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The EmpathiCH Workshop: Unraveling Empathy-Centric Design

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ABSTRACT

EmpathiCH aims to bring together and blend a diverse set of expertise to develop a new research agenda in the context of "Empathy-Centric Design". Building on the discussions that emerged in the previous edition, the main research objective is to form a comprehensive and coherent framework that utilizes empathy as a new dimension of human-factors research and practice. We aim to consolidate the existing theoretical and conceptual constructs of empathy from diverse domains to reflect on its temporality, materiality, and the risks related to its instrumentalization. With a mix of author panels, expert discussion, and interactive activities, we aim to make this workshop the ideal venue to foster collaboration, expand the community, and shape the future direction of "Empathy-Centric Design".

CCS CONCEPTS

• **Human-centered computing** → **HCI theory, concepts and models**; **HCI design and evaluation methods**.

KEYWORDS

empathy, empathy-centric design, assessment of empathy, attributes of empathy, ethics of empathy, collaboration

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1 BACKGROUND

Designing user-centered solutions and technologies to address societal problems requires understanding people's needs (e.g., control, safety [11]), values (e.g., inclusiveness, ethics [28]), and experiences. Design research considers *empathy* a crucial factor in better understanding people [33] and safeguarding the success of user-centered approaches [5, 43]. Empathy plays an essential role in the daily life of practitioners, e.g. client communication, leadership, agile teamwork, and also in the design process of human-centered technology (e.g., user research stage of "empathizing"). Human-Computer Interaction (HCI) and many other disciplines have investigated the importance of empathy, e.g., in patients' medic relation [25], education [1, 41, 42], racial bias reduction [29], gaming [1, 10], design [8, 33, 44]; and with different technologies such as virtual reality [1, 25, 39], mobile [27] and wearable devices [12, 31], and artificial intelligence [34].

Empathy is often defined as "the intuitive ability to identify with other people's thoughts and feelings – their motivations, emotional and mental models, values, priorities, preferences, and inner conflicts" [23], which means going beyond "knowing the user" and understanding how "it feels like" to be that person [17, 43]. Due to the interdisciplinary research interest it triggers, we acknowledge the richness and diversity of perspectives on the concept of empathy, both regarding its dimensions or underlying components (see Chang-Arana et al. [4] for a recent comprehensive review in design). Empathy in Design and HCI is mainly explained through the prism of methods. Empathic methods have been developed to get the designers/observers/researchers "into the shoes" of the people they are designing for [16, 20]: cultural probes [21], focus groups [24, 32, 40], physical journey map [19], storytelling [30, 35, 38], social imaginaries [26], and simulation of the user's condition [2, 3, 7].

For decades, scholars have studied how developing empathic relationships between designers and users results in better products or services [43], through design methods, conceptualization [4, 37], and the development of design frameworks [13, 18, 36]. However, empathic boundaries are blurred and debatable [14, 15]. The only

consensus on empathy is there is no consensus [4, 22]. Moreover, quantitative metrics of empathy in design to better explain and predict it are under-researched [4, 6, 37]. For this reason, we believe that there is a need to expand theories, novel assessment methods, and empirical studies to increase our understanding of empathy and support the human-centered design of technologies and services. In particular, we seek to (1) *consolidate* the existing theoretical and conceptual constructs of empathy from diverse domains including Psychology, Social Sciences, Design, and HCI, (2) *coalesce* them to form a comprehensive and coherent framework that utilizes empathy as a new dimension of human-factors research and practice, (3) *scrutinize* the seams of Empathy-Centric Design, specifically, the scenarios where it may come in conflict with human dignity, societal values and ethical principles (for example, instrumentalizing Empathy-Centric Design for large scale manipulation or abasement), and (4) *examine* the overarching attributes of Empathy-Centric Design including its temporality and materiality.

1.1 Expanding on a previous edition

In order to consolidate the diverse emerging notions within empathy-centric design and to transform them into the agenda for future research, this workshop aspires to build upon the discourses within the ACM CHI'22 workshop on **Empathy-Centric Design At Scale** [22] by unravelling the role and impact of "empathy" –either as a design lens, a desired affordance, or a mediator in interactions– in human-centered design principles and practices.

