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Veröffentlichungsversion / Published Version

Zeitschriftenartikel / journal article

Empfohlene Zitierung / Suggested Citation:

Göbel, C., Benyei, P., Berti Suman, A., & Riemenschneider, D. (2023). Meeting report: "ECSA: Citizen Science for planetary health" ; Conference, 2022, Berlin, DE (hybrid). *TATuP - Zeitschrift für Technikfolgenabschätzung in Theorie und Praxis / Journal for Technology Assessment in Theory and Practice*, 32(1), 74-75. <https://doi.org/10.14512/tatup.32.1.74>

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Meeting report: „ECSA: Citizen Science for planetary health“. Conference, 2022, Berlin, DE (hybrid)

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Citizen Science (CS) refers to public participation in scientific research. It is relevant to the field of technology assessment (TA) as object of TA, e.g. as part of emerging socio-technical systems or source of knowledge for policymaking, and as a potential participatory methodology for TA itself. The “Conference on Citizen Science and Planetary Health” was organized by the European Citizen Science Association (ECSA), an umbrella association dedicated to the advancement of CS in Europe. The concept of planetary health is based on the understanding that human health and society depend on natural systems and their sustainable stewardship. CS aims to contribute in this area by improving scientific literacy, public engagement, building bridges between science and civil society and increasing research transparency.

The conference brought together people and topics from a broad range of scientific disciplines, practice contexts and countries. Nevertheless, there is considerable thematic continuity in research and self-reflections by practitioners taking the shape of a ‘science of CS’. We first examine points of contention in such cross-cutting debates and then zoom into two topic areas: CS and public service provision in crises and agrifood CS.

Science of Citizen Science debates

A self-reflective field of research has emerged around CS (Vohland et al. 2021). It covers topics such as the analysis of participation, data quality and technical tools, ethics, education and learning as well as other impacts of CS. These issues con-

tinued to spark lively discussions at the conference as well as some controversy. Providing monetary incentives to participants is one such debated issue. Some highlight that doing CS often involves costs for volunteers, at the very least in terms of time, and should be compensated to make CS not only an option for the economically well-off. Other argue that volunteering is by definition a non-paid activity and financial rewards would lead to an economization of engagement. A study presented at the conference concluded that only 36% of Germans would *not* expect any economic reward for doing CS work (Khoi et al. 2018). Another subtle controversy emerged regarding evaluation methodologies, which are currently under development. New platforms for impact assessment often foresee researchers as evaluators – like in the case of the EU-project MICS, presented by James Sprinks from Earthwatch. By contrast, approaches of co-evaluation aim to (also) involve Citizen Scientists in such roles, e.g. the methodology presented by Barbara Kieslinger and colleagues from the EU-project “CoAct on Citizen Social Science”. A latent tension also persists between crowdsourcing and community science approaches. Current debates in this area concern the legitimacy of citizen-generated data (Peter Elias from Lagos, Nigeria, mentioned ‘data apartheid’ in their keynote) and knowledge hierarchies between co-researchers and professional scientists.

Finally, inclusiveness, diversity and empowerment have become a fixed part of the conversation about CS featuring as a transversal element in discussions and having several dedicated sessions. For instance, the ECSA working group on that topic area collected good practice in a pre-conference workshop and a popular session looked at “Challenges, Strategies and Impacts of Doing Citizen Science with Marginalised and Indigenous Communities”. However, the approach to these topics is still rather theoretical: Most conference participants are affiliated to research organizations and Citizen Scientists remain largely absent from such international events. Nevertheless, regarding participation of young researchers, small enterprises and internationals, more – and more diverse – viewpoints were present at this conference.

Citizen Science and public service provision in crises

The session “Rethinking public services provision: CS to support public and environmental health services” illustrated how grassroots initiatives can produce valuable data in response to crises. Such activities may aim to gather information on the spread of a virus and analyze it, or collect geo-located data on settlements affected by a flood event and try to predict future developments of the matter. By contributing data and time, people demonstrate that a certain topic matters to them. For the institutions in charge of providing public services under the pressure of a crisis, these practices could serve as possible models of public interventions informed by what people value and expect. Participants were invited to discuss the question “How can decentralized data flows coming from spontaneous CS initiatives help innovate the public sector, in particular in relation to public/environmental health services?”. One important find-

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ing was that there is not one common way to imagine such bottom-up interventions in crises. Rather, a layered understanding of the ‘collective’ is required to capture the diversity and complexity of grass-roots-driven initiatives. Participants also concluded that it is not enough to rely on collective efforts in situations of crisis alone, but inputs from the grassroots – for example in the form of providing data on a matter of concern – should be incorporated into regular problem-solving to provide inclusive, value-based and responsive services to people.

