Universität Zürich[UZH]

Citizen Science, University and Libraries

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Involving libraries

Open Science

Collaborative, transparent and accessible across the whole research process

OI, OS, OttW

- Open access
- FAIR open data (find, access, interoperable, re-use)
- New business models for scholarly communication
- The European Open Science Cloud
- Citizen science
- Altmetrics, Rewards, Research integrity, OS skills

Citizen Science

Actively involving non-professional scientists in the whole Research process

Integral Part of open science

Many facets and opportunities

Rapidly evolving field(s)

Many challenges:

Quality of science, accessibility of data, legal, personality, ethical issues..

Citizen science / Public engagement

- Citizen Science: **the core of open science** - science by & for the people
- Multiple roles of citizens: scientist, consumer, decision maker, funder, observer, etc. → **broad sprectrum of activities**
- European Commission role: **facilitate**
  - → **Technical support** for infrastructure and tools (e.g. standards, accessibility and findability, storage and curation)
  - → **Provide regulatory framework** as needed, e.g. data protection
  - → CS dealt with in many parts of the EC: CONNECT, RTD, JRC, etc.
- **Socientize white paper** on citizen science (www.socientize.eu)
- **Horizon 2020: mainstream** citizen-oriented activities in H2020, e.g. environment, smart cities, agriculture

EU statement

Citizen Science activities include

Academic projects

Activists projects

Governmet projects like science agenda

Associations (SCA, ECSA…)

Platforms, Do it Yourself kits

RIA projects (SWAFS-EU) ….

What is citizen science?

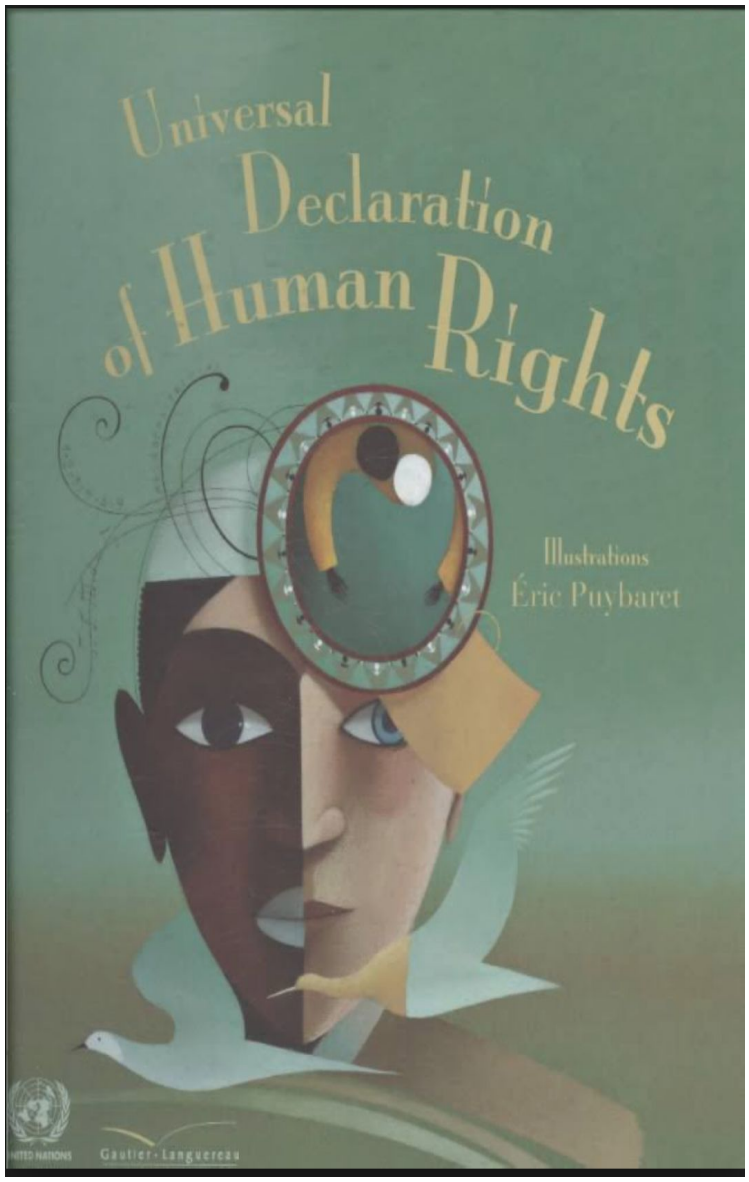
Science is our most reliable system of gaining new knowledge and **citizen science** is the public involvement in inquiry and discovery of new scientific knowledge. A citizen science project can involve one person or millions of people collaborating towards a common goal. Typically, public involvement is in data collection, analysis, or reporting.

