

PARTICIPATORY RESEARCH: EXTENDING OPEN SCIENCE BEYOND THE IVORY TOWER

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18.03.2019, BERLIN, BARCAMP OPEN SCIENCE

I PARTICIPATORY RESEARCH

**II CHALLENGES &
CURRENT DEVELOPMENTS**

III OPEN PARTICIPATORY RESEARCH



PARTICIPATORY RESEARCH

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PARTICIPATORY RESEARCH

“the many ways in which members of the public have engaged and continue to engage in the production of scientific knowledge” (15)

- Strasser et al., 2018

- Science (&) policy discourses
- 5 epistemic practices

DISCOURSE LINK

Epistemic practices of participatory research are linked to science (and) policy discourses.

This involves umbrella terms (Rip & Voss, 2013) – topical terms or labels associated with scientific and societal promises, e.g.:

citizen science • community-based research • DIY science
participatory action research • transdisciplinary research
public engagement with science and technology
responsible research and innovation • open science



Sensing

Photo: C. Göbel

Computing

Data analysis

Computing Fast Fourier Transform
Doppler drift rate 2.0825 Hz/sec Resolution 49 Hz
Best Gaussian power 2.78 ft 0.592 sec 7.12



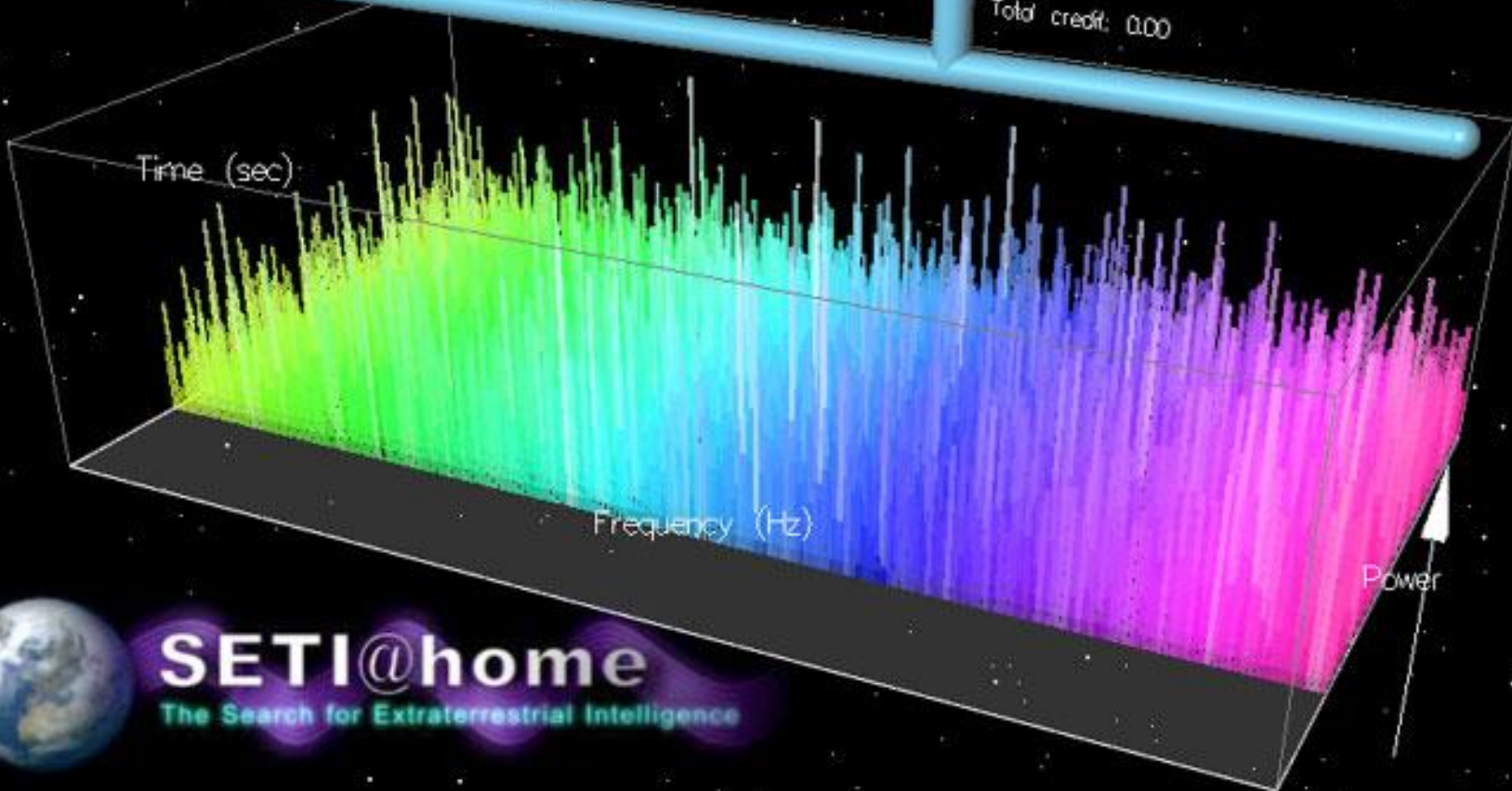
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Data info

From: 3 hr 6 58" RA, +27 deg 5' 13" Dec
Recorded on: Fri Jan 02 00:26:50 2004
Base frequency: 1.421064453 GHz

User info

Name: Echaray
Team:
Total credit: 0.00



SETI@home
The Search for Extraterrestrial Intelligence

Analysing





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2,800+ conditions

100+ published research studies

43+ million data points about disease

Self-reporting



Making

WHY IS PARTICIPATORY RESEARCH IMPORTANT?

