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3rd Workshop on Designerly HRI: Articulating the Value of Design Research for HRI

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Abstract

The 3rd Workshop on Designerly Human-Robot Interaction (HRI) aims to bring together scholars and practitioners engaged in design-oriented research to articulate the value of design research within HRI broadly. We propose a half-day workshop to (1) collectively map the diversity of design research in HRI, examining how contributions are framed and how quality is evaluated; (2) discuss participants' HRI design projects, showcased in an exhibition setting; and (3) conclude with a focused conversation to identify common ground across diverse approaches and develop strategies for strengthening the position of design research in HRI and its connections with other HRI disciplinary communities.

CCS Concepts

• **Human-centered computing** → **Interaction design**; **HCI design and evaluation methods**.

Keywords

Human-Robot Interaction Design, Design Research, Designerly HRI

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1 Tradition of Designerly HRI

The ACM/IEEE International Conference on Human-Robot Interaction has shown a growing interest in progressing design within the field, including a separate full paper track. HRI research traditionally emphasizes the generalizability of theories and empirical

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results [4]. Contrastingly, HRI design-based research produces provisional, contingent, and situated work [2], through processes, such as research through design (RtD), outputs, such as rich artifacts, and theories, such as strong concepts [1, 3, 4]. Taken together, these various Designerly HRI perspectives highlight that design contributes to HRI not by offering broadly generalizable findings, but by articulating generative, contestable, and transferable concepts that enrich the field in distinctive ways.

In 2016, the first interest in developing designerly skills for HRI emerged, marked by a tutorial on design skills [7]. Since then, the area has been growing. More recently, the HRI Design Retreat[1] brought together an international group of design researchers, from which the idea for this workshop emerged. Previously, the *1st International Workshop on Research through Design Approaches in HRI* at the HRI conference [6] brought together researchers across HRI, HCI, and Design to classify RtD practices, surface methodological challenges, and set directions for integrating RtD into the HRI community. Building on these foundations, the *2nd International Workshop on Designerly HRI Knowledge* [5] invited participants to interactively engage with annotated portfolios of robotic artefacts, providing methodological recommendations for design-oriented HRI. Our proposed workshop is the 3rd edition of a crucial and continuous discussion about Design for HRI.

This workshop envisions adding to the ongoing development of designerly approaches in HRI. Specifically, we aim to discuss and acknowledge that what is an appropriate robot or interaction can not be understood as an isolated property but as something inherently relational, spanning aspects such as value, interaction, form, and the shaping and application of technology.

2 3rd Workshop: A Focus on Articulating the Value of Design Research for HRI

In this 3rd workshop, we emphasize *Articulating the Value of Design Research for HRI*. While HRI encompasses various communities that focus more on technology or social sciences, designerly approaches to HRI are diverse and perhaps not yet well understood. Therefore, the aim is to articulate the value of design research for HRI to support intersections with other disciplines.

This 3rd edition contributes to ongoing developments by discussing and articulating the value of design research for HRI within a community that is highly diverse in topics, approaches, and practices. For example, some work begins with materiality, form, and interaction as starting points for inspiring robotic technology, while other work takes a performative or value-driven approach, examining the role of robots in everyday practices or work settings. This also includes critical approaches where robots' socio-technical complexity and implications are at the center. This diversity is a strength, but it also calls for discussion: (1) to better understand what contributions of design for HRI entail, and on what merits they should be evaluated, and (2) to strengthen the position of design research within HRI and, hereby, also to foster stronger connections with other disciplinary communities in the field.

3 Workshop Overview

In this section, we provide an overview of the workshop activities.

Mapping Exercise: Prior to the workshop, participants will submit two items illustrating their HRI design research (more information below). Based on these submissions, the organizers will prepare themes and cluster researchers into subgroups based on these HRI design themes. In their subgroups, participants will engage in a collective mapping exercise, examining how HRI design research contributions are framed and how quality is evaluated. Participants will collaboratively place the evaluation criteria they proposed in advance onto a shared wall map, creating a shared "lens" that participants will bring to the next activity.

Exhibit: The exhibit will feature ~15 projects (submitted by participants). Subgroups will explore the exhibit together, selecting specific works to discuss how the works should be evaluated. The aim is not to judge the work, but to use it as a foundation for reflection and dialogue, refining the evaluation criteria previously discussed in the mapping exercise.

Strategy Identification: The last activity will be a discussion of participants' experiences with the works and evaluation criteria. Guiding questions include: What did the exhibit reveal about designerly HRI work? How does this connect to evaluation criteria developed earlier? How can we celebrate diversity and identify common ground? The workshop will conclude with a discussion of strategies for strengthening the position of HRI design research.

Submission Materials: Interested participants will be invited to submit two different submission items. First, all interested participants will submit a position paper (between 2 and 4 pages) describing a design research project or program they are currently working on, illustrating HRI design research. Participants will also be asked to reflect on three questions in the position paper: (1) how they position their work within the design research landscape, (2) how their work makes a designerly contribution to HRI, and (3) by which merits their work should be evaluated, phrased as suggested evaluation criteria. We will provide an ACM SIG format template for this first submission item. For the second submission item (optional), participants may submit a short description of a work to showcase in the exhibit (e.g., posters, media, artifacts; max 1 page). Submissions can be made following the general ACM SIG format ("sigconf", double column), or a pictorial submission (format available in InDesign, Word, or PowerPoint[2]). Other media, such as videos, can be submitted in addition to the 1 page submission item.