In the first edition of the Empathy-Centric Design workshop, the discussions predominantly centered around eliciting emergent themes within Empathy-Centric Design when applied at scale. Building upon participants' experiences with empathy, the workshop focused on (1) embodying empathy in observational practices to obtain fine-grained insights about the context or target groups, (2) evoking empathy among diverse stakeholders, mediated through technology, to facilitate the socio-cultural or socio-technical objectives, (3) eliciting novel ways of transferring one's empathic state to others and its wider implications, and (4) broad deliberation on the ways in which empathy can profoundly underpin and extend the discourses about human-centered design principles.

In the current proposal, we aim to bring together different scholars–including computer scientists, social scientists, designers, psychologists, policy-makers, and practitioners from other disciplines–to share their knowledge, experience, and ideas about working with empathy on different levels for an overall large-scale societal impact. Participants will be encouraged to venture beyond the existing constructs, conceptions, and paradigms about empathy and Empathy-Centric Design, and collectively critique their position in HCI research and practice. In this way, we are also interested in fostering multidisciplinary collaborations amongst academics and practitioners, which can further guide and shape the future research agenda on Empathy-Centric Design.

In the previous workshop, 25 participants contributed to day-long program full of (short) paper presentations, keynote talk, panel discussion, and interactive activities – including a game to elicit observers' empathy towards a participant presenting a real-world case and perspectives. In the proposed workshop, we aim to extend the collective and consorted engagement on the themes of *Empathy* and *Empathy-Centric Design*, and constructively enrich them with a renewed focus and scope, specifically unraveling the themes of assessment, diversity, and tensions. This renewed focus and scope could not only further scholarship at the intersection of Empathy, HCI, and Social Cognition, but also pronounce the viability and relevance of leveraging Empathy-Centric Design principles in real-world contexts by practitioners and researchers. Moreover, the constructive and engaging discussions amongst attendees in the last workshop, and the ensuing exchanges on the workshop's Slack channel, encourage us to invite more attendees as compared to the previous edition – i.e., 40-50 participants.

1.2 Themes unraveling Empathy-Centric Design

1.2.1 Assessment of empathy. The empathic design field has long focused on methodological contributions [4, 16] which challenge designers' empathy toward their users, conducting research into empathy assessment and measurement. However, how can we know what we do not *really* measure? Assessing and measuring empathy is crucial to enable deeper understanding, recognizing, and fostering empathy. Assessments of empathy can inform designers of the success of their empathic methods and provide clues on the stakeholders' empathy tendencies [6, 37] to adapt and support their Empathy-Centric Design approaches. How can we assess the effectiveness of empathic designs and interventions? What methods and measurement tools can we rely on to assess empathy (both qualitative and quantitative)? What are the implications of measuring empathy for designers, users, and society as a whole?

1.2.2 Diversity and richness of empathy. Empathy materializes itself at different levels and can be viewed through different lenses. First, empathy is a driving force in human interactions. Designers and stakeholders alike must empathize with users to deliver user-centered solutions. While improving people's lives, these solutions also contribute to an increased transparency about stakeholders' challenges, and hence can in turn trigger users' empathy towards people designing services, technologies and policies. This duality of empathy holds true for individuals, organizations, and society as a whole, e.g., in interactions between citizens and policy makers. Similarly, empathy plays a crucial role in human interactions with nature and animals, as a core element of more-than-human perspectives [9]. Finally, we can look at empathy in human-technology relationships (e.g., with objects, robots, or even an AI), for making technologies more empathic towards humans to build sustainable human-AI collaboration. What role does empathy play at these different levels? How do empathy measures apply to these different contexts? What is the specificity of the empathic design methods used in these contexts? Can and should empathy be "modelled", e.g., through artificial neural networks?

1.2.3 Empathy tensions and abuses. While empathy raises awareness of people's experiences, it can also cause sources of tensions and abuses. This is particularly the case, where empathy is envisioned as a goal instead of a means. Technologies can be made more empathic for the wrong reasons (e.g., increasing consumption). Aspiring to make everyone empathic at all levels, can be exclusionary and ironically contrary to empathy (e.g., firing employees who are

not empathic enough). Designer-user empathy meets limitations that cannot always be overcome, such as demographic and cultural background [4]. How far is it relevant to be empathetic or to trigger empathy? How can empathy be mis-used, e.g., for the design of persuasive systems? How can neurominorities be represented and considered in the design of empathic systems? How do we move beyond the "one-size-fits-all" conception of empathy in design and amalgamate a multi-cultural and diverse conception of empathy-centric design?