“In many cases, participatory research projects question *who* can produce legitimate scientific knowledge, *how* it is produced, *where* it is produced, and sometimes *why* it is produced. Thus, participatory research is not necessarily just ‘science by other means’, but could refocus what parts of the natural and social worlds are subject to scientific inquiry, thereby transforming what we know about the world.”

- Strasser et al., 2018: 2



CHALLENGES & CURRENT DEVELOPMENTS

(1) OPENNESS & ICTS

- **FAIR data**

- International working group on CS data and metadata
- COST Action WG 5 data standardization & interoperability



- **Uncertainties about legal status, privacy, intellectual property and licensing**

- EU Project PANELFIT - Participatory Approaches to a New Ethical and Legal Framework for ICT
- BMBF project on genome editing



- **Credit diverse types of contributions (data, software, project platforms, etc.)**

(2) QUESTIONS OF POWER

- **Equitable cooperations**

- Soleri et al., 2016

- **Inclusiveness**

- Study „Science for all“ by KIT & WiD

- **Empowerment**

- Workshops with practitioners & researchers from Citizen Science & Community-based Research

Essays

Finding Pathways to More Equitable and Meaningful Public-Scientist Partnerships

Authors: Daniela Soleri , Jonathan W. Long, Mónica D. Ramirez-Andreotta, Rose Eitemiller, Rajul Pandya



Abstract

For many, citizen science is exciting because of the possibility for more diverse, equitable partnerships in scientific research with outcomes considered meaningful and useful by all, including public participants. This was the focus of a symposium we organized at the 2015 conference of the Citizen Science Association. Here we synthesize points made by symposium participants and our own reflections.

