Item number	Title/reference *(academic style) name initials (year) title, publisher, volume, pages*	Name of reviewer
11	Serbe-Kamp, É., Bemme, J., Pollak, D. and Mayer, K., 2023. Open Citizen Science: fostering open knowledge with participation. Research Ideas and Outcomes, 9, p.e96476.	Tobias Elies, BUPNET

Review of findings / main outcome

This paper explores the concept of open citizen science and its potential for fostering open knowledge through participation. The authors argue that open citizen science has the potential to democratize scientific research and promote open knowledge sharing, but that there are also challenges that need to be addressed in order to realize its potential.

The article begins by defining open citizen science as a form of scientific research that is open to public participation and aims to produce open knowledge that can be freely accessed and shared. The authors argue that open citizen science has the potential to increase scientific literacy and engagement, as well as to promote greater transparency and accountability in scientific research.

The authors then explore the potential benefits of open citizen science for fostering open knowledge. They argue that open citizen science can help to bridge the gap between science and society by engaging citizens in scientific research and increasing understanding of scientific concepts. Open citizen science can also promote open knowledge sharing, as data and results are made freely available for anyone to access and use.

However, the authors also highlight several challenges that need to be addressed in order to realize the potential of open citizen science for fostering open knowledge. One key challenge is ensuring the quality of data collected through open citizen science projects. The authors argue that while open citizen science can provide a valuable source of data, it is important to ensure that the data collected is accurate and reliable. This can be achieved through careful design of open citizen science projects, including providing training and support for participants and using appropriate tools and methods to collect and analyze data.

Another challenge is ensuring that open citizen science projects are accessible and inclusive, and that they engage a diverse range of participants. The authors argue that open citizen science projects should be designed with the needs and interests of potential participants in mind, and should aim to engage individuals from a range of backgrounds and with a range of abilities. This can be achieved through effective communication and outreach, and by providing opportunities for individuals to participate in a variety of ways, including through online platforms.

The authors also highlight the importance of open access to data and results generated through open citizen science projects. They argue that open access to data and results is essential for promoting open knowledge sharing and democratizing scientific research. This can be achieved through open access publishing and the use of open data repositories.

Overall, the article provides a comprehensive overview of the concept of open citizen science and its potential for fostering open knowledge through participation. The authors highlight the important role that open citizen science can play in promoting scientific literacy, increasing engagement with science, and promoting open knowledge sharing. They also emphasize the need to address key challenges in order to realize the potential of open citizen science, including ensuring the quality of data collected, promoting accessibility and inclusivity, and ensuring open access to data and results. The article is well-

researched and provides important insights into a topic that is of growing interest to scientists, educators, and the wider public.

Quotes / very useful statements

"*Citizen Science is an expression of a modern understanding of science that enables social engagement through participatory methods*" (Bonn et al. 2016).

"Participatory action research (PAR) is a process by which members of a community, and optionally professional scientists, engage in the scientific process to solve a local, place-based problem" (Caraballo et al. 2017).

"Wynne 2007 reminds us that power dynamics frame the normative shaping of public engagement. Who can participate and under what conditions depends on how formalised participation procedures are set up."

*"**The term citizen is somewhat misleading** and has been debated for a while (Eitzel et al. 2017). Practitioners engaging in this type of participatory science neither have to be legally recognised subjects or nationals of states nor inhabitants of particular places. **The term citizen refers more to the responsibility of science to democratic society**, citizens being members of such societies (Irwin 1995), as well as points to the opportunity of empowerment of societies by inclusive knowledge production."*