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CHIInclusion: Working Towards a More Inclusive HCI Community

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ABSTRACT

HCI has a growing body of work regarding important social and community issues, as well as various grassroots communities working to make CHI more international and inclusive. In this workshop,

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we will build on this work: first reflecting on the contemporary CHI climate, and then developing an actionable plan towards making CHI2019 and subsequent SIGCHI events and sister conferences more inclusive for all.

CCS CONCEPTS

• **Human-centered computing** → **Human computer interaction (HCI)**; *HCI theory, concepts and models*.

KEYWORDS

Inclusion; Diversity; Activism; Reflection; Indigeneity; Feminism; Accessibility; Power

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INTRODUCTION

In HCI we have a growing body of work related to issues of inclusion. With papers addressing issues such as street harassment [7], domestic violence [6], murdered and missing Indigenous women and girls [20], trans exclusion [1, 12], black lives matter [17, 19], or minorities and cross-cultural issues [2] we are starting to build conversations around important social, civic, and community issues.

As the inclusion of more diverse topics of study has increased, so has the inclusion of political, social, and cultural theories and points of view, for example intersectional feminist theory in HCI and CSCW [11, 15], as well as justice-oriented interaction design [8, 10], or post-colonial computing [14]. Not only has the horizon of topics that are studied and addressed by HCI research widened in recent years, but more nuanced discussions of theoretical framings that help us understand these issues have also become issues of concern in the HCI community.

Alongside these developments, ACM members have also developed a variety of SIGs, workshops, and panels in the past to address specific issues related to feminisms [4], intersectionality [11], justice [10], or self-established communities [2, 3, 5, 16], while others have worked in less institutional ways to develop grassroots action towards more inclusive spaces at CHI directly [18]. We wholeheartedly welcome these developments, and hope to see more of these in the future, but at the same time appreciate that we as a community have work to do before calling ourselves a truly inclusive space.

In recent years, CHI organisers have introduced a number of initiatives to create safer spaces for those marginalised in our communities, setting standards for future organisers. For example, recent efforts include acknowledgement of the unceded Indigenous territories on which conferences occur,

introducing measures for language inclusion, providing space for relief from the sensory stresses of the typical conference frenzy, and attempting to foster an environment of mutual respect through normalising the expression of one's preferred pronouns. At the same time, however, inclusion requires more than top-down organisational structures; it also requires bottom-up, and sometimes disruptive, action from members of the CHI community.

With this workshop, we invite anyone concerned about inclusion at ACM SIGCHI events to help us build on previous grassroots work (eg. [2, 10, 11, 18]) and respond to one of the points raised in the Open Letter to the CHI community read during the Town Hall at CHI 2018 [9]:

“I think it is a bit harsh for us to address this social problem only at this year's CHI, the organisers of which have done a lot to put inclusion initiatives into place. I also think it is a huge amount of pressure on next year's organisers to say they must fix these deeply entrenched, contextualised and nuanced social concerns surrounding exclusion, toxic environments, and harassment.

Instead, [we] want to put a little bit of pressure on all of us to do better. To speak up when we see or hear something that has been normalised in our community but that should be unacceptable. For all of us to pull one another aside if we seem distressed; to genuinely ask if we are okay. To lend a listening and caring ear; and to offer the kindness and support we so desperately need.”

We will do this by reflecting on ourselves in terms of our own unique standpoints [13] within the community, discussing potential avenues for change, and then working towards such actions to build a more inclusive CHI community. In this workshop, we will (1) reflect, (2) hold space, and (3) take actions to equip ourselves with actionable plans to make CHI, SIGCHI, and HCI as a whole a more welcoming, friendly, and inclusive space.

Reflection. The workshop aims to make a difference in the short and long term. To better understand what changes are needed however, we will focus on reflecting on our own experiences, the experiences raised by others, as well as issues we raise and hope to counter. This personal, individual, and communal reflection is necessary to better understand the deeply entrenched privileges, oppressions, and stigmas we carry around in our lives. With a better understanding and appreciation of these, we are able to work towards more inclusive futures.