The EmpathiCH workshop will allow participants to think about these three previous themes with a transversal reflection on the conceptualization of empathy, its definition and role in HCI and design that enable Empathy-Centric Design approaches, and the methods we use to shape the empathy of all stakeholders involved in designing experiences for people.

2 ORGANIZERS

Below is a list of the organizers' short biographies. Their expertise and interests are diverse but in line with the workshop topic, reflecting our goal to have interdisciplinary perspectives and discussions. They come from different academic fields and industries, and bringing to the table both a richer set of perspectives and a diverse and complementary network of connections that may be interested in the workshop.

Luce Drouet is a User Experience Researcher and Ph.D. candidate at the University of Luxembourg in the HCI research group. Her work focuses on empathy in service design, in the wider context of user-centered maturity in companies. She experiments with empathic design methods to facilitate sharing customers' voices with service employees and to reduce silos in organizations. Luce works in partnership with the Luxembourgish Railway Service. (**Website**: https://hci.uni.lu/luce-drouet/)

Wo Meijer (*main contact*) is an industrial designer and Ph.D. candidate at the Delft University of Technology (TU Delft, Netherlands). He has a background in Multi-Modal interactions in Virtual Reality with a focus on increasing presence, engagement, and empathy between and among people. His current research is focused on enhancing video as a user research method in order to help designers develop empathy for their users quickly and deeply. (**Website**: http://womeijer.com)

Aisling Ann O'Kane is an Associate Professor in Human-Computer Interaction for Health at the University of Bristol and was the Deputy Director of the EPSRC CDT in Digital Health and Care. She has over ten years of experience studying the real world use of health and care technologies outside of clinical settings. (**Website**: https://research-information.bris.ac.uk/en/persons/aisling-a-okane)

Aneesha Singh is an Associate Professor in Human-Computer Interaction at the UCL Interaction Centre. She is interested in the design, adoption and use of personal health and wellbeing technologies in everyday contexts, focusing on sensitive and stigmatized conditions. Her research areas include digital health, ubiquitous computing, multi-sensory feedback and wearable technology. She has previously worked in industry in various roles as a software consultant, and as a technical journalist. (**Website**: https://uclic.ucl.ac.uk/people/aneesha-singh)

Thiemo Wambsganss is a Postdoc at the Machine Learning for Education Laboratory at the Swiss Federal Institute of Technology in Lausanne (EPFL). His work aims to leverage methods from Natural Language Processing and Machine Learning to provide users, in particular students, with intelligent writing feedback anytime and anywhere they want. In this vein, he studies how to model empathy in human texts and how to provide students with adaptive empathy feedback in peer review scenarios. (**Website**: https://thiemowa.github.io/)

Andrea Mauri is a Junior Professor at Université Claude Bernard Lyon 1, affiliated with the Liris Research Lab. His research lies at the intersection of HCI and Data Management. He investigates how to integrate human factors –such as the concept of empathy– in computational methods to design, develop and deploy data-intensive applications to make them aware of people features, needs, and values. (**Website**: https://andreamauri.me)

Himanshu Verma is a Tenure-Track Assistant Professor at the Faculty of Industrial Design and Engineering at Delft University of Technology (TU Delft, Netherlands). He has a background in HCI, UbiComp and Social Cognition. He is interested in examining the internal mechanisms (comprised of latent, non-verbal and transient social signals) which enable or inhibit interpersonal collaborations, and his current research focuses on modeling reliable proxies of empathy and their broader implications for empathy-centric design. (**Website**: https://vermahimanshu.com/)

3 WEBSITE

The workshop website will be hosted on the GitHub Pages[1], and will be accessible at the same URL as the previous EmpathiCH workshop, https://www.empathich.com/. The website will contain the essential information about the workshop, including (1) background and motivation, (2) call for participation, (3) important dates and deadlines, (4) profiles of organizers' and TPC (Technical Program Committee), (5) (provisional) workshop program, and (6) accepted contributions. In addition, we will archive the content of the previous workshop and provide a link for future attendees to access it. Before the workshop, we will upload the accepted papers and the recordings of author's presentations (4-8 minutes) to the website. After the conclusion of the workshop, we will also update the website with the workshop's summary, output, and results.