4 Organizers

This workshop is organized by design for HRI scholars:

Marco C. Rozendaal (m.c.rozendaal@tudelft.nl) is an associate professor of Interaction Design at the Faculty of Industrial Design Engineering, TU Delft. His research explores HRI with a focus on the experiential, relational, and situated aspects of interaction. **Mafalda Gamboa** (mafalda.gamboa@chalmers.se) is a PhD Student in Interaction Design at Chalmers University of Technology. Her research is focused on design theory, in particular research-through-design and first person methods. **Anastasia Kouvaras Ostrowski** (akostrow@purdue.edu) is an assistant professor at Purdue University. Her research explores how to support design and implementation processes of robots and AI, incorporating co-design and participatory design. **Maaike Bleeker**

[1] https://hridesignretreat.com

[2] https://humanrobotinteraction.org/2026/alt-hri/

(m.a.bleeker@uu.nl) is a professor of Performance, Science & Technology at Utrecht University. Her research investigates the performance of humans and technologies, and expertise from the theatre for developing HRI. **Nazli Cila** (N.Cila@tudelft.nl) is an assistant professor at Delft University of Technology. Her work focuses on designing ethical human–AI/robot interactions, and on design epistemologies and methodologies for robotics. **Patrícia Alves-Oliveira** (robopati@umich.edu) is an assistant professor of Robotics at the University of Michigan. Her research unifies the fields of Robotics, Design, and Psychology to create robots that are functional and aesthetically beautiful. **John Vines** (john.vines@ed.ac.uk) is Chair in Design Informatics at the University of Edinburgh. His research is at the intersection of participatory design, HCI and conducting research with groups typically at the margins of technology design decision making. **Hannah Pelikan** (hannah.pelikan@liu.se) is an assistant professor at Linköping University and a Pro Futura Scientia Fellow at the Swedish Collegium for Advanced Study. Her research oscillates between ethnomethodological studies of robots in the wild and interaction design grounded in video-recorded robot interactions. **Nikolas Martelaro** (nikmart@cmu.edu) is an assistant professor at Carnegie Mellon's Human-Computer Interaction Institute. His research seeks to augment designers' capabilities to best leverage human capacity and computation to solve society's toughest problems. **Samantha Reig** (sam_reig@uml.edu) is an assistant professor at the University of Massachusetts Lowell. Her research focuses on the agent and robot behavior design in socially complex settings. **David Sirkin** (sirkin@alum.mit.edu) is an interaction design researcher, lecturer, and consultant, recently serving as Executive Director at Stanford's Center for Design Research. His research focuses on physical interactions between humans and robotic objects, agents, and automated vehicles. **Selma Šabanović** (selmas@iu.edu) is a professor of Informatics at Indiana University Bloomington. Her research explores the influence of socio-cultural context on how people envision and perceive robots, incorporating participatory and co-design methods. **Maria Luce Lupetti** (maria.lupetti@polito.it) is an assistant professor in Design at the Department of Architecture and Design at Politecnico di Torino. Her research is concerned with all matters of human entanglement with the artificial world, especially concerning complex technologies such as AI and robotics. **Cristina Zaga** (c.zaga@utwente.nl) is an assistant professor of the Human-Centred Design group and DesignLab at the University of Twente. She is currently working on Design for Resistance approaches to contest and re-imagine the future of work and care with robots and AI.

5 Target Audience & Recruitment

This workshop's target audience is people interested in design for HRI and/or those actively participating in design for HRI. We will also invite participants from previous Designerly HRI workshops who have already expressed interest and engagement with these topics, continuing to support and grow the HRI Design community. We plan to bring together researchers and practitioners who engage with Design for HRI from multiple backgrounds and perspectives. We will invite participants whose work spans a variety of approaches in design: *material-driven* (embodiment, form, etc.); *theory-driven* (conceptual frameworks, analytical lenses, and philosophy-inspired perspectives); *experience-driven* (perceptions, meanings, and affective aspects of design); *methodology-driven* (participatory, interventionist, and performative approaches); and *value-driven* (critical and speculative works, value-sensitive design).

Our goal is to curate a program for ~20-50 workshop participants from previous Designerly HRI workshops and the HRI Design community broadly. We aim to support scholars interested in HRI Design in further scoping and understanding the value of design research for HRI. We will advertise our workshop through community mailing lists, professional networks, and a workshop website.

6 Requirements

As this workshop involves community discussions and interactive activities, it requires a presenter, whiteboards or post-it easels (for interactive activities, if possible), and room organization of round tables to support small group discussions and an exhibit.

7 Plan for Documenting

We will create a website, "designerly-HRI.org", that will serve as both a communication hub and a means to build excitement ahead of the workshop. It will allow participants to submit their workshop materials, present participants' contributions, and document the workshop process and outcomes. After the event, it will remain as a repository for sharing contributions. The workshop will be documented through three dedicated documenters, capturing photos, short videos, observations, and interviews, which will be developed into eMagazine content for the website. After the workshop, the website will support wider dissemination and community building. It will be connected to prior work on designerly approaches to HRI and shared across our networks.

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