Holding Space. In the workshop, we will be tackling issues that may be difficult to talk about, or that may be uncomfortable for some of us. We understand that some of the discussions may be difficult, and are as such putting measures in place to hold space for these concerns. At the beginning of the workshop, we will discuss ways of caring for one another during sensitive topics. One possibility is to call for periods of silence if anyone needs a space for reflection and recovery. The purpose of this is to

be able to hold, and learn to understand the reasons we are uncomfortable, acknowledge our feelings, and constructively work towards dealing with these emotions.

Taking Action. While reflecting and holding space are important elements of building a more inclusive future at CHI, we also believe that we must act upon what we learn throughout the workshop. We will take action in the workshop to equip ourselves with new understanding of others' experiences, which we are then able to take forward to take grassroots actions of kindness and support at the CHI2019 conference, in our own research labs, and future HCI events; to work towards genuinely international conferences (see eg. [2, 3, 5]).

ORGANIZERS

Angelika Strohmayer is a PhD candidate in Computing at Newcastle University. Her work explores the potential for respectful and meaningful design processes and digital interventions in third sector service delivery. She is also a co-founder of fempower.tech and the #CHIiversity campaign, both working to make HCI more welcoming and inclusive.

Cayley MacArthur is a PhD candidate in Systems Design Engineering working in the Games Institute and Touchlab at the University of Waterloo. Her research seeks to interrogate the intersections of gendered language, spaces and praxis in HCI. Her desire to connect grassroots efforts to effect organizational change is reflected to her commitments to service in the HCI community, including serving as Equity Chair for CHI 2019.

Velvet Spors is a creative technologist and PhD candidate at the Mixed Reality Lab, University of Nottingham, where they are currently investigating digital self-care technologies in a public setting (in partnership with the National Videogame Arcade). Their research foci are empathy in technology, playfulness and implicit interconnectedness between people.

Michael Muller works as a researcher at IBM Research in Cambridge MA USA, where he applies participatory and other methods to understanding the work of data science workers. Consistent with the broad democratic aspirations of participatory design, he tries to be an ally to feminist, Indigenist, LGBTQIA+, and other progressive activists.

Morgan Vigil-Hayes is an assistant professor in the School of Informatics, Computing, and Cyber Systems at Northern Arizona University. Her research uses techniques from computer networks, mobile computing, social computing, and network analysis to investigate how information systems can be better designed to facilitate community values and cohesiveness. She is especially interested in

understanding information systems through an Indigenous lens and designing for tribal sovereignty and Indigenous cultural values.

Ebtisam Alabdulqader is a PhD candidate based in Open Lab at Newcastle University, and a lecturer in the Information Technology Department at King Saud University. Her current research focuses on investigating strategies to promote the adoption of digital technologies to augment the current health-care system and establish new relational healthcare models. She is also the founder of ArabHCI.org community and the vice chair for the ACM SIGCHI chapter for Riyadh Saudi Arabia.

WEBSITE

The website (<https://chinclusive.glitch.me/>) will include information on the workshop: the proposed programme, call for participation, and full workshop proposal. It will also list workshop attendants and provide a link to their position papers. The website will also function as a means for disseminating the outcomes of the workshop as outlined below, and will be used to provide information on existing communities working towards more inclusive ACM SIGCHI venues.

PRE-WORKSHOP PLANS

We see this workshop as a part of the ongoing work to make the ACM SIGCHI community more inclusive. As such, we will leverage connections to existing SIGCHI communities such as but not limited to Feminist HCI networks, #CHIiversity, SIGACCESS, Arab HCI, or the CHIIndr events hosted by a network of LGBTQ+ HCI researchers to continue to build and connect these existing communities. Participants will be recruited through these formal and informal networks, as well as topic-specific mailing lists, our website, and social media.

Important Dates:

- February 1: Early Submission Deadline
- February 11: Early Acceptance
- February 12: Final Submission Deadline
- March 1: Final Acceptance
- May 5: Workshop at CHI 2019

WORKSHOP STRUCTURE

This one-day workshop consists of two parts, a reflexively oriented morning, and an action-oriented afternoon. By first reflecting on our own, as well as others' experiences regarding inclusion at CHI, we will be able to develop more feasible and clearly delineated actions that could be taken at CHI 2019, as well as future SIGCHI or HCI events more widely.