4 PRE-WORKSHOP PLANS

Our goal is to hold an interdisciplinary workshop, including industry and academic researchers from the areas of ACM SIGCHI (e.g., CHI, IUI, DIS, CSCW, UbiComp), web science (e.g., WWW), social science, psychology, artificial intelligence, health, and more. The organizers are active in these research areas and plan to encourage potential attendees (e.g., colleagues, students in their networks) to participate in this workshop.

We will distribute the call for papers information through the ACM SIGCHI mailing list, the website mentioned in Section 3, the organizers' professional networks, such as institution mailing lists and social media (e.g., Twitter and Facebook), and the Slack

[1] GitHub Pages: https://pages.github.com

community[2] that emerged from the previous EmpathiCH workshop. We plan to host around 40 to 50 participants in the workshop, which we believe is a suitable size for building a community, networking with each other, and engaging discussion.

For paper selection and reviewing, the workshop organizers will reach out to additional researchers to form a program committee. We aim to have a good balance of diverse perspectives and topics that are related to the workshop themes. For each submission, we will assess the novelty, provocativeness, quality, and relevance to the workshop (i.e., related to Empathy-Centric Design topics and engaging discussion). Those with well-presented and insightful contributions will be selected. Submissions will go through a rigorous, double-blind peer review process. The Technical Program Chairs will establish a program committee (including past EmpathiCH authors and authors with expertise in the topic). Each submission will receive three reviews from at least one member of the program committee, including recommendations for conditional submission acceptance or rejection. The reviews will result from a formal committee meeting with program committee members.

Before the workshop, we will make the accepted papers and workshop schedule publicly available on our website. For the accepted papers, we will request slides as well as a 4 to 8-minute video from the authors covering the content and implications of their work, and we will upload these materials to our website before the workshop. One week before the workshop, we will ask the participants to familiarize themselves with the papers and the videos. Additionally, we will invite all authors to join a special Slack[3] channel in order to facility informal communication.

5 REMOTE AND ONSITE PLANS

In order to engage a diverse and broad set of participants (both in terms of background as well as forming connections between academia and industry) we will conduct the workshop in a hybrid, synchronized format. Prior to the workshop, all participants will receive links to the Zoom meeting used for the hybrid set up as well as links to the Miro board and the community Slack. In the physical workshop room, we will set up a 360 degree camera that captures the entire room and join the Zoom call with the camera. We will also set up a microphone for the remote participants to ask questions to the paper presenter directly. In addition, remote participants can choose to type the questions in the chat, and one workshop organizer will be assigned to monitor the chat and read the questions to the presenters.

5.1 Remote Interactive Activities

During the interactive activities, we will assign participants into groups that are composed of both remote and in-person participants. Each group will be placed in a breakout room on Zoom, where the onsite participants will join to have conversations with those joining remotely. Additionally, all work will be done using Miro boards. This is done to avoid a situation where the remote participants are isolated from the onsite ones.

[2]EmpathiCH Slack community can be joined via: https://join.slack.com/t/empathich/shared_invite/zt-1hqfc9ugx-RyIf2ixEVmdkGkTI3JGYOQ
[3]Slack: https://slack.com/

5.2 Asynchronous Plans

To promote communication between participants who cannot physically attend the workshop and live in different time-zones, we plan to support some asynchronous interactions. For example, we will make the videos of the accepted works available online before the workshop. Additionally all authors and participants will be invited to join the dedicated Slack community. We will also invite people to engage independently with the authors and attendees by tweeting the workshop content on Twitter with a specific hashtag to track online conversations. Also, to include them in the interactive session (e.g., the warm-up), we will ask them to provide some inputs before the workshop so that we can use them to kick-start the discussion. Finally, we will publish the content generated during the ideation and mapping session on our website and Twitter so the participants can add their own insights by replying to the tweets and engage in further discussion both on Twitter and on Slack.