 Wissenschaft für alle



> **WG on Empowerment, Inclusiveness & Equity by ECSA & LKN**



OPEN PARTICIPATORY RESEARCH



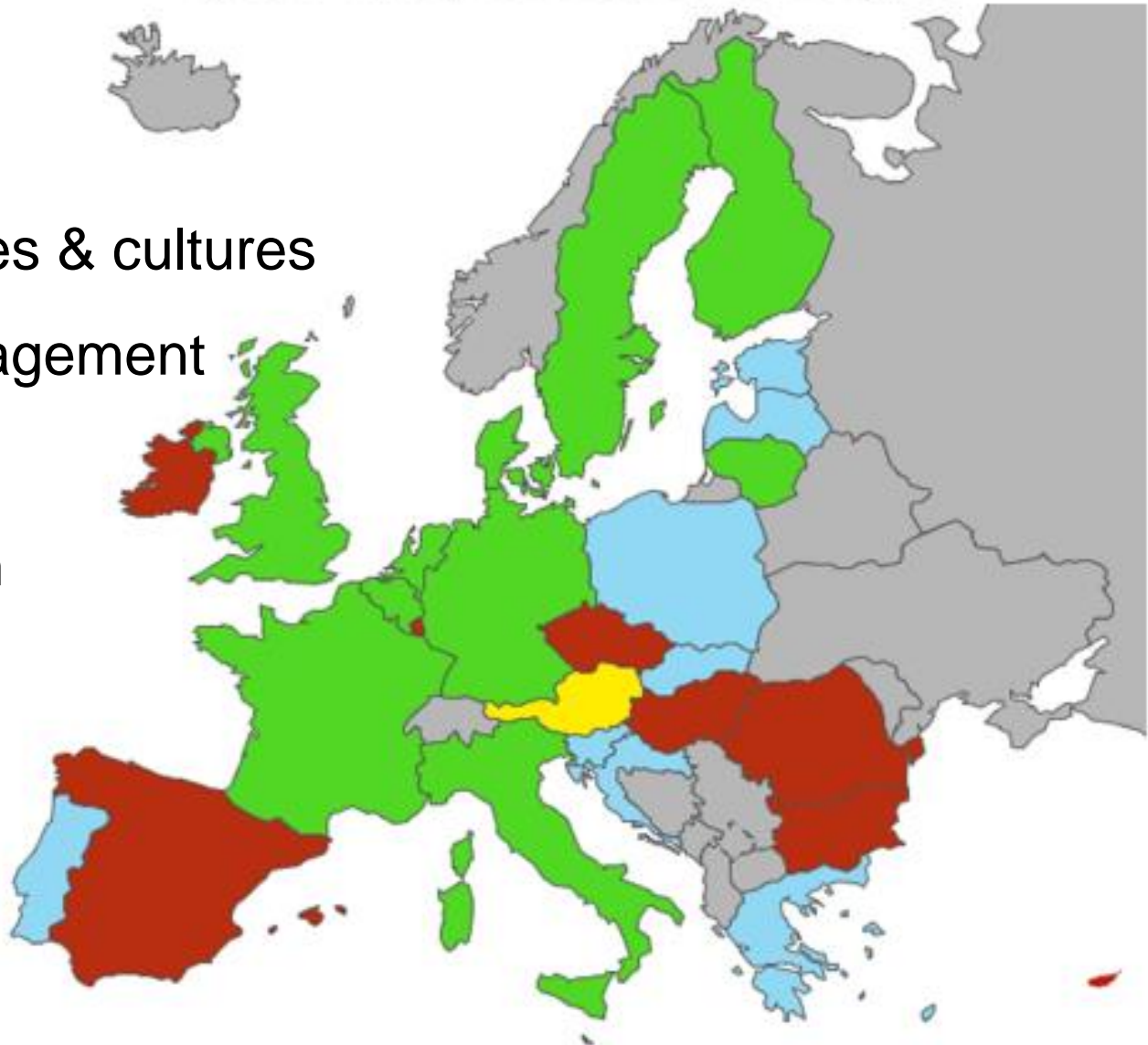
OPEN PARTICIPATORY RESEARCH

- Participatory research can profoundly transform how & what we know.
- It is only reluctantly addressed as element of Open Science.
Concepts are usually not specified; if yes, ideas are often too narrow.
 - >> Need for a pluralistic concept of participatory research.
- It matters how participation & research are conceptualised & done.
 - >> Important challenges: openness & ICTs, questions of power, infrastructures, institutionalisation of CS
- Addressing them needs transdisciplinary and transboundary efforts.

Figure 33 PE1 - Models of public involvement in S&T decision-making, 2012

Diversity of infrastructures & cultures

- Public engagement
- Research
- Civic action



Graphics from
MoRRI indicators report D4.3

Source: MASIS, 2012.

Key: Green: formalised/ high involvement; blue: formalised/ low involvement; yellow: not formalised/ high involvement; Red: not formalised/ low involvement.



THANK YOU!

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References

STRASSER, Bruno J. et al. "Citizen Science"? Rethinking Science and Public Participation. Submitted to: Science and Technology Studies, 2018. <https://archive-ouverte.unige.ch/unige:100156>

Orion Entomological Association Berlin: <https://www.orion-berlin.de/>

SETI@home project: <http://setiathome.ssl.berkeley.edu/>

Patients like me self-reporting project: <https://www.patientslikeme.com/>

Waag Open Wetlab: <https://waag.org/nl/labs/open-wetlab>

Rip, A., & Voß, J-P. (2013). Umbrella Terms as Mediators in the Governance of emerging Science and Technology. Science, technology and innovation studies, 9(2), 39-59.

International working group on CS data and metadata: <https://www.citizen-science.org/association/about/working-groups/data-and-metadata-working-group/>

COST Action on CS WG 5: <https://www.cs-eu.net/wgs/wg5>

EU Project PANELFIT: <https://www.researchgate.net/project/PANELFIT-H2020-EU-Project>

BMBF project on genome editing: https://kluth.jura.uni-halle.de/bmbf_genomeelection/

Soleri et al. paper on equity: <https://theoryandpractice.citizen-scienceassociation.org/articles/10.5334/cstp.46/>

Study „Science for all“ by KIT & WiD: <http://www.geistsoz.kit.edu/germanistik/2943.php>

Workshop „Empowering civil society through participatory investigation?": <https://ecsa.citizen-science.net/events/ecsa-events/empowering-civil-society-through-participatory-investigation>

Working Group on Empowerment, Inclusiveness & Equity by ECSA & LKN:

<https://ecsa.citizen-science.net/empowerment-inclusiveness-equity>

Networking and supporting grassroots citizen science initiatives by Lucy Patterson, DIYScience, How to get funding: <https://github.com/DIYScience/DIYScience/projects/4>

DITOs policy brief „Making Citizen Science work“ - forthcoming through: <http://togetherscience.eu/>

Moocs – see:

https://docs.google.com/document/d/1gpexMhbU6eUkLXol3jHbmrZrIXSnI8ee_rxGqi_oa8/edit?usp=sharing

New project for European Citizen Science platform: <http://eu-citizen.science/>

ECSA: <https://ecsa.citizen-science.net/>

French report on participatory research (English summary available): <http://www.sciences-participatives.com/Rapport>

MoRRI. (2018). The evolution of Responsible Research and Innovation in Europe: The MoRRI indicators report publication. D4.3. <http://www.technopolis-group.com/report/evolution-responsible-research-innovation-europe-morri-indicators-report-d4-3/>