In the morning, we will engage in an interactive activity that will highlight current experiences of inclusion at SIGCHI events. We will do this through a creative, interactive, and playful activities that will bring together workshop participants to collectively reflect on experiences people have at CHI and related conferences. Subsequently, we engage in a structured and reflexive discussion based on our own experiences of being part of the CHI community.

In the afternoon we look forward to how we can improve inclusion at future CHI events by planning outreach activities for the CHI2019 conference and working towards developing proposed guidance for various key stakeholders within the ACM SIGCHI community to support equity and inclusion and potentially improve the environment at SIGCHI events - especially for those who are marginalised in our community. We will do this by first splitting into smaller groups to brainstorm target audiences and topics that should be covered in this document. After this, we will develop a small booklet based on the reflections and discussions we had, as well as the questions we raised in the workshop.

The booklet will build on the experiences participants have had and shared in the morning. Once completed, we will host a digital version on our website, distribute copies during CHI2019, and address it to conference and diversity chairs of several ACM SIGCHI conferences. We hope it will be a starting point for CHI community members and organisers to reflect on issues of equity and inclusion within our community. The idea of this booklet is situated in feminist histories of making and craftivism (craft + activism) [18] and a working draft will be conceptualised and made with participants during the workshop.

Privilege Activity: Based on the ‘privilege walk’ activity, we will develop a programme of activities to help us reflect on our privileges and oppressions in the HCI community. We are aware this activity must be carried out with explicit care towards marginalised members of our community as to not further stigmatize or single-out these individuals. We have modified the activity to include protections for those who do not wish to disclose aspects of their identities as a way to practice radical inclusion in our workshop.

Group Lunch: We will have lunch in groups formed during the brainstorming session. The goals of this are twofold: (1) to continue conversations around topics surfaced in the brainstorming activity and (2) to conceptualise how these topics might be represented in the booklet.

Sidebar 1: Further Programme Details

Programme of Activities

09:00 Welcome and introduction from the organisers

09:15 An introductory activity to welcome all attendees

10:00 ‘Privilege Activity’ (see sidebar)

10:45 BREAK

11:00 Discussion based on ‘Privilege Activity’

11:30 Brainstorm new content to surface and examine additional dimensions of power that operate in the HCI community and its associated practices and processes

12:30 GROUP LUNCH (see sidebar)

14:00 Welcome back from organisers

14:15 Small group activities to develop a small booklet filled with questions and discussions on how to improve inclusion at ACM SIGCHI events and in our labs, classrooms, and communities of practice

15:00 Whole group discussion of the booklet

16:00 Planning of actions leading to dissemination during CHI2019 and future work

17:00 GROUP DINNER

Intended Outcomes

After this intensive day of reflection, discussion, and action, we expect to achieve outcomes on a personal, group, and societal level. Some of these will include:

- Participants will have reflected on their personal privileges within the CHI community, and the effects this may have on their and others' experience of CHI and related conferences
- Participants will have thought about and developed ideas for small actions they can take to support the development of more inclusive spaces at CHI
- We will have documented our reflections, discussions, and plans for action for other members of the SIGCHI community with examples of actions to make their conferences and associated events more inclusive in the future
- We will have discussed plans for the future of how we can maintain the momentum of grassroots activism to improve inclusion and improve the atmosphere at CHI for those marginalised within and by our community
- We will advertise communication channels to be used for ongoing discourse surrounding inclusion and HCI, including fempower.tech channels and the feminist-HCI Slack group

On top of these immediate outcomes of the workshop, we also hope to bring about change on a broader level. In the workshop, we will have built on existing networks and groups who already work to improve inclusion at CHI. By bringing together people within these disparate communities, we will be able to cross-pollinate the various movements and work together more closely. In turn, this collaboration can impact on future campaigns and actions.

POST-WORKSHOP PLANS

We have five separate but connected plans for after the workshop: (1) we will continue to build and engage community around the topics such as inclusion through the use of social media, our workshop website, and existing communities in HCI; (2) we will carry out small scale outreach activities during CHI 2019 such as informal meet-ups; (3) we will have created a small booklet for ACM SIGCHI members during the workshop to provide information on accessibility and inclusion from a position of empowerment for marginalised people; (4) we will write and submit a summary of the discussions and reflections from the workshop as an article for ACM Interactions magazine; and (5) we will continuously share lessons learned and best practices for inclusion and HCI that we encounter in our classrooms, labs, and communities of practices through existing and new public facing communication channels.