6 WORKSHOP STRUCTURE

We propose a full-day workshop with submissions that includes position papers, work-in-progress, provocations, demos, or posters (4-6 pages, excluding references). Additionally, we ask that authors create a 4-8 minute video summarizing their work so that more time can be spent on author panels, discussing the work rather than presenting it. We are interested in a wide range of novel concepts and perspectives. The workshop will be held in hybrid form, both in-person and on Zoom[4]. Details of the hybrid setup is mentioned later in Section 5. We will use Miro[5] as a way to allow collaborative activities with remote and in-person participants. The entire event is estimated to be around 8 hours with different activities: an introduction, two author sessions, interactive activities, social events, breaks, and discussions as shown in Table 1.

We plan to make the workshop highly interactive by engaging participants with author panels, interactive activities, and a final group reflective activity. All interactions (e.g., Q&A sessions, panel) will be recorded using Zoom and later collaboratively analyzed to understand the role of empathy in such context. The analysis may result in potential publications co-authored by all the organizers and new cross-disciplinary collaborations for future projects. The follow-up studies will deepen the understanding of empathy and build the foundation of new guidelines for empathy-centric design. In addition to the papers and videos submitted by the authors, we expect the outcome to include list of actionable points or research questions that guide future research of applying empathy in the design process of projects or tools. These outcome will be placed on our workshop website for public access.

7 ACCESSIBILITY

To ensure a broader access to the workshop's proceedings and content, we will take concrete steps as illustrated below:

Pre-Workshop: We will ask the authors to adhere to the SIGCHI's Accessible Submission Guide[6] while preparing their articles for both the review and final versions. In addition, we will

[4]Zoom: https://zoom.us/
[5]Miro: https://miro.com/
[6]Guide To An Accessible Submission: https://sigchi.org/conferences/author-resources/accessibility-guide/.

Table 1: Proposed workshop schedule.

Duration	Activity
10 minutes	**Set Up:** Welcome in-person participants, set the hybrid Zoom call (for remote participants only) and general introduction.
15 minutes	**Intro game:** Introduce organizers, workshop objectives and schedule with an interactive game.
60 minutes	**Author Panel:** The first set of authors spend 3 minutes each presenting their work. organizers moderate an engaging and dynamic discussion.
10 minutes	Short break
30 minutes	**Interactive Session:** Participants will go through a set of activities on a Miro board centered around a real life case of empathy in design. Through provocations and ideation, teams will uncover benefits, drawbacks, and ethical implications of empathy in design.
15 minutes	Short break
60 minutes	**Author Panel:** The second set of authors spend 3 minutes each presenting their work. organizers moderate an engaging and dynamic discussion.
10 minutes	Short break
30 minutes	**Interactive Session:** Teams from the previous session will expand on their work by reflecting on the discussion as well as a fresh set of provocations.
60 minutes	Lunch break and social gathering
60 minutes	**Keynote:** A 45-minute keynote presentation followed by 15 minutes Q&A. The talk will be held onsite or remotely depending on the speakers' availability. However, the preference will be given to an in-person keynote.
30 minutes	**Expert Panel Discussion:** Organizers will then moderate a brief expert panel, encouraging experts and participants to reflect on how the previous sessions influenced their understanding of the keynote.
15 minutes	Short break
15 minutes	**Rewarm-up**: Starting with a small energy boosting exercise, the organizers will give instructions on the final group session.
30 minutes	**Group Session:** Groups will go through a set of interactive activities on their Miro boards pushing them to recall, reflect, and ideate on the work done in the morning and how their cases and thoughts change in light of the discussion.
15 minutes	Short break
45 minutes	**Group Presentations:** Each group presents and discusses the results of ideation and mapping session to all other participants.
20 minutes	**Wrap Up:** Summarize the workshop, actions on follow-up activities, and take group photos (both onsite and remote). Closing of the data collection process.
-	Dinner and Social Events

ask the authors to video record their presentations with closed captions prior to their upload on the website. The co-organizers will audit the content to ensure that it adheres to the accessibility requirements. Finally, in the weeks prior to the workshop, we will conduct a survey to identify the accessibility needs of the attendees for the in-person and remote participation. The results of this survey will enable the co-organizers to prepare for the day of the workshop.

During Workshop: The co-organizers will work with the CHI Accessibility Chairs to find appropriate solutions to the special needs of participants, whether attending the workshop in person or remotely.

Post-Workshop: The content generated during the workshop (talks, panel discussions, outcomes of interactive activities, etc.) will be collectively reviewed by the co-organizers, and it will be supplemented with additional information (subtitles, alt-text, etc.) to ensure a broader accessibility to the workshop proceedings.

