**Science by, with, or for citizens? Reframing “citizen science” through radiation monitoring in post-Fukushima Japan**

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*Abstract*

In the aftermath of the 2011 Fukushima Daiichi nuclear disaster, citizen scientists (e.g. Safecast; Citizens’ Radioactivity Monitoring Project) began monitoring radioactivity in affected areas and openly shared information on environmental radiation and risks. In these processes, they generated their own participatory, open-source data, do-it-yourself measurement devices, and radiation maps, with the aim of empowering publics with reliable, actionable data about their environments. This paper takes these observations as its entry point to explore how radiation monitoring by citizen scientists has emerged as a public issue in and beyond Japan, and how citizen-initiated monitoring reframes the relationship between science and society. Drawing on a conceptual distinction made in Japan between *science by citizens* and *science for citizens,* it argues that these citizen-science initiatives are best understood as expressions of *scientific citizenship* rather than as forms of *public participation in scientific research*. Whereas the latter form employs citizens as “sensors” or information providers, the former engages citizens in the definition of problems, data collection, and analysis; thereby foregrounding the necessity of opening up science and science policy processes to the public (Irwin 1995). The paper argues the need for policy makers and scientists of meeting this demand for a more participatory, open science by connecting with citizen scientists in radiation monitoring. This, it is argued, would significantly broaden the types of knowledge, issues and considerations that presently inform radiation protection decision making to the mutual benefit of science and society.

*Keywords:* Citizen Science, Citizenship, Fukushima, Monitoring, Radiation Protection.

*References*

Irwin, A. (1995). Citizen Science: A Study of People, Expertise and Sustainable Development. Routledge.