Engaged and responsible universities shaping Europe

....Interacting with society, recognizing ist needs, influencing policies....

Including Citizens in Science and Research

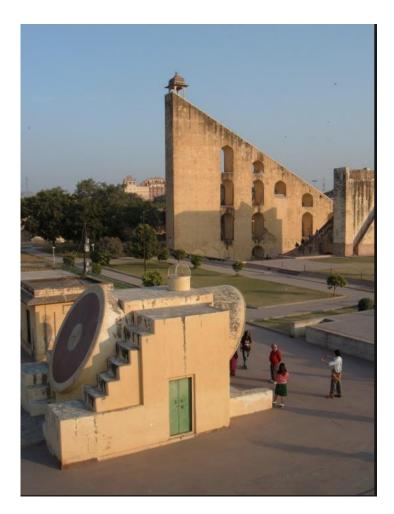Daniel Wyler University of Zurich

Enlarges scope of research in all fields of science

Enhances public education, understanding of science

Basis for long term policy decisions

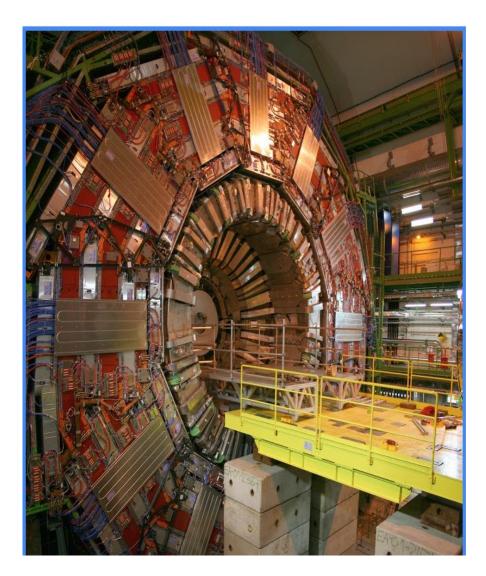Challenges: quality of science, legal, ethical issues

Early science was
citizen science
‚Gentlemans science‘

Jantar Mantar, Jaipur

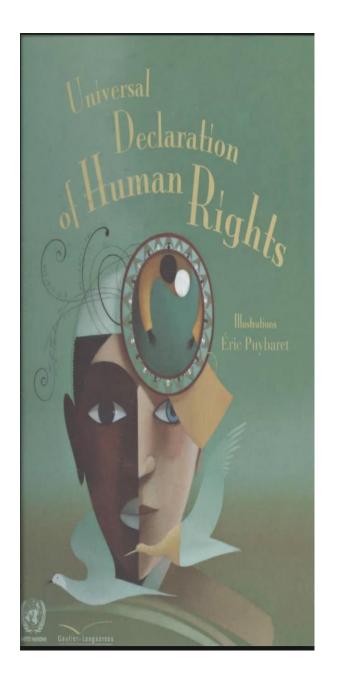By 1900 professionalization, laboratories,....

'The era of the amateur scientist is passing, science must now be advanced by the professional expert'
Popular Science March 1902, page 477

The gap between public
and professional science is
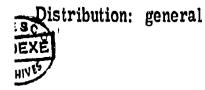filled with

„Public deficit model" (Wynne 1991)

Article 27: Right to participate in cultural life:

The right to share in scientific advancement and its benefits

Right to participate in the process of science?

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

PROGRAMME OF UNESCO FOR 1952

RESOLUTION 4.52

STUDY OF THE "RIGHT TO PARTICIPATE IN CULTURAL LIFE"

BASIC DOCUMENT

The first question of all to be considered, in relation to the present state of scientific knowledge, is: in what ways can the non-specialist take an active part in scientific advancement (experiments, observation of nature, sociological observation, etc.)? How may active participation of this sort profit the individual and science? How can it be encouraged and promoted?

