

# Understanding, Promoting, and Designing for Sustainable Appropriation of Technologies by Grassroots Communities. Towards a new wave of technological activism

Sustainable Appropriation of Technologies by Grassroots Communities

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## ABSTRACT

Technological development and adoption are characterized by historical waves, reflecting both technical advancements and social transformations in mutually constitutive relation. Today, we are in the middle of another of these waves characterized, for instance, by the widespread focus on AI and other emerging technologies. In this context, activists and designers are constructively appropriating these emerging technologies, thus showing how socio-technical aspects of technological design, development, and implementation, contribute to ongoing transformations of power relations, life conditions, and our collective future.

This workshop aims at bringing together C&T researchers and practitioners interested in understanding, promoting, and designing forms of sustainable appropriation of contemporary technologies by grassroots communities. With sustainable appropriation, we refer to a wider concept of sustainability including ecological and social aspects, as presented for example in the UN Sustainable Development Goals.

## CCS CONCEPTS

• : **Human-centered computing** → Participatory design.

## KEYWORDS

Grassroots, Appropriation, Emerging Technologies, Sustainability

### ACM Reference Format:

Maurizio Teli, Myriam Lewkowicz, Chiara Rossitto, and Susanne Bødker. 2021. Understanding, Promoting, and Designing for Sustainable Appropriation of Technologies by Grassroots Communities. Towards a new wave of technological activism: Sustainable Appropriation of Technologies by

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C&T '21, June 20–25, 2021, Seattle, WA, USA

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ACM ISBN 978-1-4503-9056-9/21/06.

<https://doi.org/10.1145/3461564.3468163>

Grassroots Communities. In *C&T '21: Proceedings of the 10th International Conference on Communities & Technologies - Wicked Problems in the Age of Tech (C&T '21), June 20–25, 2021, Seattle, WA, USA*. ACM, New York, NY, USA, 4 pages. <https://doi.org/10.1145/3461564.3468163>

## 1 THEME

This workshop builds upon work that has been conducted in the framework of a European network funded by the European Commission and the COST association (“From Sharing to Caring”, <http://sharingandcaring.eu/about-sharing-and-caring..> In this network, researchers and practitioners coming from 37 countries have engaged in understanding platforms and infrastructures upon which the collaborative economy is built, and suggested ways that platforms may be better designed and utilized. In this workshop, we seek to expand the network of relations in and beyond European cases.

This workshop is interested in the “development of digitally-mediated technologies that value social cooperation as a common good rather than as a source of revenue and accumulation” [3.]. Therefore, it focuses on grassroots initiatives and local communities wishing to contribute to the ongoing critique of platform capitalism and its sharing economy narrative, questioning the commodification of collaboration [1.], and engaging in building platforms for a caring economy that values cooperation as an emancipatory practice [4.]. This workshop focuses on the *sustainable* appropriation of emerging technologies by grassroots communities. Indeed, following arguments developed in relation to interaction design research and environmental sustainability [16.], we argue that the works discussing the relation between design researchers and grassroots communities can be expanded and rethought in the light of the crisis of sustainability humankind is going through. Here sustainability is intended as encompassing not only the ecological aspects of life but all the dimensions, as social, economic, and political, that traverse what the United Nations have called “Sustainable Development Goals” [15.].

Although most available technologies are not explicitly oriented to grassroots communities, the last decade has been characterized by a low intensity but constant conversation on grassroots technologies. For example, at the European level, both specific lines of

funding – as the (unfortunately exhausted) “Collective Awareness Platforms for Sustainability and Social Innovation (CAPSSI)” [23.] – and initiatives like the COST Action “From Sharing to Caring” [2.] have focused on forms of socio-technical innovation based on collaborative practices and solidarity. Indeed, in some recent work, a systematic analysis of existing platforms has been conducted showing that grassroots initiatives need better support for collectivity when they work to design their technological platform [8.]. While some features of existing platforms support aspects of collectivity implicitly (such as building trust and enabling participation), the ‘social’ aspect of the participation is often not directly enhanced by the design. When grassroots initiatives attempt to scale beyond the level of a very basic technological platform, the pre-existing trust and social capital benefiting from their local focus might not be sufficient. In addition, if one wants caring communities to become an alternative to classical models of consumerism, driven by more altruistic and community-driven motives rather than profit-oriented ones, supporting collectivity should be a central premise when thinking of emerging technologies to support them. Indeed, this is something that is still lacking in current implementations, at least from a design perspective—or sometimes even explicitly hindered, as the example of Mechanical Turkers starting their own platforms to self-organize illustrates [25.].

