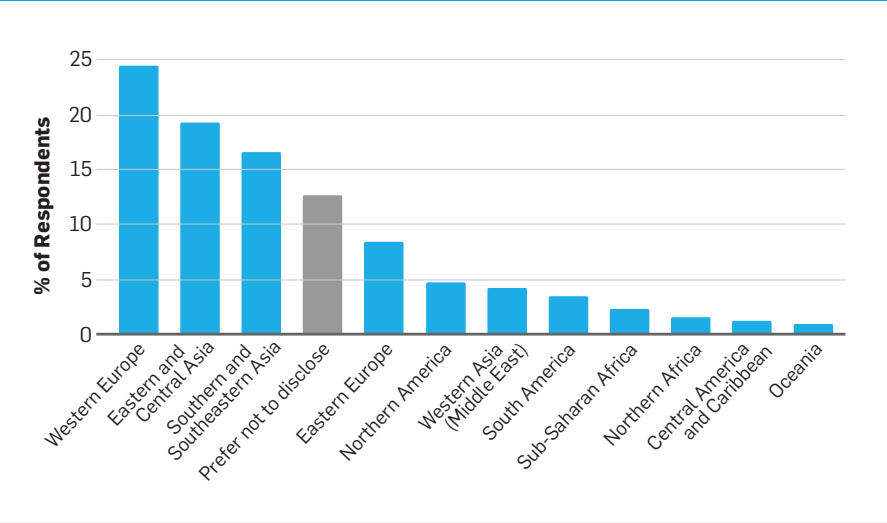
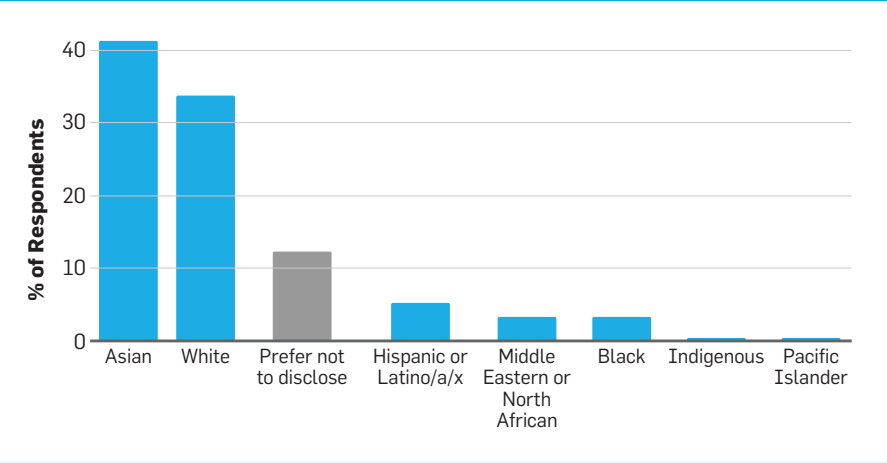


Figure 7. Racial Distribution.



the second-largest region, with 14,320 respondents, and the number of women in this region is one of the lowest at 18.5%. Figure 5 shows that the third-largest region, Southern Asia, stands out with the highest proportion of women (33.8%, $n = 46,877$). Northern Africa (30.5%, $n = 170$) and Western Asia (31.2%, $n = 301$) show relatively strong female participation. Unlike Northern Africa and Western Asia, Western Europe has a large number of respondents (22.9%, $n = 2,851$).

Ethnicity. *What are your ethnic origins or ancestry?*

We asked our respondents to identify their ethnicity. Figure 6 shows that the largest constituent populations were Western Europe (24.5%), Eastern and Central Asia (19.3%), and Southern and Southeastern Asia (16.7%). A sizable number (12.8%) of respondents opted not to answer, while the remain-

ing respondents (26.8%) identified with the other eight ethnicities listed.