Here are four common features of citizen science practice: (a) anyone can participate, (b) participants use the same protocol so data can be combined and be high quality, (c) data can help real scientists come to real conclusions, and (d) a wide community of scientists and volunteers work together and share data to which the public, as well as scientists, have access. (https://theoryandpractice.citizenscienceassociation.org/articles/10.5334/cstp.51/)

The fields that citizen science advances are diverse: ecology, astronomy, medicine, computer science, statistics, psychology, genetics, engineering and many more. The massive collaborations that can occur through citizen science allow investigations at continental and global scales and across decades—leading to discovery that a single scientist could never achieve on their own.

"Amateur science," "crowdsourced science," “volunteer monitoring,” and "public participation in scientific research" are also common aliases for citizen science.

Darlene Cavalier, the founder of SciStarter, co-edtied an accessible, easy-to-read primer on citizen science for anyone interested in understanding the landscape: cspo.org/news/rightful-place-of-science-citizen-science/ . Additionally, you can listen to Dr. Caren Cooper talk about citizen science in her TEDx talk in Greensboro, NC.



Article 27: Right to participate in cultural life:

The right to share in scientific advancement and its benefits

Right to truly participate in the process of science, to citizen science? (Vayena and Tasioulas, 2015)

Distribution: general

UNESCO/CUA/42
PARIS, 2 May 1952
Translated from the French

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?

Some projects

CLASSIFY STORY SCIENCE GALAXY ZOO DISCUSS PROFILE

Few have witnessed what you're about to see

Experience a privileged glimpse of the distant universe as observed by the SDSS, CTIO and VST.

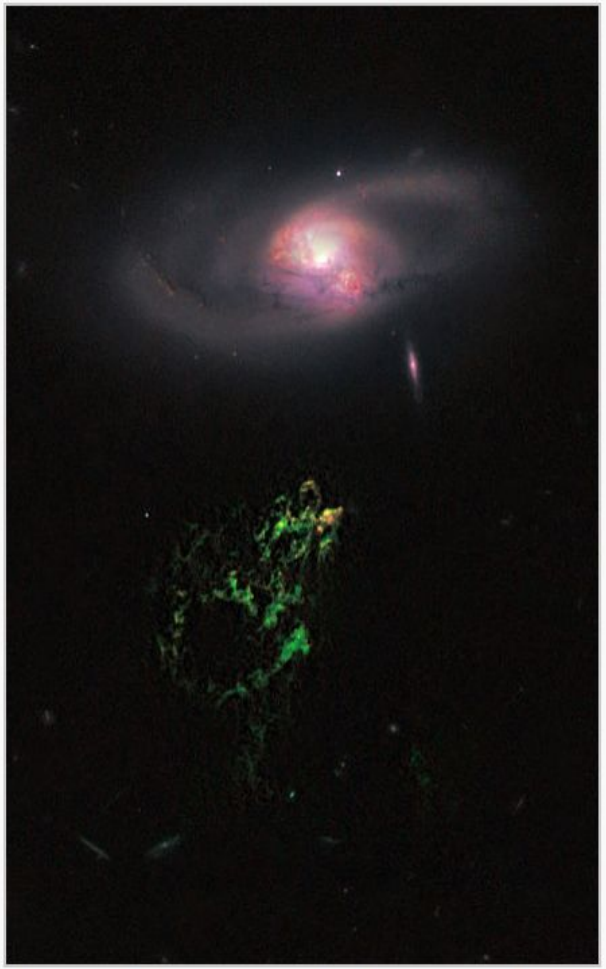
lassify Galaxies

o understand how galaxies formed we need your help to assify them according to their shapes. If you're quick, ou may even be the first person to see the galaxies ou're asked to classify.

Begin Classifying

Looking at photos of
Galaxies and classyfing them.