8 POST-WORKSHOP PLAN

We will arrange a networking event immediately after the workshop to continue the discussion informally. During and following the workshop, accepted papers, videos, slides, discussion results, and outcomes (i.e., Miro board) will be published on the workshop

website. Following the workshop, we will propose a journal special issue or a book in the Springer Series on Human-Computer Interaction that draws on the workshop submissions and discussions. We will also consolidate and disseminate the result of the workshop in a conference, journal, or magazine article (such as the ACM Interactions), co-authored by all the attendees. In this way, we create a professional network and encourage participants to collaborate on future ideas, projects, or publications around the research agendas developed in the workshop. Furthermore, we will set up a repository to share and upload acquired research data amongst the attendees, and another one to facilitate collective analysis of this multi-modal data. Finally in order to actively engage the community built during the workshop, we will invite authors to reflect on their work on a bi-weekly follow up podcast/webcast/blog, where the organizers and authors engage in an ongoing discussion and reflection of the workshop. The interest shown in the previous iteration of the workshop as well as engagement with the community show the potential to form a SIG on Empathy-Centric Design in order to expand the community further.

9 CALL FOR PARTICIPATION

While HCI and design research acknowledged the importance of empathy in the design of user-centered technologies and services, there remain open questions about assessing empathy, its diversity, and related tensions. In EmpathiCH workshop 2nd edition, we will consolidate existing theories and conceptualization of empathy, coalesce them to form a comprehensive and coherent framework, scrutinize the seams, and examine the overarching attributes of Empathy-Centric Design. We will address themes and questions such as (but not limited to):

- *Assessment of empathy.* What *methods* and *measurement* tools can we rely on to assess empathy and their implications?
- *Diversity and richness of empathy.* How empathy could and should be modeled at different *levels*, e.g., through artificial neural networks?
- *Empathy tensions and abuses.* How can empathy be *mis-used*, e.g., the design of persuasive systems?

We aim to assemble multidisciplinary professional networks, including those in HCI, AI, social science, design, psychology, and health, from universities, companies, non-profit organizations, and government sectors, to exchange on these topics. This one-day interactive workshop will lead to the formulation of Empathy-Centric Design research agenda.

Submissions should include a 4-6 page manuscript (excluding references) using the ACM Master Article Submission Template (single column) [7] and submit it through Easychair[8] by **16th February 2023**. We will publish all accepted papers on the workshop website. Types of submissions possible:

- **Research Paper**: novel research on Empathy-Centric Design (i.e., empathy in HCI and related fields)
- **Case study**: research based on real-world experiences on Empathy-Centric Design topics
- **Provocation/Position Paper**: inspiring, controversial, provoking thoughts on Empathy-Centric Design
- **Work-in-progress**: a study, a research project in progress on Empathy-Centric Design topics
- **Demos**: prototypes and new technology concepts that will be tested during the workshop (including a description of what attendees will experience through the demos) related to Empathy-Centric Design topics
- **Pictorials**: visual components (e.g., diagrams, sketches, illustrations, renderings, photographs, annotated photographs, and collages) accompanying text to convey new ideas and contribute to Empathy-Centric Design

Submissions will be selected based on novelty, provocativeness, quality, and relevance to the workshop (i.e., related to Empathy-Centric Design topics and engaging discussion) through a rigorous, double-blind peer review process (three reviewers per submission, including at least one program committee member). After acceptance, we will ask the authors to prepare a final camera-ready version and a summary of changes (only minor revisions accepted) to be reviewed by the program committee before final acceptance (in the following week of acceptance). Authors will also be asked to prepare a 4-8 minute video summarizing their work, which we will publish on the EmpathiCH workshop website. One week before the workshop, we will ask the participants to familiarize themselves with the papers and the videos. Additionally, we will invite all authors to join a special Slack channel to facilitate informal communication. At least one author of each accepted paper must attend the workshop, and all participants must register for the workshop for at least one day of the conference. Please direct queries to **Luce Drouet (`luce.drouet@uni.lu`)** and **Wo Meijer (`w.i.m.t.meijer@tudelft.nl`)**. Further information is available on the workshop website.

[7] Submission Template: https://www.acm.org/publications/proceedings-template
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