CALL FOR PARTICIPATION

We would like to invite you to take part in a one-day workshop to be held May 5th at CHI2019. With this workshop, we proactively take part in building a more inclusive CHI community. We do this in a highly interactive one-day workshop where we will first reflect on current privilege, marginalisation, and inclusion in our community, and then develop actionable ideas on how to improve inclusion at CHI2019 and future HCI events.

We welcome submissions from anyone who is concerned about inclusion at CHI and HCI more widely, and who would like to play a part in building a better future for our discipline. In order to take part, we ask you to write a brief (max. 3 pages including references and short bio) personal statement in the Extended Abstract format. Submissions should address one or more of the following questions - or a related question that is important to you and could also be important to others. They should be sent in PDF format by the 1st of February 2019 to [CHIInclusion2019\(at\)gmail.com](mailto:CHIInclusion2019(at)gmail.com):

- I think inclusion is an important aspect of the CHI community, because...
- I think we could improve inclusion at CHI by...
- I have been involved in campaigning for a cause related to ..., and think that we can learn from this activity and improve inclusion at CHI by...

Admittance will be on the basis of workshop relevance, and the potential of contribution to discussions and actions, as reviewed by the workshop organisers. We want to stress again here, that no prior experience or research in this field is necessary to take part in the workshop - only a willingness to take part in making HCI more inclusive! If accepted, we require that at least one author of the submission attends the workshop, who must also register for at least one day of the conference. For more information on the workshop, please visit: <https://chinclusive.glitch.me/>.

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REFERENCES

- [1] Alex A Ahmed. 2018. Trans Competent Interaction Design: A Qualitative Study on Voice, Identity, and Technology. *Interacting with Computers* 30, 1 (Jan. 2018), 53–71. <https://doi.org/10.1093/iwc/iwx018>
- [2] Ebtisam Alabdulqader, Norah Abokhodair, and Shaimaa Lazem. 2017. Human-Computer Interaction Across the Arab World. In *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems - CHI EA '17*. ACM Press, Denver, Colorado, USA, 1356–1359. <https://doi.org/10.1145/3027063.3049280>

