

- Agenda** |
- Local knowledge
1. Final poster reminder
 2. Expertise
 3. Citizen science
 4. Group discussions

Posters

- ⋮ Posters are due **Tuesday, Dec 5** at 23h59 on Teams
- ⋮ *Please do **not** include your name or ID number on the poster*
- ⋮ You will receive a link to the 'virtual' poster session and four peer-evaluation assignments
- ⋮ Peer evaluations are due **Friday, Dec 8** (worth 2.5% of your total course grade)

Evaluation criteria

- ⋮ Knowledge and presentation of the topic (20%)
- ⋮ Clarity and strength of argument (24%)
- ⋮ Engagement with course themes (24%)
- ⋮ Clarity of visual presentation (16%)
- ⋮ Appropriateness of references (16%)

Expertise

Scientific knowledge is political

- ∴ State actors (policymakers, regulatory agencies, local governments) frequently **consult** with scientific experts.
- ∴ Governments **utilize** scientific language and findings to **justify** policies.

Legitimate expertise

- ∴ What makes someone an 'expert'?
Who has the 'correct' expertise on a subject?
- ∴ The ideas from this class should make it clear that there are **no straightforward answers** to these kinds of questions.

e.g. Haraway (1988), Callon (1984), Adams (2002), TallBear (2013), ...



Traditional (representative) democracy

- ∴ **People** (individuals & communities) are represented by elected officials.
- ∴ **Nature** (the non-human) is represented by scientists.

Deliberative (participatory) democracy

- ∴ Citizens (non-scientists and non-politicians) are directly involved in political decision-making.
- ∴ Laypeople assess the legitimacy and consequences scientific and technological options discursively.

“I am not arguing that an average citizen is able to design a nuclear reactor or a river dike, but I am arguing that more is involved in designing large projects such as nuclear power stations and water management systems than is described in the engineers’ handbooks” (Bijker 2001, pp 31-32)

Bijker, Wiebe E. 2001. “Understanding Technological Culture through a Constructivist View of Science, Technology, and Society.” In *Visions of STS: Counterpoints in Science, Technology, and Society Studies*, edited by Stephen H. Cutcliffe and Carl Mitcham. State University of New York Press. muse.jhu.edu/book/9022.

Citizen science

Citizen science is the “doing” of science by non-scientists (laypeople)

- ∴ *Citizen science is a very broad concept.*
- ∴ Public science, participatory science, civic epistemologies, crowdsourcing, ...

Classifying citizen science

- ∴ Technoscience is multifaceted, and laypeople can be involved in any aspect of it.
- ∴ Allen describes **4 “levels” of public participation in science.**

(from Irwin 2015 and Haklay 2013)



Level 1 Crowdsourcing and public data collection

The image displays a digital interface for a citizen science project. On the left, a scanned page from a handwritten ledger is visible, showing entries for 'Edward Bennett' and 'Colwood Canero'. The right side of the interface features a 'TASK' tab, a 'Date' input field, a 'NEED SOME HELP WITH THIS TASK?' link, and a yellow 'Next' button. A small notification at the bottom of the interface reads 'You should sign in!'.

TASK **TUTORIAL**

Date

NEED SOME HELP WITH THIS TASK?

Next →

You should sign in!

Level 2 Public arbitration of scientists' research

Danish 'consensus conferences'

- ⋮ Model originally conceived by the Danish Board of Technology
- ⋮ Panel of non-scientists arbitrates between diverse scientific research on a topic
- ⋮ "Public trial" of scientific findings



Levitt Center's 2019 consensus conference:
"Inventing Social Emergency Medicine"

Level 3 Participatory science

Public involvement in both the definition of the scientific *question* and the collection of *data and evidence*



Tracie Johnson demonstrating the drinking water from Potlotek First Nation in 2020



The #FilmYourHospital hashtag aimed to collect evidence that the COVID-19 pandemic is a hoax

Level 4 Strongly participatory science (SPS)

Incorporates lay expertise in *all aspects of research*.



Image credit



Elon Musk on YouTube via [Esquire](#)



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Screenshot via [Zooniverse](#)



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