PROCEEDINGS OF SCIENCE

ver.suchen - ver.einen - ver.antworten

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This editorial gives a brief overview of the many contributions published in the Proceedings of the Austrian Citizen Science Conference 2023.

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1. Introduction

Under the motto "ver.suchen - ver.einen - ver.antworten" (try - unite - be accountable), the 2023 Austrian Citizen Science Conference (OECSK 2023) took place at the Johannes Kepler University in Linz between April 19 - 21, 2023. The OECSK 2023 was organised by the Citizen Science Network Austria in close cooperation with Johannes Kepler University Linz, Ars Electronica and the Ludwig Boltzmann Gesellschaft. During times of large-scale social, ecological, and digital change, in many ways we - as a society - are being called upon to not only respond to these new circumstances and find solutions through alternative approaches, but also exercise a formative role when it comes to shaping these processes. There is a high degree of responsibility and science and education play a key role. These complex change processes not only require a part-nership between different academic/scientific disciplines and fields of education, but also - and above all - building bridges between science, society, the artistic community, economy, and the government.

The annual Austrian Citizen Science Conference focuses on the collaboration between science and society, thereby encouraging interaction between scholars, researchers, citi-zens, and professionals in Austria, Germany, and Switzerland. Supported by the Citizen Science Network Austria and the related online platform Österreich forscht, the confer-ence has served as a venue to not only engage in exchange beyond one's own discipline and discuss new research formats and methods, but also explore findings about - and arising from - collaboration efforts between science, academia, and the public.

In this editorial, we aim to give an overview of the submissions to the proceedings of the conference by structuring them along the three topics ver.suchen, ver.einen and ver.antworten.

2.versuchen/try

Submissions in this category focused on new, innovative forms of citizen science that are clearly different from existing citizen science projects. Concrete projects and their results were submitted, but also new, radical concepts and ideas that have not yet been put into practice. Sub-aspects of citizen science, such as new communication formats or projects in research areas not previously dealt with by citizen science, were also submitted in this category.

In natural sciences, Westreicher et al. present results from five years of collecting climate data on a remote small glacier in Tyrol by pupils. Auinger et al. describe the project “expedition.nationalpark”, a three-day format which empowers local stakeholders to formulate their own needs and wishes, as well as concerns about their habitat in dialogue with scientists and students, and Klösch describes the aims and methods of the project “This is (not) Rocket Science” at the Technical Museum Vienna to include school chil-dren in space science and the development of exhibitions on this particular topic.

Citizen science in cities was intensively discussed at the conference. Brüggemann et al describe their approach to better integrate people with intellectual disabilities in a citizen science project in urban development. The vital role of knowledge infrastructures like libraries and

museums in urban planning research is highlighted by Peer in his contribu-tion, emphasizing the need to explore their potential and enhance their capacities within citizen science projects. Farag et al. ask “How do young people and their families per-ceive their multilingual environment in Neckarstadt-West?” and present results from various activities with school children to discover languages spoken in Neckarstadt.

Quite a new field in citizen science is psychology and psychotherapy. Stepniczka et al present the project “My Tune“, in which a music therapy assistive tool for young adults was developed in a participatory process. The “My Tune“ tool enables users to become aware of their experiences and progress and to identify favorable conditions as well as challenges in their therapy. Aignesberger and Greitemeyer describe first results and expe-riences from a citizen science project where citizen scientists collected situations in which moral disengagement strategies were used in their surroundings, either directly witnessed, or learned about through reports, in media, books, etc.

Another upcoming field in citizen science is IT and AI. Rottenhofer et al present the objectives and strategies of the project “Let IT dance”, which include reducing the gender gap in IT interest, drop-out, and performance, simplifying complex IT and programming concepts, integrating innovative teaching concepts, developing a learning analytics plat-form, and raising awareness about cybercrime. Meyer et al. present a participatory pro-cess which led to innovative approaches to foster a basic understanding and a realistic image of AI among the general public.

Not only new projects were presented, but also new methods and approaches. Segler and Gantenberg give insight in the format “Data sprint” in the social sciences - an intensive but very short research collaboration between citizens and scientists who jointly investi-gate a research topic during a two- to three-day research event. Bartar outlines strategies for integrating design thinking into citizen science projects, with the goal of promoting its utilization in future endeavors within the realm of citizen science and open science. Pich-ler et al. argument why the Storytelling Café is particularly well suited as a method for citizen science projects. Heinisch presents a concept for citizen science practitioners on how citizen science projects from the natural sciences, social sciences and humanities can contribute to the analysis and appreciation of biocultural diversity.

3.vereinen/unite

In the category ver.einen you can find submissions that address well known questions of citizen science, but nevertheless provide new insights into them. What works well in citizen science, what works less well? What are the recurrent challenges of working to-gether in a citizen science project? How can different disciplines learn from each other? How are partnerships, collaborations and communities built and maintained?

Dirr et al. present the citizen science project Ragweedfinder, where not only 5000 entries on ragweed populations were reported since 2017, but the project also became the official reporting tool to enforce a law on ragweed management in Burgenland. Morawetz et al. showed that 90%

of the beekeepers involved in their project on bee health had both prac-tical (improving bee health) and idealistic reasons such as supporting science to partici-pate. Another project in pollination research is shared by Karlebowski et al., where they share their lessons learned in urban gardens and show that there was a trade-off between a protocol designed to interfere as least as possible with the gardener's routine and the data's fit for purpose regarding the research question.

The analyses of answers by Lauss and Helm from 419 students between the age of 10 and 15 showed that the students' social background is not linked to the students' STEM and Art experiences. Rather, gender and age play a significant role in predicting experiences with STEM and Art. Also, Rittenschober et al. take a look into the perspective of citizens and compare the quality of analysis tasks from citizen scientists and experts in a project on the platform Zooniverse and show that the complexity of the task and protocol had a moderate influence on the quality of the contributions by citizen scientists.

4.ver.antworten/be accountable

The ver.antworten category specifically addressed submissions that dealt with the frame-work conditions for citizen science and the consequences of citizen science. The focus was on structures in institutions that promote or hinder citizen science, as well as on ethical and legal issues related to citizen science that may arise during or after a project. Submissions on the impact of results from citizen science projects on political or social decisions were also welcome. A meta-perspective on the production of new knowledge was taken as well, and the question of democratic processes in knowledge production and science policy was also raised.

Hempel et al. present the 17 criteria for transformative citizen science developed for the Hans Sauer foundation. Bessert-Nettelbeck et al. detail the discussion from a workshop they organized at the OECSK, which aimed to co-create an award for excellence in citizen science while addressing the complexities of defining such excellence. Last but not least, Heinisch presents her reflections on the promises and fears associated with citizen sci-ence in academia.

5.Conclusion

In conclusion, it's truly inspiring to witness the remarkable diversity within the citizen science community and the evolution of projects over recent years. The exceptional quali-ty of the contributions underscores the critical role of self-reflection and interdisciplinary collaboration. We are therefore already looking forward to the next Austrian Citizen Science Conference, which will be held together with the European Citizen Science Con-ference in Vienna in April 2024.