Engineering and Innovation Research Studentship 2024/2025

Project title:	Design Anthropology and Speculative Prototyping of Environmental Sensing
Discipline	Design
Key words:	Design Anthropology; Science and Technology Studies; Citizen Science; Environmental Sensing
Supervisory team:	Christian Nold, Rachael Luck
URL for lead supervisor's OU profile	https://www.open.ac.uk/people/cn4844

Project Highlights:
* Developing design methods and practices;
* Prototyping of new forms of environmental sensing and citizen science;
* Exploring the socio-technical empowerment of communities.

Overview:
There has been a growth in citizen science and environmental sensing that involve the public in gathering data about their environment [1]. This involves people using smartphones and sensors to tag animals and plants and measure noise, radiation, air pollution and energy usage. These novel public practices raise questions around community formation, data quality, understandings of science, human and nonhuman sensation, political agency and are relevant to investigations of the disruptive potential of design.

The proposed research project is inspired by ideas from Science and Technology Studies (STS) and will apply and develop design methods and practices [2], including design anthropology and citizen science approaches [3] to observe and interrogate the practices of environmental sensing in design research.
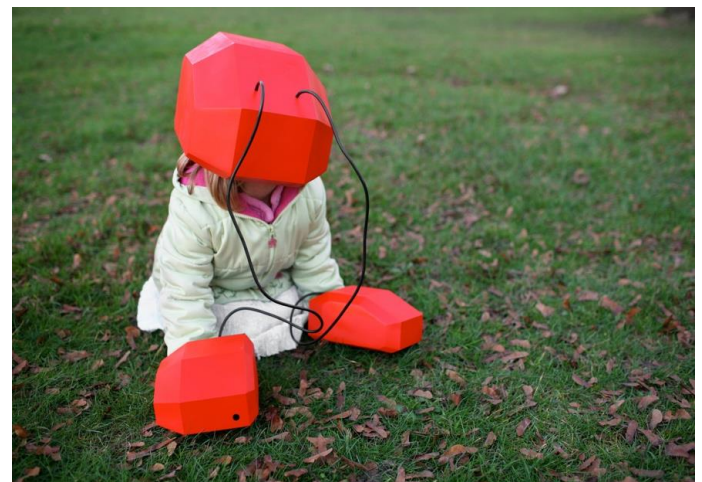

Figure 1. Animal Superpowers: Ant and Giraffe by Chris Woebken and Kenichi Okada (2008)

Methodology:
The research will adopt a case study approach that will involve ethnographic observation of environmental sensing practices. This will be followed by speculative design interventions [4] that explore new ways of doing environmental sensing with the public. This will involve participatory prototyping and real-world testing of these designs to evaluate the potential and challenges of these designs.

References & Further reading:

1. DiSalvo, C., Louw, M., Coupland, J., & Steiner, M. (2009). Local Issues, Local Uses: Tools for Robotics and Sensing in Community Contexts. *Proceedings of the Seventh ACM Conference on Creativity and Cognition*, 245–254.

2. Luck, R. (2012). "Doing designing": On the practical analysis of design in practice. *Design Studies*, *33*(6), 521–529. https://doi.org/10.1016/j.destud.2012.11.002

3. Nold, C. (2018). Turning Controversies into Questions of Design: Prototyping Alternative Metrics for Heathrow Airport. In N. Marres, M. Guggenheim, & A. Wilkie (Eds.), *Inventing the Social* (pp. 94–124). Mattering Press. https://discovery.ucl.ac.uk/id/eprint/10082160/

4. Halse, J., & Boffi, L. (2014). Design Interventions as a Form of Inquiry. *The Design Anthropological Futures Conference, Copenhagen, Denmark*. https://doi.org/10.4324/9781003085188-8

5. Suchman, L. (2007). *Human-Machine Reconfigurations: Plans and Situated Actions*. Cambridge University Press.

Further details:

This research would suit someone with a passion to engage with environmental change. Ideally, they would have a background in design and/or social science and have some familiarity with discussions in Science and Technology Studies. They need to possess an aptitude for academic writing and collaborating with others. The student will need to travel to locations across the UK for data collection. The supervision team have practical experience of co-design and public experiments with communities as well as the analysis of these practices. To discuss the project please contact: christian.nold@open.ac.uk . Applications should include:

- A 1000 word cover letter outlining why the project is of interest to you and how your skills match those required
- an academic CV containing contact details of three academic references
- an Open University application form, downloadable from: http://www.open.ac.uk/postgraduate/research-degrees/how-to-apply/mphil-and-phd-application-process
- IELTS test scores where English is an additional language

Applications should be sent to STEM-EI-PhD@open.ac.uk by 16.02.2024