Analyzing ethnicity across age cohorts (not shown) reveals marked trends. Those identifying their ethnicity as Western Europe fall markedly as the cohorts become younger, dropping

These findings matter because they help us understand not just who participates in ACM today, but also whose presence and voices are missing.

from 48.8% (Baby Boomers) to 34.7% (Generation X), 21.0% (Millennials), and 9.8% (Generation Z). Conversely, those identifying with Southern and Southeastern Asia rose almost as markedly, from 5.75% (Baby Boomers) to 39.8% (Generation Z). Those identifying with Eastern Europe see a similar generational decline, from 12.8% (Baby Boomers) to 4.8% (Generation Z), while those identifying with Eastern and Central Asia see a rise from 8.6% (Baby Boomers) to 26.4% (Millennials) and then a fall to 17.3% (Generation Z). There may be a variety of explanations for the Generation Z dip, including lower student membership for that cohort and/or perhaps a delayed engagement with the ACM relative to those identifying with Southern and Southeastern Asia.

As previously mentioned, the top three ethnicities accounted for 60.6%. Those ethnicities account for 60.5% of ACM honorees, however the distribution is shifted, with many more identifying with Western Europe (35.1% cf 24.5%), many fewer identifying with Eastern and Central Asia (11.1 cf 19.3%), and fewer identifying with Southern and Southeastern Asia (14% cf 16.7%). This may be the correlation between honors and age, as the breakdown among these ethnicities is similar to that for Generation X (34.7%, 13.5%, and 13%).

Race. *How would you identify yourself in terms of race?*

Survey data illustrates the racial and ethnic composition of the sample population ($N = 114,096$) in Figure 7. The majority of respondents identified as Asian (41.16%, $n = 46,960$), followed by those who identified as White (33.84%, $n = 38,615$). A significant number of participants (12.18%, $n = 13,895$) chose not to share their racial or ethnic background. Smaller constituent populations identified as Hispanic or Latino/a/x (5.22%, $n = 5,954$), Middle Eastern or North African (3.38%, $n = 3,854$), or Black (3.31%, $n = 3,771$). Indigenous (0.48%, $n = 551$) and Pacific Islander (0.43%, $n = 496$) participants made up the smallest portions of the sample. Overall, Asian and White individuals made up more than three-quarters of the total population, showing that these two constituent populations were much more common than others in the sample. In contrast,

the number of participants from other racial and ethnic backgrounds was much smaller, with each of these constituent populations representing only a few percent of the total.

Figure 8 shows a cross-analysis of race across different generation bands. Among the oldest generation (born before 1945), the majority identified as White (82.6%), while a small proportion identified as Asian (9.2%). However, the share of Asian respondents increases steadily across generations from, 17.2% among Baby Boomers to 31.2% in Generation X, 48.9% in Millennials, and 66.3% among Generation Z. In contrast, the percentage of White respondents decreases sharply across generations, from 66.0% (Baby Boomers) to 47.0% (Generation X), 29.9% (Millennials), and only 15.6% among Generation Z. Hispanic or Latino/a/x, Middle Eastern or North African, Black, Indigenous, and Pacific Islander represent smaller portions of the population but show smaller intergenerational differences.

The proportion of Hispanic or Latino/a/x respondents is highest at 6.8% among Generation X and slightly lower in younger generations. Middle Eastern or North African respondents increase from 1.5% in the Baby Boomers to 4.4% in Millennials but are lower, at 2.9%, in Generation Z. Black respondents are relatively consistent across age cohorts, ranging between 2.3% and 3.8%. Indigenous and Pacific Islander groups represented less than 1% in all age categories. Additionally, a small but consistent portion of participants in each generation preferred not to disclose their race or ethnicity (ranging from 8.9% to 5.8%). Figure 8 shows there are strong demographic differences across generations, with higher racial diversity among younger respondents.

Disability. *Do you identify as having a disability or impairment?*

Only 7.5% of respondents identified as having a disability or impairment, while 14.7% of respondents preferred not to disclose. Figure 9 shows how respondents identified with the list of disabilities and impairments provided by the survey, as a percentage of all responses. Note that because nearly twice as many respondents preferred not to disclose (14.7%) as disclose (7.5%), these percentages may sub-

stantially understate the percentage of respondents who would otherwise have identified with these disabilities and impairments. Nonetheless, 8,471 respondents did disclose, so the data in Figure 9 might be seen as a broadly representative sample.

Neurodiversity was by far the most common disability with which respondents identified (2.5% of respondents). Chronic illness was the second most common (1.9%), followed by other disabilities not listed (0.64%) and learning disabilities (0.59%). Notably, 1.5% of respondents identified with a physical disability—mobility, deafness, blindness, motor limitations, and/or speech.

Perhaps unsurprisingly, identification with disability or impairment was

strongly correlated with age, showing a monotonic shift from 22.5% for those born before 1946 to 5.9% for those born after 2000. Preference not to disclose was also monotonically correlated with age, but showed far less variance, falling from 11.6% for those born before 1946 to 8.6% for those born after 2000.

Conclusion

This first ACM Demographic Report provides a reflection on ACM's position within the global computing community. Based on more than 110,000 responses, the findings reveal a profession in transition and indicate an ACM whose younger generations are more international and more diverse. Across nearly every dimension we examined—

Figure 8. Racial distribution by age cohort.

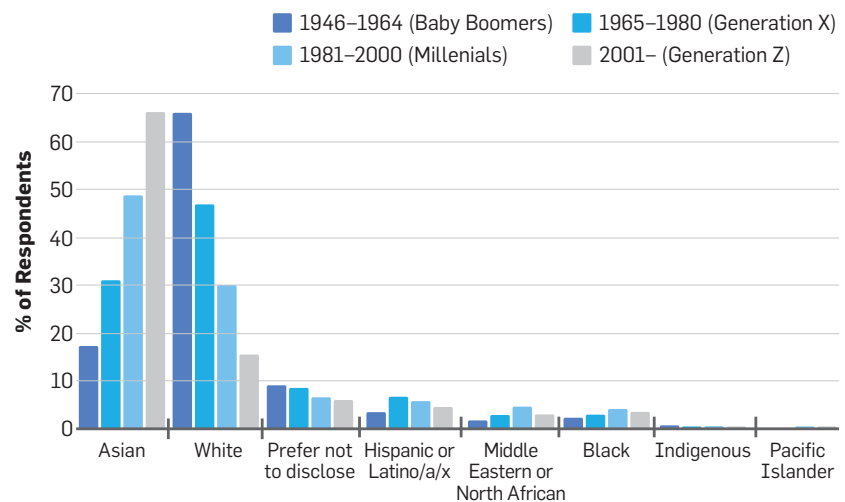
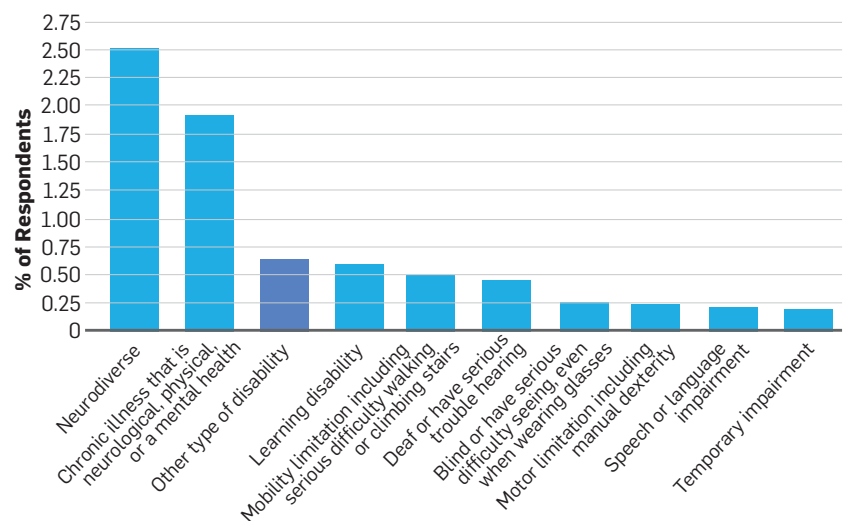


Figure 9. Disabilities and Impairments. Percentage of respondents reporting disabilities and impairments.



