

IEEE Information Theory Society

Report on the 2021 Diversity and Inclusion Survey

Nihar B. Shah
Machine Learning and Computer Science Departments
Carnegie Mellon University
nihars@cs.cmu.edu

Stark C. Draper
Electrical and Computer Engineering Department
University of Toronto
stark.draper@utoronto.ca

This document reports on a diversity and inclusion survey conducted in the IEEE Information Theory Society (ITSoc). The survey was run from July 5 to August 31 2021 via surveymonkey.com and was advertised via various channels including partnering with the 2021 IEEE International Symposium on Information Theory (ISIT). The goals of the survey were to understand where we stand as a community, to identify areas in which the

Question 1. How much of your professional identity is aligned with the information theory community? (Please select all options that apply)

I am a member of the IEEE Information Theory Society (ITSoc)	88.70%	314
Most or all of my activities and contributions are related to the information theory community	41.24%	146
I only occasionally participate in information theory events and/or occasionally publish in information theory venues	29.10%	103
I am largely not involved in the information theory community	9.32%	33
	Answered	354
	Skipped	0

Question 2. When did you first start to participate in the information theory community as one of your intellectual activities (e.g., submit papers or review or attend)?

1960s or earlier	3.17%	11
1970s	4.32%	15
1980s	6.63%	23
1990s	12.97%	45
2000s	27.38%	95
2010-2015	18.16%	63
2016-present	27.38%	95
	Answered	347
	Skipped	7

Question 3. In what other ways would you like to participate, but have not yet got a chance to do so? Our goal is to design channels to facilitate participation based on your responses here. Since the survey is anonymous, we will not handle individual requests here, but intend to follow up with specific programs based on the survey outcomes. (Please select all options that apply)

Serve as:	%respondents	# respondents	ITSoc members	Faculty	Students	R1-6	R7,9	R8	R10	Non-male	Male
TPC member for an ISIT or an ITW	53.46%	116	105	70	17	27	6	31	36	15	85
Reviewer for IEEE Trans. Inf. Theory or IEEE J. Selected Areas Inf. Theory (JSAIT)	41.47%	90	81	38	25	25	8	19	23	9	67
Associate Editor IEEE Trans. Inf. Theory	39.17%	85	74	56	11	24	4	21	23	11	59
On a committee or as a committee volunteer	32.72%	71	65	31	22	20	2	14	31	11	55
Answered		217									
Skipped		137									

Remark: There is a significant latent appetite amongst respondents for additional volunteering.

Remark: Each of the following free-text comments were made by 1 to 4 people:

- There is lack of an open mechanism for any of these options.
- Student activities.

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Question 7. How do you identify along race/ethnicity/ancestry lines? (For example, in the US context this could be "African American" or "Native American" etc. Feel free to leave this blank if this question does not apply to you.)

Remark: This was an open-ended and not a multiple choice question and so a large variety of responses were reported. We broadly categorized the responses as follows.

Asian/East Asian	22.57%	46.5
White/Caucasian	31%	64
Black	4.85%	10
Latino/Latina	3.64%	7.5
South Asian / Indian subcontinent	21.36%	44
Middle East	3.88%	8
Other		26
Answered		206
Skipped		148

Question 8. What is your current country of residence (where you live most of the time)?

Remark: A total of 300 respondents answered this question. In the table below we tabulate responses by IEEE region. In addition, in Fig. 1 we graphically indicate the density of country of current residence on a world map.

R1{6 (USA)	115
R7 (Canada)	18
R8 (Africa, Europe, Middle East)	76
R9 (Latin America)	10
R10 (Asia, Pacific)	81

Question 9. What is your country/countries of primary education?

Remark: A total of 290 respondents answered this question. Note this is fewer than that the 301 respondents for Q8. However, multiple respondents were educated in more than one country, often spanning multiple IEEE Regions. We incremented the count for each region indicated, hence the total below, 322, exceeds both. As for Q8 we both tabulate the responses by IEEE region, below, and indicated the density of current country of residence on a world map in Fig. 2.