- [3] Kagonya Awori and Nicola J. Bidwell (Eds.). 2016. *AfriCHI'16: Proceedings of the First African Conference on Human Computer Interaction*. ACM, New York, NY, USA.
- [4] Rosanna Bellini, Angelika Strohmayer, Ebtisam Alabdulqader, Alex A. Ahmed, Katta Spiel, Shaowen Bardzell, and Madeline Balaam. 2018. Feminist HCI: Taking Stock, Moving Forward, and Engaging Community. In *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems - CHI '18*. ACM Press, Montreal QC, Canada, 1–4. <https://doi.org/10.1145/3170427.3185370>
- [5] Xiaojun Bi, Lu Xiao, Feng Tian, Xianghua (Sharon) Ding, and Yong Ming Kow. 2016. Chinese CHI 2016 Symposium. In *Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems - CHI EA '16*. ACM Press, Santa Clara, California, USA, 3532–3535. <https://doi.org/10.1145/2851581.2856486>
- [6] Rachel Clarke, Peter Wright, Madeline Balaam, and John McCarthy. 2013. Digital portraits: photo-sharing after domestic violence. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems - CHI '13*. ACM Press, Paris, France, 2517. <https://doi.org/10.1145/2470654.2481348>
- [7] Jill P. Dimond, Michaelanne Dye, Daphne Larose, and Amy S. Bruckman. 2013. Hollaback!: the role of storytelling online in a social movement organization. In *Proceedings of the 2013 conference on Computer supported cooperative work - CSCW '13*. ACM Press, San Antonio, Texas, USA, 477. <https://doi.org/10.1145/2441776.2441831>
- [8] Lynn Dombrowski, Ellie Harmon, and Sarah Fox. 2016. Social Justice-Oriented Interaction Design: Outlining Key Design Strategies and Commitments. In *Proceedings of the 2016 ACM Conference on Designing Interactive Systems - DIS '16*. ACM Press, Brisbane, QLD, Australia, 656–671. <https://doi.org/10.1145/2901790.2901861>
- [9] fempower.tech. 2018. CHI 2018 – an open letter to the CHI community – fempower.tech. <https://fempower.tech/2018/05/07/chi-2018-an-open-letter-to-the-chi-community/>
- [10] Sarah Fox, Jill Dimond, Lilly Irani, Tad Hirsch, Michael Muller, and Shaowen Bardzell. 2017. Social Justice and Design: Power and oppression in collaborative systems. In *Companion of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing - CSCW '17 Companion*. ACM Press, Portland, Oregon, USA, 117–122. <https://doi.org/10.1145/3022198.3022201>
- [11] Sarah Fox, Amanda Menking, Stephanie Steinhardt, Anna Lauren Hoffmann, and Shaowen Bardzell. 2017. Imagining Intersectional Futures: Feminist approaches in CSCW. In *Companion of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing - CSCW '17 Companion*. ACM Press, Portland, Oregon, USA, 387–393. <https://doi.org/10.1145/3022198.3022665>
- [12] Foad Hamidi, Morgan Klaus Scheuerman, and Stacy M. Branham. 2018. Gender Recognition or Gender Reductionism?: The Social Implications of Embedded Gender Recognition Systems. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems - CHI '18*. ACM Press, Montreal QC, Canada, 1–13. <https://doi.org/10.1145/3173574.3173582>
- [13] Susan Hansen, Toni Robertson, Laurie Wilson, Hannah Thinyane, and Sibukele Gumbo. 2011. Identifying stakeholder perspectives in a large collaborative project: an ICT4D case study. In *Proceedings of the 23rd Australian Computer-Human Interaction Conference on - OzCHI '11*. ACM Press, Canberra, Australia, 144–147. <https://doi.org/10.1145/2071536.2071558>
- [14] Lilly Irani, Janet Vertesi, Paul Dourish, Kavita Philip, and Rebecca E. Grinter. 2010. Postcolonial computing: a lens on design and development. In *Proceedings of the 28th international conference on Human factors in computing systems - CHI '10*. ACM Press, Atlanta, Georgia, USA, 1311. <https://doi.org/10.1145/1753326.1753522>
- [15] Ari Schlesinger, W. Keith Edwards, and Rebecca E. Grinter. 2017. Intersectional HCI: Engaging Identity through Gender, Race, and Class. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems - CHI '17*. ACM Press, Denver, Colorado, USA, 5412–5427. <https://doi.org/10.1145/3025453.3025766>
- [16] Hisao Shiizuka, Masaaki Kurosu, and Michiko Ohkura. 2015. Japanese HCI Symposium: Japanese Culture and Kansei. In *Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems - CHI EA '15*. ACM Press, Seoul, Republic of Korea, 2325–2328. <https://doi.org/10.1145/2702613.2702663>

- [17] Leo Graiden Stewart, Ahmer Arif, A. Conrad Nied, Emma S. Spiro, and Kate Starbird. 2017. Drawing the Lines of Contention: Networked Frame Contests Within #BlackLivesMatter Discourse. *Proceedings of the ACM on Human-Computer Interaction* 1, CSCW (Dec. 2017), 1–23. <https://doi.org/10.1145/3134920>
- [18] Angelika Strohmayer, Rosanna Bellini, Janis Meissner, Samantha Mitchell Finnigan, Ebtisam Alabdulqader, Austin Toombs, and Madeline Balaam. 2018. #CHIiversity: Implications for Equality, Diversity, and Inclusion Campaigns. In *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems - CHI '18*. ACM Press, Montreal QC, Canada, 1–10. <https://doi.org/10.1145/3170427.3188396>
- [19] Marlon Twyman, Brian C. Keegan, and Aaron Shaw. 2017. Black Lives Matter in Wikipedia: Collective Memory and Collaboration around Online Social Movements. In *Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing - CSCW '17*. ACM Press, Portland, Oregon, USA, 1400–1412. <https://doi.org/10.1145/2998181.2998232>
- [20] Morgan Vigil-Hayes, Marisa Duarte, Nicholet Deschine Parkhurst, and Elizabeth Belding. 2017. #Indigenous: Tracking the Connective Actions of Native American Advocates on Twitter. In *Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing - CSCW '17*. ACM Press, Portland, Oregon, USA, 1387–1399. <https://doi.org/10.1145/2998181.2998194>