Part of Zooniverse, a large
Open platform with data and
project builders for all fields;
1.5 Mio people take part



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

Institutions for Collective Action

WWW.COLLECTIVE-ACTION.INFO

'The only thing that will redeem mankind is cooperation'

Bertrand Russell

Project 'Ja, ik wil!'

age 'Ja, ik wil!'
n
ouwakten?
rouwakten als

n Amsterdam?
e!
ert het u op?
n dit project?
er weten?
de hoogte!
dat...

PROJECT VOLTOOID!!

Met dank aan onze vele vrijwilligers is l
de laatste periode heel hard gegaan en
hebben we het project onlangs kunnen
afronden.

Wilt u op de hoogte blijven van ons
onderzoek en zo op de hoogte blijven va
eventuele volgende projecten? Meld u d
aan ***via deze link***

rsiteit Utrecht

Digitisation and trasncription of 500‘000 records of 900‘000 persons who intended to marry between 1578 and 1811

500 participants

Collaboration between University of Utrecht and Amsterdam City Archives

fold it BETA

14:56:31 GMT

Solve Puzzles for Science

PUZZLES CATEGORIES GROUPS PLAYERS RECIPES CONTESTS
BLOG FEEDBACK FORUM WIKI FAQ ABOUT CREDITS

GET STARTED: DOWNLOAD

Win Beta — Windows (Vista/7/8)

Mac Beta — OSX (10.7 or later)

Linux Beta — Linux (64-bit)

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- ma theses
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archive and access
team
contact

The Chintang language research program
छिन्ताङ भाषा अनुसन्धान कार्यक्रम

The Chintang Language Research Program aims at a rich documentation and in-depth analysis of Chintang, a language of the Kiranti subgroup of Sino-Tibetan spoken in Eastern Nepal. CLRP is the successor of an earlier project that was funded by the Volkswagen Foundation (Documentation of Endangered Languages Program) between 2004 and 2009 and included the development of a corpus of Chintang and one other Kiranti language, Puma (see the Chintang and Puma Documentation Project).

CLRP was started in 2009 and includes two components:

- a linguistic component devoted to analyzing grammar, lexicon and language use
- a language acquisition component devoted to analyzing how children learn the language

CLRP is carried by a team of researchers headed by Sabine Stoll and Balthasar Bickel at the University of Zurich. The program cooperates with the Central Department of Linguistics and the Centre for Nepal and Asia Studies at Tribhuvan University, Kirtipur and is part of LiNSuN (the Linguistic Survey of Nepal) project.

The corpus contains recordings of different genres:

Genre	Transcribed duration	Transcribed no. of words	Translated duration	Translated no. of words	Glossed duration	Glossed no. of words
conversation	232:44:54	1,064,109	232:39:18	1,045,254	207:23:27	903,645
description	3:09:10	20,934	3:06:24	20,617	1:52:56	14,433

About CASE
Research
Graduate School
Co-workers
Contact

Denna sida på svenska

Welcome to CASE!

Centre for Ageing and Supportive Environments
CASE is one of two national centres of excellence for research on ageing and older people, funded by the Swedish Research Council for Health, Working Life and Welfare (Forte - former FAS).

CASE consists of teams from the Faculty of Medicine, Faculty of Engineering and Faculty of Social Sciences at Lund University. Activities have focused on older people at the individual, group, and population levels and on environments that support health, activity, and participation.

The research is explicitly interdisciplinary in nature with extensive international cooperation. A Graduate School is integrated with the centre.

CASE

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Citizen science and academia

High quality Citizen Science

Enlarges scope of research in all fields of science

Fosters innovation, technical advances

Enhances public education, understanding of science

Basis for long term policy decisions

Chance for universities to profile themselves

Extend the relation to society

The role of Universities

Universities have a long tradition of research and teaching

‚Frame of mind‘

Higly motivated and diverse faculty and student body

Suitable infrastructures, like libraries

'Technical‘ skills (statistics, outreach, technology)

International and interdisciplinary networks

Highly respected in most countries, funding

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 scientists (what to look for in CS projects)

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 projects
- Long term thinking, open science practice (repositories,..)
- Have Legal, ethical, privacy regulations in place
- Adapt and complement research evaluation, metrics
- Intensify contacts to society and policy making, promote access to platforms
- Coordinate CS stakeholders within institution

Trends in (academic) citizen science

Increasing coordination and collaborations between fields

Emergence of Platforms

Enlarging of the citizen's participation

Establishing connections to other CS activities

Future: Machine learning, artificial intelligence….