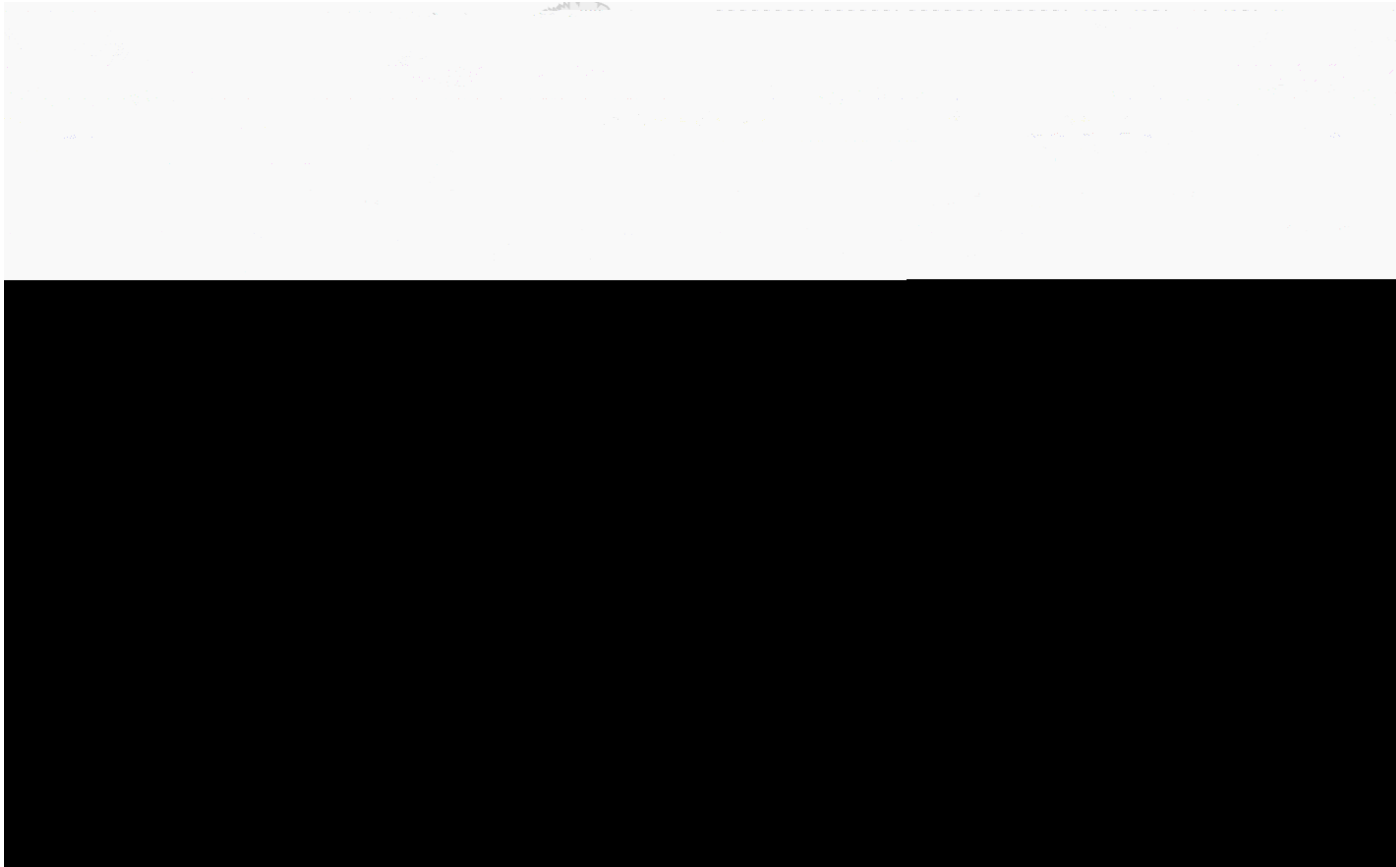


Figure 1: Heat map for country of residence.