At the same time, there are more and more academic contributions focusing on how technologies can be designed with grassroots communities and on the reflexive positions of the design researchers, opening the conversations to novel questions or empirical contexts, aligning with the needs and desires of society.

For example, a few contributions have shown how technologies have been designed and/or appropriated by grassroots initiatives interested in food. If work done with a group buying organic food has highlighted the usefulness of analytical lenses like the distinction between strategies and tactics or the concept of artifact ecologies [6., 7.], other work conducted with activists trying to reduce food waste has connected the appropriation of technologies by activists to social values like collective care and commons [5.]. The conversation on food reflects some of the key axes along which the discussion on technologies with and for grassroots communities has developed, namely: starting with problems that matter to people, like the aforementioned food or the transformations in employment [12., 13., 21.] and welfare provisions [3., 9.]; acknowledging grassroots communities’ perspective on commons and care as theoretically relevant for design research [17., 20., 22.]; discussing designers and people’s actions through the same language, e.g. the one of strategies and tactics, refusing to attribute a privileged position to the design researchers [19.]; and, considering the collaboration between the design researchers and the grassroots communities in relation to existing institutions and institutional constraints [10., 11., 18., 24.].

The aforementioned contributions have had the merit of advancing understandings of the relationship between grassroots communities and digital technologies, but we think their conceptual focus can be expanded, technologically and socially.

Technologically, the focus of the previous contributions has mainly been on digital platforms or web-based technologies. Recent events in society suggest that there is a need and space to expand the technological focus of the relation between grassroots

communities and design research on digital technologies. For example, a controversial technology like face recognition has started to be reappropriated by social movements to identify police officers involved in critical situations like the beating and killing that has been at the center of phenomena like Black Lives Matter [14.]. Therefore, in this workshop we point to the importance of looking into the appropriation by social movements of technologies beyond digital platforms, mobile apps, and web-based solutions, to refer to what we call, generically, emerging technologies.

Socially, issues like fighting racism, promoting feminism, or combating climate change have emerged as key points of attention for social movements all around the world, siding the material aspects of food, work, and welfare mentioned before. The grassroots initiatives engaging with these issues, and the social movements emerging, have been advancing radical requests, e.g. defund the police, that are based on questioning the ecological and social sustainability of the dominant ways of collectively organizing life. Therefore, in this workshop we look at these social movements as bringing new ways of looking at the relations between communities and the world, relations with which designers can be entangled [22., 24.] and relations in which the design, development, and use of technologies are important elements.

This workshop welcomes contributions enlightening how we, as technology design researchers and activists can understand, promote, and design for such sustainable appropriation, at a descriptive, technical or conceptual level:

- Empirical cases illustrating the appropriation of existing digital technologies by grassroots initiatives’. Contributions might outline the role of existing technologies in infrastructuring such initiatives and their limitations in organizing action;
- Technical descriptions of grassroots-oriented technologies and/or of the artifact ecologies that grassroots initiatives might adopt;
- Conceptual contributions illustrating or expanding concepts, values, tactics and other socio-cultural aspects that are central to the appropriation of technologies by community initiatives. e.g. commoning, caring;

We welcome conceptual, methodological, and empirical contributions discussing sustainable appropriation of technology by grassroots initiatives in different forms: position papers, pictorials, manifestos, design portfolios, and design fictions.

In particular, we encourage potential participants to discuss their interest in the workshop theme, submitting contributions regarding next steps of working on a topic related to the theme. The following, non-exhaustive, list provides an overview of potential topics of interest:

- The position of design researchers in relation to grassroots communities, e.g. problematizing the idea of expert/diffuse design, overcome by the bottom-up engagement with emerging technologies; that includes the relations between grassroots initiatives, design researchers, and existing or new institutions;
- The exploration of (alternative) research outcomes that make results relevant to communities and other non-academic audiences.

- The relation between grassroots initiatives, digital technologies, and aspects of scaling or meshing, grassroots initiatives.

## 2 GOALS AND ACTIVITIES

The workshop aims at mapping existing research and at sharing research directions, to identify directions to build a composite research agenda that is meaningful for academics, activists, practitioners, and representatives of the public sector.

The workshop is planned as an online event spread along two half-days, including both plenary sessions and group activities. The timing of the group activities will be scheduled in order to accommodate the participation of people living in different time zones.