Consider ACM Advanced Grades of Membership

ACM has around 100,000 dues-paying members across all membership grades. It offers three advanced grades of membership to which all ACM members should consider applying:

1. **Senior Member:** A self-nominated award recognizing the top 25% of ACM professional members. Candidates have at least 10 years of professional experience (college degree training counts in this time) and five years of continuous professional ACM membership and demonstrate leadership and technical contributions. The brief application requires three short endorsements (not a full letter of recommendation) that are due quarterly.^a
2. **Distinguished Member:** A nominated award recognizing the top 10% of ACM professional members. Candidates have at least 15 years of professional experience (college degree training counts in this time) and five years of professional ACM membership in the last 10 years. The application requires four to five endorsements, ideally from ACM Fellows or ACM Distinguished Members, and is due in early August annually.^b
3. **Fellow:** A nominated award recognizing the top 1% of ACM professional members. Candidates have a “sustained level of contribution over time, with clear impact that extends well beyond their organization” and five years of professional ACM membership in the last 10 years. The application requires five endorsements from ACM Fellows or equivalently recognized colleagues and is due in early September annually.^c

Note that membership grades are not sequential; one does not need to be recognized as a Senior Member before being nominated as a Distinguished Member. The best way to improve the diversity of our recognized colleagues is to nominate them.³ We encourage senior colleagues to:

- Encourage junior colleagues to apply for advanced membership. This is especially important for Senior Membership who are self-nominated. Let them know you are willing to endorse them and share examples of submission materials.
- Encourage review committees (e.g., tenure and promotion; merit review) to consider nominating colleagues. This is especially important for Distinguished Members who require a nomination and can be combine into promotion processes that require external reviews.

a <https://awards.acm.org/senior-members/nomination>

b <https://awards.acm.org/distinguished-members/nominations>

c <https://awards.acm.org/fellows/nominations>

age, geography, gender, race, ethnicity, and disability—patterns emerge that, together, paint a picture of a community marked by distinct contrast across generations. Older respondents are primarily Northern American, white, and male, while younger generations are more likely to live in Asia, identify as Asian or Southern Asian, and include more gender-diverse participants. Although this report consists of just one snapshot in time, these generational differences suggest we may be witnessing a broadening of ACM’s reach, as computing itself becomes an increasingly global enterprise.

The story of data indicates that while gender balance is better among younger generations, women remain underrepresented overall, particularly among senior members and award-ees. Similarly, while the proportion

of Asian and Southern Asian respondents is greater among younger respondents, participation from Africa, Latin America, and parts of Europe remains comparatively small. Persons with one or more disabilities are a significant portion of ACM’s participants, highlighting the importance of making ACM activities and events fully accessible. Also, more progress remains to be made toward the idea of reaching gender, ethnic, and racial parity among ACM’s participants, relative to the general population as well as the computing community at large. These findings matter because they help us understand not just who participates in ACM today but also whose presence and voices are missing. We thank the more than 110,000 respondents who made this first report possible. Their participation reflects a shared commit-

ment to understanding who we are and how we can improve. Acknowledging the one-dimensional perspective, this demographic report barely scratches the surface of who we are as a global organization. ACM members represent multi-dimensional human beings who live at the intersections of race, ethnicity, age, gender, sexual orientation, nationality, ability, class, and religion. It is not our intent to diminish these aspects of who we are, for these social constructs shape how we show up in the larger computing ecosystem. Rather, we seek to draw attention to how the ACM membership continues to evolve, pointing to an opportunity to further investigate the full humanity of its constituents. As ACM continues to evolve and broaden its reach, these insights will guide our efforts to ensure that the world’s largest computing society truly reflects and includes participation by all from across the world it serves.

Acknowledgments

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References

1. Else, H. and Perkel, J.M. The giant plan to track diversity in research journals. *Nature* 602 (2022), 566–570.
2. Novoa-Monsalve, E., Patterson, D., Ludi, S., and Acuna, D.E. Science needs you: Mobilizing for diversity in award recognition. *Commun. ACM* 67, 8 (2024).
3. Spoon, K. et al. Gender and retention patterns among U.S. faculty. *Science Advances* 9, 42 (2023).
4. United Nations Statistics Division. Standard country or area codes for statistics use, Rev. 4. United Nations (1999); <https://unstats.un.org/unsd/methodology/m49/>

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