Figure 2: Heat map for country of primary education.

R1{6 (USA)	90
R7 (Canada)	12
R8 (Africa, Europe, Middle East)	84
R9 (Latin America)	15
R10 (Asia, Paci c)	121

Question 10. Do you consider yourself a native English speaker or functionally equivalent to a native English speaker?

Yes	72.84%	236
No	27.16%	88
Answered		324
Skipped		30

Question 11. Are there other demographics with which you identify that you believe are relevant to our goal of inclusivity?

Remark: Each of the following responses was mentioned by 1 to 5 people:

- Non-traditional research areas
- Religion
- Age
- Type of schooling (public vs. private)
- Inclusivity should mean demographics do not matter

Question 12. Have you ever felt like any of the factors listed in the previous section, or any other demographic attributes, have led to challenges in participating fully in the information theory community or in feeling excluded from the community?

respondents comment that such aspects can play over-important roles in processes such as achieving IEEE Fellow status. Some respondents noted both advantages and disadvantages to this perceived character of ITSoc. Advantages included being able to build a close-knit network. Disadvantages were seen to be in terms of expanding diversity, and addressing challenges such as sexual harassment.

- Registration / visa issues: A number of respondents commented on how high registration fees for (non-virtual) ISITs or ITWs present a significant barrier for young researchers from certain parts of the world where the research funding for travel budgets is low. Correlated comments noted that often travel grants available to attend ISITs/ITWs are earmarked for students from western countries (sometimes because of funding agency requirements), and that conference organizers mostly turn down requests for registration waivers. Others commented on the difficulty of participating in many IEEE events due to US sanctions or refusals to issue visas to passport holders from certain countries.
- Bias and harassment: A number of respondents commented on encountering gender and racial bias and/or harassment.
- Governing bodies: Some respondents commented that the ITSoc governing body's ethnic composition does not match the ethnic composition of authors submitting to the Transactions.
- "Boy's club": Some respondents used the term "boys' club" to refer to ITSoc in years past, one commenting that pains were taken to be "exclusive". A subset added that the situation has improved dramatically since the early 2000s.
- Volunteering: Some respondents commented that if one had neither studied or resided in North America or Europe the chances that one is nominated to serve on IEEE society committees is small as such committees often "revolve around a small circle of experts." Others commented that while they have been deeply involved in Society organization they hadn't yet been invited to serve as a TPC member or ISIT or as an AE for the Transactions. The suggestion from the respondents was to diversify and refresh conference and journal organization by involving more and new qualified society members.
- Technical openness: Some respondents commented on the openness the Information Theory community to new technical perspectives. Some noted

Question 14. Information about the reporting process and other D&I resources is available here <https://www.itsoc.org/diversity-and-inclusion>. Please let us know if you have any comments in this regard.

Remark: Some notable free-text responses included the following.

- Usefulness: Many respondents appreciated this resource and found it useful.
- Disbelief: A few respondents expressed that they did not believe that discrimination/harassment existed in ITSoc.
- Slow process: A few respondents expressed concerns about the processes for resolving issues, that processes were slow, and that they didn't work properly.
- Ombudsperson: A suggestion was to have an external ombudsperson, especially at conferences, for speedy and impartial dispute resolution. The suggestion was that the job of this ombudsperson would be to process complaints and that they would need to be someone who had suitable training.
- Website: A suggestion was made for the ITSoc D&I Committee website to have an appropriate set of resources.
- Language: A suggestion was made that, to facilitate complaints processes, the complainant could describe their complaint in their mother tongue.