Involving Libraries

Needed for Citizen Science

Data curation and management

Linking up with citizens

Communication

Expose books on citizen science

Long term Repositories

Identifying Opportunities in Citizen Science for Academic Libraries

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http://www.istl.org/15-winter/article1.html

Some examples

Project on health impact

Access to academic papers that are behind a paywall for specific citizen science projects:

Libraries as Navigators of knowledge

Project on possible health impacts of the demolition of UCL buildings that may contain asbestos. (Muki Haklay)

Citizen Science

Citizen Science (CS) represents a growing trend where volunteer non-scientists participate in data analysis for a scientific project. This guide introduces UCLA students, faculty, and staff to CS projects on campus and around the world.

Introduction to Citizen Science

What Is Citizen Science?

Citizen Science (CS), also known as "crowdsourcing" or "crowd-sourced science," is the growing practice of public involvement in the gathering, analyzing, or sorting of scientific data for research purposes. Formally, citizen science refers to "the general public engagement in scientific research activities when citizens actively contribute to science either with their intellectual effort or surrounding knowledge or with their tools and resources" (according to the "**Green Paper on Citizen Science**," page 6). That is, citizen science can refer to a wide range of activities, from pubic involvement in crowdsourcing data analysis to the financial support of research by members of the public.

SEAL-S and Citizen Science

This content is based on a CSU Fullerton libguide, "**CARL/SEAL-S: Citizen Science**," which was created to support the CARL/SEAL-S Interest Group Showcase at CARL 2014. For more information on SEAL-S activities and resources, you can visit the interest group website **here**.

Citizen Science in the News

- **Junior citizen scientists investigate the plight of the bumblebee**
  "We need to safeguard the next generation of scientists by ensuring enough young people pursue a career in STEM subjects. By adopting a citizen science approach, The Big Bumblebee Discovery will enable school pupils to engage in real science..."

Citizen Science: Find a Citizen Science Project

Citizen science allows volunteer non-scientists to participate in data collection and analysis for scientific projects. This guide includes links to existing projects, both nationally and in Illinois.

Learn about Project Squirrel

Journal
The Cartographic Journal ›
The World of Mapping
Volume 53, 2016 - Issue 4: The Past, Present and Future of Participatory GIS and Public Participation GIS

REFEREED PAPERS

Facilitating PPGIS Through University Libraries

Rina Ghose & Stephen Appel

Pages 341-347 | Published online: 16 Sep 2016

http://dx.doi.org/10.1080/00087041.2016.1227567

http://www.tandfonline.com/doi/abs/10.1080/00087041.2016.1227567

Arizona State to Partner with Public Libraries on Citizen Science

By Lisa Peet on October 26, 2017 Leave a Comment

Arizona State University (ASU) is partnering with Phoenix-area libraries to develop field-tested, replicable, low-cost toolkits of citizen science resources for public libraries. Funded by a 2017 National Leadership Grant for Libraries from the Institute of Museum and Library Services (IMLS), researchers from ASU's School for the Future of Innovation in Society (SFIS) and librarians from ASU's Hayden Library, on its Tempe campus, have joined forces with Arizona State Library, the citizen science hub SciStarter, and the National Informal STEM [Science, Technology, Engineering, Mathematics] Education Network (NISE Net).

ASU 2016 Citizen Science Maker Summit: (l-r:) Narendra Das, NASA Jet Propulsion Laboratory; Dan Stanton, ASU Library; Darlene Cavalier, ASU SFIS; Catherine Hoffman, SciStarter; Micah Lande, Polytechnic School; and Brianne Fisher, former ASU graduate student

Photo credit: Marissa Huth

http://lj.libraryjournal.com/2017/10/academic-libraries/arizona-state-partner-public-libraries-citizen-science/

Citizen science is a natural activity for libraries

Needs coordination with other units:
IT, communication, community relations,
other libraries, data bases, archives

Needs more interaction with researchers

Pursue active open access policy

Buy books on citizen science