More specifically, the planned activities include:

- Day 1, first plenary:
  - Introduction to the workshop;
  - Presentation of the submitted contributions;
  - Collective discussion to build up a preliminary online board (e.g. with Miro, Mural, etc. . .);
  - Group formation on the basis of the themes emerged in the collective discussion;
  - Group activities:
  - Mapping the cases presented by all the participants to the theme the group is working on;
  - Identify exiting or potential connections and relations between the cases;
- Day 2, second plenary:
  - Report of the group activities;
  - Synthesis on the online boards;
  - Collective identification of dimensions for future interactions among the workshop participants;
  - Conclusion.

The activities will be adapted depending on the participants, the materials they sent and the time zones of the participants.

### 2.1 POST-WORKSHOP PLANS

The workshop goal is to build community and collaboration among participants, and we will discuss possible next steps to further work together. These could include the organization of future events, writing a piece for ACM Interactions, or maybe collaborating on co-authored articles. The workshop intends to facilitate participants' initiatives and, as such, we remain open to different outputs that align with participants' needs and interests.

### 2.2 EQUIPMENT NEEDS

The workshop has no particular need in terms of equipment. We plan to host the workshop over Zoom, or a similar platform in line with workshop chairs' recommendations. We will also use tools, such as Padlet, GoogleDocs, and Miro to encourage collective note-taking and the creation of other working materials.

## 3 ORGANISERS

*Maurizio Teli* is Associate Professor of Techno-Anthropology and Participation at Aalborg University (Denmark). His interdisciplinary work focuses on the participatory design of digital technologies, commoning practices, and the relation between politically engaged design research and institutions.

*Myriam Lewkowicz* is Professor of Informatics at Troyes University of Technology (France), where she heads the pluridisciplinary research group Tech-CICO. Her interdisciplinary research involves defining digital technologies to support existing collective practices or to design new collective activities. She chairs the European Society for Socially Embedded Technologies (EUSSET).

*Chiara Rossitto* is Assistant Professor of HCI at Stockholm University (Sweden). Her research has problematized the role of technology in enabling people's involvement in socio-political debates, scaling and sustaining community-led, grassroots initiatives over time.

*Susanne Bødker* is Professor of Computer Science at Aarhus University (Denmark). She has been involved with interdisciplinary research in human-computer interaction, computer supported cooperative work and participatory design since the 1980s.

## 4 PARTICIPANTS RECRUITMENTS

This workshop is targeted at researchers, practitioners, members of the public sector and activists interested in issues of technology appropriation, especially in the context of grassroots initiatives. We plan to accept 20 participants at maximum.

Participants will be recruited from the PD, CSCW and CHI communities, and from the organizers' extended research networks. Detailed information about the workshop will be made available on a dedicated website which will be created should the proposal be accepted. We will reach out to international, interdisciplinary networks, such as the SharingAndCaring COST Action (<http://sharingandcaring.eu/>), EUSSET, and The Community of Sociotechnical Systems Researchers (<https://sociotech.net/>). We will circulate the call through relevant mailing lists and social media.

We see the virtual workshop as an opportunity to broaden participation, extending the invitation to researchers, practitioners, activists and representatives of the public sectors based across countries and continents. This will be essential to leverage diverse perspectives on sustainable technology appropriation by community-driven initiatives.

## 5 PUBLIC DESCRIPTION

Technological development and adoption are characterized by historical waves, reflecting both technical advancements and social transformations in mutually constitutive relations. Today, we are in the middle of another of these waves, like in the case of the widespread focus on AI and other emerging technologies. In this context, activists and designers are constructively appropriating such emerging technologies, showing in the process how the various socio-technical aspects of technological design, development, and implementation, participate in the transformation of power relations, life conditions, and our collective future.

This interactive workshop aims at bringing together C&T researchers and practitioners interested in understanding, promoting,

and designing forms of sustainable appropriation of contemporary technologies by grassroots communities. With sustainable appropriation, we refer to a wider concept of sustainability including ecological and social aspects, as presented for example in the UN Sustainable Development Goals.

We welcome theoretical, methodological, and empirical design contributions that discuss sustainable appropriation of technology by grassroots initiatives in different forms, e.g., position papers, pictorials, manifestos, design portfolios, and design fictions.

We encourage potential participants to discuss their interest in the workshop themes, welcoming reports of (preliminary) empirical results, theoretically oriented pieces, or short statements regarding next steps of working on the topic.

Link to the workshop website.

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