Question 15. Is your participation in information theory events impacted by accessibility challenges? Please consider providing details in the text box below. (Please select all options that apply)

Vision-related challenges	12
Hearing-related challenges	12
Mobility-related challenges (e.g., climbing stairs)	5

Question 16. Some previous ISITs/ITWs have provided childcare options. If you have childcare responsibilities (or may have in the near future), we would like to better understand their impact on participating in information theory events. (Please select all options that apply)

	% resp	# resp	Male	Non-male	R1-6	R7,9	R8	R10
This question is not applicable to me	57.72%	157	129	18	57	3	32	40
I am a parent, but my childcare responsibilities have not prevented my participation in any information theory events	22.06%	60	52	2	23	15	13	13
My childcare responsibilities have prevented my participation in some information theory events	10.29%	28	18	9	10	12	10	3
If childcare options are provided at information theory events I would (or might in the future if I am not currently a parent) make use of such options	19.49%	53	33	13	19	16	16	12
Answered		272						
Skipped		82						

Remark: The freeform text responses included the following; there were 1 to 4 responses for each point that follows.

- Support: Some expressed support for childcare options even those that did not need it themselves.
- Expense: Some expressed concern that the childcare options provided are too expensive.
- Travel: Some expressed unwillingness to bring children.
- Online conferences: Some suggested that an online conference option could be a better solution.
- Responsibility: Some were of the opinion that IEEE or the conference should not take on such a responsibility.
- Latent effects: Some expressed the need to account for latent effects such as childcare when evaluating researchers for awards etc.

Question 17. The ITSoc Conference Committee recently sent out a survey about the future of the ISIT conference. Have you completed this survey?

Yes	53.92%	165
No	46.08%	141
Answered		306
Skipped		48

Remark: A report on the results of the ITSoc Conference Committee Survey was included in the Dec. 2021 Newsletter. [conferenceSurveyLink](#)

Question 18. The pandemic has dramatically changed the landscape of conferences. It presents us with various possibilities for their format going ahead: in-person vs. virtual vs. hybrid. Please let us know if you have a preference on formats, and if you have faced any challenges in any particular format.

Remark: The responses here were open ended. Of the 197 respondents who provided input on this question, we were able to categorize about 90% into a marked preference for the "hybrid", the "in-person", or the "virtual" format. Many respondents had positive and negative things to say about multiple formats{in addition to the format they expressed a strong preference for. About 10% of the respondents who answered this question either had no preference or expressed support for multiple formats.

Hybrid	41.1%	81
In-person	39.1%	77
Virtual	10.7%	21
Hard to categorize or commented on advantages of multiple types of format	9.1%	18
Answered		197
Skipped		157

Remark: Notable free-text responses included the following.

- Separate virtual from in-person: Some suggested that it is better to separate virtual from in-person (e.g., offer certain ITWs all-virtual and others all in person) as authors can then choose according to their preference.
- Pre-recorded video content: Some encouraged the continuance of recorded videos for all presentations, and to make the upload of a video some time prior to the in-person conference a requirement. Attendees could watch the videos ahead of time and get more out of the in-person conference. This would also make the content of an in-person ISIT available to those not attending in person. These sort of suggestions were made both by those who strongly preferred in-person conference and those who were fine with both formats. Other suggestions included that an in-person conference would be complemented with virtual technical and networking events (lectures by ITsoc Distinguished Lecturers, mentoring and WITHITS events) spread through the year to increase access and the cadence of Society points-of-contact.
- Benefits of hybrid:

- Mixed view of in-person: Many people who preferred in-person conferences recognized the inclusivity benefits of virtual conference, the lowered costs, and the diminished carbon footprint. Per the comments on "pre-recorded video content" numerous respondents want the content to be available to those who cannot attend in person, but also did not want an online component to interfere with the in-person event. Some commented they did not know whether it is possible to strike the perfect balance.

Question 19. There is debate between two forms of peer review: single blind (reviewers know identities of authors) and double blind (reviewers don't know identities of authors). Information theory publication venues are currently single blind. We wish to understand your perspectives and preferences on this. (Assume that double blind will not impose any other restriction regarding posting on arXiv etc., as followed in NeurIPS/ICML/AAAI conferences. Please select all options that apply.)