Resurgence of citizens' participation

New fields of research become interesting and important

Scepticism against 'official' science

New technologies (IT, smartphone…)

University projects

Government projects

Activists projects, societies

Platforms, Do it Yourself kits

The German Amateurs Who Discovered 'Insect Armageddon'

https://www.nytimes.com/2017/12/04/world/europe/krefeld-germany-insect-armageddon.html

Hanny's Voorwerp (grünlich) und IC 2497 (Spiralgalaxie). Das Bild wurde von der WFC3 des HST aufgenommen.

Comments

Citizen Science is an element of open science

Citizen Science enlarges scope of research in all fields of science

Enhances public education, understanding of science

Citizen science activities will increase with technical developments

Many scientific and societal issues need citizen science and evidence-based methods: environment, aging, energy; basis for long term policy decisions

High quality Citizen Science is relevant and should be pursued in dedicated ways by scientists, institutions and policy makers

Challenges: Frameworks for scientific excellence, legal, ethical issues

The Role of Universities

Universities have a long tradition of research and teaching, 'mind set'

Highly motivated and diverse faculty and student body

Suitable infrastructures

Quality, Technical' skills (statistics, outreach, technology..)

International and interdisciplinary networks

Highly respected in most countries, funding

Need to connect better to society

LERU paper on Citizen Science

Purpose: Establish Citizen Science as accepted and high quality scientific methodology at Universities

First comprehensive document on citizen science at institutions

Addresses institutional concerns

Provides advice to scientists, their institutions and to political bodies

Daniel Wyler, Zürich, François Grey, Geneva, Oct 2016

Guidelines for 'good' citizen science

Recruitment and retention

Quality and impact

Learning and creativity

Openness and Transparency

Organization, Communication and Sustainability, participation

Credits and Rewards

Ethical and Legal Considerations

Recommendations for institutions

Recognition of citizen science (scientific/educational)

Creating a single point of contact (center, platform for Cit Sci)

Raise awareness among researchers for quality citizen science projects

Including 'teaching' citizen science', Legal, ethical, privacy regulations

Encourage open science practice (repositories,..)

Adapt and complement research evaluation, metrics

Intensify contacts to society and policy making, promote access to platforms

Recommendations for policy makers

Encourage evidence-based projects

Develop guidelines for legal, ethical, commercial and privacy issues

Encourage productive participation of citizens

Encourage long-term collaboration between research institutions and non-governmental organizations

CITIZEN SCIENCE ZURICH

Council of the Academy for Citizen Science and Participatory Science Zurich

Participatory Science Academy
funded by Mercator Foundation

Board
Representatives of teaching from ETH, UZH, Citizen Ccience organizations, Mercator....

Directorate

Operative Management

Learning and teaching Citizen Science, Standards for participatory research, Ethical and legal points, Seed Grants, Research on Citizen Science

Competence Center Citizen Science

General Assembly

Directorate

Operative Management

Coordinator, Community Manager, Back and front-end developers

Developing and hosting a virtual research platform
Building a community of Academic Scientists and Citizen Scientists, Coordinating UZH and ETH-Networks

Zurich platform for excellent participatory science

Academy for Citizen Science and Participatory Science Zurich

Members include representatives of both the Comptence Center Citizen Science and the Participatory Science Academy, Rectorate of UZH and ETH, other units of UZH and ETH, Foundation Mercator and Citizen Scientists

PSA

CC-CS

Zurich platform for excellent participatory science

Citizen Scientists

Academic Scientists

- **Methods of/for participatory research**
- **Research competencies**
- **Seed Grants for Participatory Research Projects**
- **Citizen Science as Method**
- **Project Studio**

| Project Area 1 | Project Area 2 | N.N. | **Citizen Science Support** |

| Subproject 1 | Subproject 2 | Subproject | **IT User Interface (Front end)** |

| Subproject.. | Subproject.. | Subproject.. | **IT Development (Backend)** |

IT Analysis

| Subproject | Subproject | Subproject | **Ethics** |