Agrifood Citizen Science

During past ECSA conferences, one could find references to projects using CS in the field of food and agriculture scattered amongst other environmentally focused project presentations. At ECSA 2022, this work has been consolidated through the establishment of a working group on ‘Agri-food CS’ and a session exclusively dedicated to presentations related to food and soils. Of interest in a TA context, with a growing push and investment in ‘smart agriculture’ and ‘digital farms’, CS is also starting to make its way into a field where participatory methods have traditionally been applied in a more low-tech, local, small-scale, long-term and one-to-one manner. The development of digital tools that can further engage stakeholders in the food chain in agricultural and food systems research comes, however, with a tension. Many have criticized the impact of this digital turn on agrarian justice. CS tools could easily be used in the pursuit of technological acceptance of agricultural innovations, such as the very controversial genetic modification and sequencing methods. This was highlighted in the presentation on ‘Using citizen science to explore plant breeding and investigate food-chain transparency for novel breeding methods’ presented by Gulbanu Kaptan and colleagues. Thus, the creation of the working group that adopts a rather critical take on these matters might spark further debate about the direction of this emergent area of CS.

State of the field and challenges ahead

The conference left the impression that the field has matured, with a basic consensus on the foundations of CS established, and keeps expanding as provider of a versatile approach to public engagement with research. A growing number of CS platforms, networks and training materials exist and funding streams are created nationally, in the European Union, and globally. However, the community has also moved beyond pure extension to considering some of the sticky questions concerning public engagement and research alike: Impact, evaluation and development of digital infrastructures were topics across many talks and sessions.

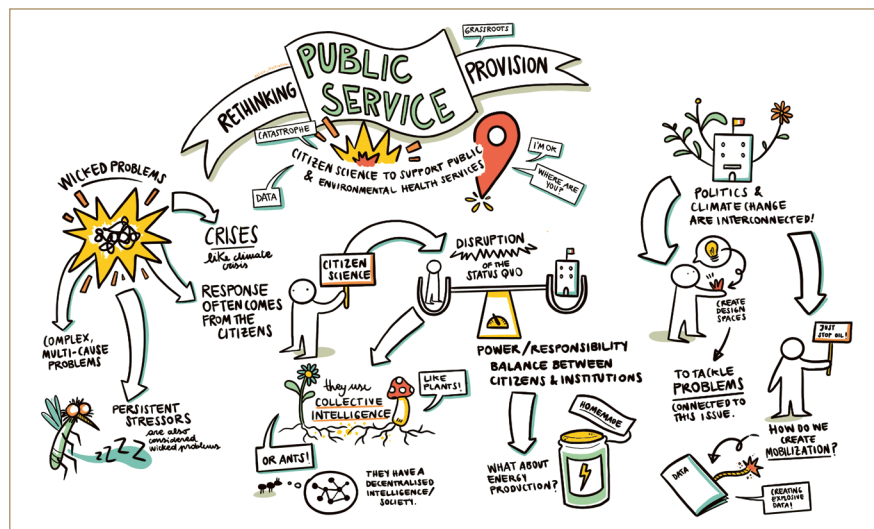


Fig. 1: Graphic recording of the session.

Source: Alice Toietta, SensJus project

Beyond these examples, the frequency and perhaps radicalness of issues raised by the conference has slowed down compared to earlier years. Nevertheless, as the examples have shown, new issues do surface and established discussions may take new directions.

What are the challenges ahead? Among many, we pick three:

1. Balancing the benefit of project presentations for giving an overview of the field with stronger reflexive contributions from the science of CS – also in cooperation with TA and Science and Technology Studies.
2. Reviewing the agenda under which the community of practice convenes: Since CS is maturing and becoming more diverse, it is questionable if rapidly changing policy agendas (from pen science, over sustainability to health) can continue to provide meaningful opportunities for integrating and advancing CS as a field.
3. Addressing more complex questions, for instance, legal and health risks for people performing CS, the rise of conspiracy narratives and fake news, changing relations of trust in science and polarization of public debates.

References

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Further information

<https://www.ecsa.ngo/working-groups/agri-food/>