	% resp	# resp	Non-male	Male	Student	Non-student	English speaker	Not Eng. speaker	R1-6	R7,9	R8	R10
I believe that evaluations of my papers have been influenced by my (the author's) identity	29.10%	87	19	57	13	71	64	22	38	4	18	15
I prefer double blind reviewing	44.15%	132	25	95	28	102	94	37	41	5	41	26
I would like to try out double blind at an ITW or ISIT on a trial basis	40.80%	122	25	85	25	96	93	28	44	8	32	23
I prefer single blind reviewing	22.07%	66	4	57	7	57	44	20	27	8	14	16
I believe that evaluations of my papers have not been influenced by my (author's) identity	16.39%	49	4	43	8	38	36	12	17	18	14	11
I don't have a preference between single and double blind	19.40%	58	2	49	11	48	40	16	23	6	8	17
Ratio of 'have been influenced' to 'have not'		1.78	4.75	1.33	1.63	1.87	1.78	1.83	2.24	0.22	1.29	1.36
Ratio of 'prefer double blind' to 'single blind'		2.00	6.25	1.67	4.00	1.79	2.14	1.85	1.52	0.63	2.93	1.63
Answered		299										
Skipped		55										

Remark: A total of 184 respondents selected at least one of the two options "I prefer double blind reviewing" and "I would like to try out double blind at an ITW or ISIT on a trial basis."

Remark: In the freeform text comments, 22 respondents provided additional comments expressing (strong) support for double blind reviewing. Each of the following comments was made by 1-3 respondents:

- Currently some junior reviewers list more well known senior researchers as co-authors to increase chances of their paper getting accepted in the single-blind review process.
- When reviewing, reviewers look at the identities of the authors before looking at the content of the paper.
- In single blind reviewing, reviews often judge the authors or contain personal comments pertaining to the authors.
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Question 20. Have you participated in activities organized by the Student and Outreach Subcommittee (e.g., meeting the Shannon lecturer, mentoring events, ISIT student video exposition) or Women in Information Theory (WITHITS) in the past 3 years?

Participated in Student & Outreach, WITHITS events?	% resp	# resp	ITSoc mem	Faculty	Students	R1-6	R7,9	R8	R10	Non-male	Male
Yes	27.66%	83	76	55	18	31	8	14	26	23	58
No	72.33%	217	191	120	35	80	18	59	44	20	177
Answered		300									
Skipped		54									

(If \YES", in your experience which activities have been most helpful? What suggestions do you have for improvement? If \NO", is there any barrier to engaging in Student & Outreach activities?)

Remark: Some notable free-text comments follow.

- Meet the Shannon Lecturer: The most widely mentioned and appreciated event was the \Meet-the-Shannon-Lecturer" event.
- Break-outs: A number of people liked the break-out-room meet-ups with 2-5 students / postdocs / faculty
- Mentoring: A number of people liked the mentoring events, though some felt that the advice provided at mentoring events was a bit generic and not that useful if the student's own advisor is doing a good job. Some suggested that a more formal mentoring program could be established.
- Student video contest: Lots of people mentioned the student video contest, and commented that it was helpful to build connections.
- Building community: Respondents generally liked the sense of inclusivity and welcoming feelings that these events engendered.
- Spread events around the calendar: Some suggested more frequent opportunities to engage. Some respondents suggested that virtual mentoring / networking events could be organized \o -cycle", i.e., not in conjunction with an ISIT or an ITW.
- Diverse attendees: A few respondents commented that, as a male, they did not know that WITHITS events were open to the entire community. Some other self-identified males respondents they had been attending WITHITS events since they were students. Some respondents commented positively on hearing opinions related to gender issues stated forthrightly in a safe space, and indicated that these experiences helped them be more sensitive and mindful when interacting with their own students, mentees and peers, and also when working on policies at their university. Other respondents commented that they wished more senior members of all genders would participate in WITHITS events.
- Communications: One respondent commented that they do not received emails from ITSoc about these events and so do not know about them.

Question 21.

- Accessibility: