

Más de una década haciendo ciencia ciudadana

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Un posible punto de partida....

Eugènia Balcells
Freqüències (2009)
Arts SantaMònica



Eugènia Balcells
Freqüències (2009)
Arts SantaMònica

Programa educativo

Construcción de
una Tabla Periódica,
Facultades de
Física i de Química
de la UB



INTIMATE SCIENCE

Jan. 21 – March 4, 2012

Guest curated by Andrea Grover

Artists: BCL, Center for PostNatural History, Markus Kayser, Allison Kudla, Machine Project, Philipp Ross

Jan. 20, Fri.

12-2pm: Lectures by A. Kudla + P. Ross. Lunch provided.

@ Margaret Morrison Hall #203, CMU. Co-presented by the CMU Schools of Art + Architecture, with support from the University Lecture Series.

5pm: Exhibition Tour with Curator + Artists. Meet on 1st floor. Sponsored by the CMU Human-Computer Interaction Institute.

6-8pm: Animal, Vegetable, Mineral Reception
With support from the Western Pennsylvania Mushroom Club.

+ New Art/Science Affinities Book Launch
with Authors + Artists. Co-presented by the STUDIO for Creative Inquiry.

Jan. 21, Sat.

12-6pm: Mind Reading for the Left and Right Brain Workshop
with Machine Project. Details + registration: www.cmu.edu/mullergallery

March 2, Fri.

6pm: Grand Opening of the Center for PostNatural History
@ 4913 Penn Ave., Garfield

10
YEARS

MULLER

GALLERY AT CARNEGIE MELLON UNIVERSITY

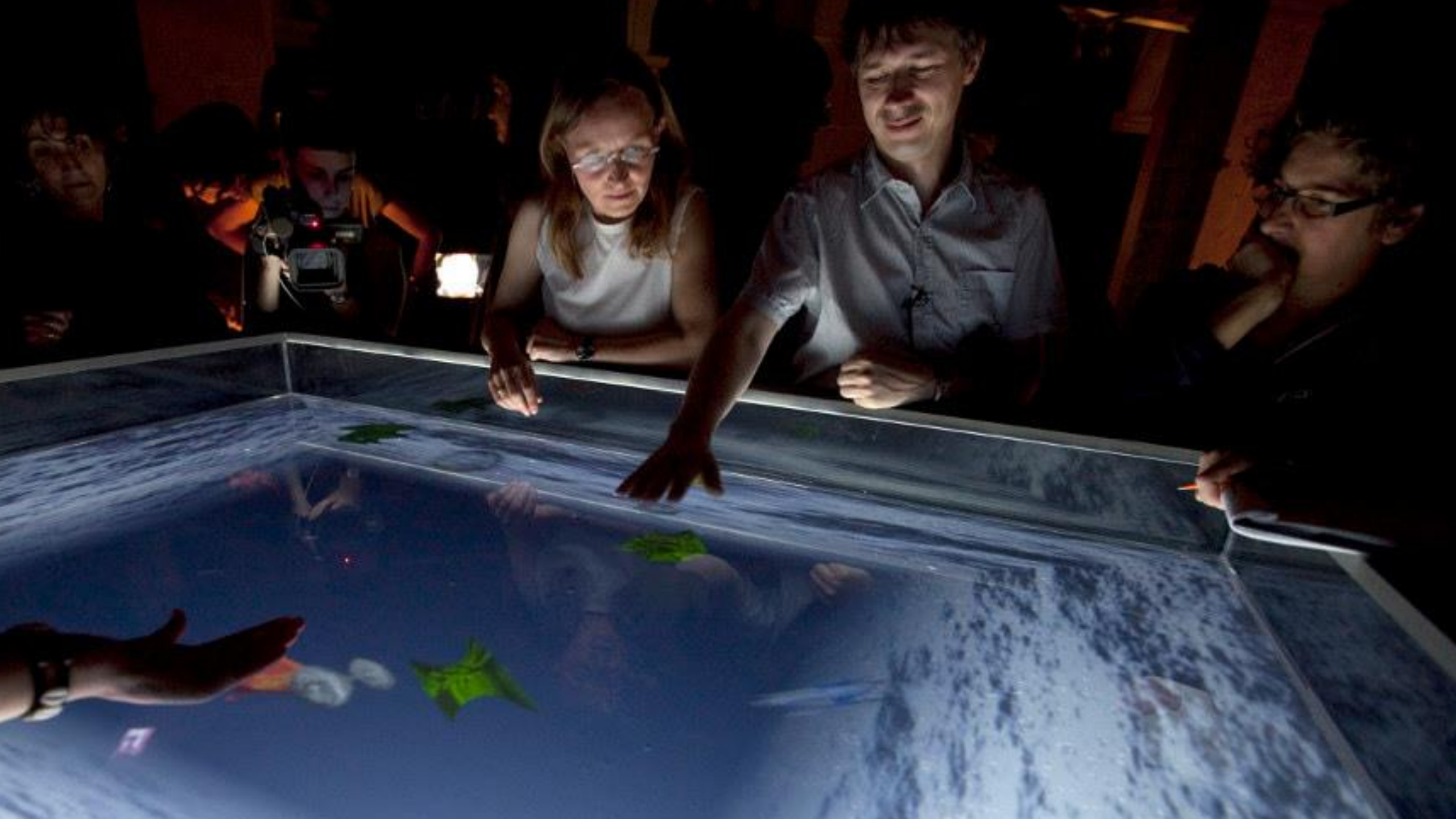
FOUNDER: REGINA GOJICER MILLER

PURNELL CENTER FOR THE ARTS • 5000 FORBES AVE

PITTSBURGH PA • 412.268.3616 • WWW.CMU.EDU/MULLERGALLERY



Laurent
Mignonneau &
Christa Sommerer,
Sistemas Vius
Arts Santa Mònica
2011



Emerge la ciencia ciutadana....

Citizen science broadly refers to the active engagement of the general public in scientific research tasks.

Vohland, K. et al. (2021). Editorial: The Science of Citizen Science Evolves. In: Vohland, K., et al. The Science of Citizen Science. Springer, Cham.
https://doi.org/10.1007/978-3-030-58278-4_1

2013 Nature

CAREERS

SEQUESTRATION Slashed budgets may put non-tenured US researchers at risk **p.261**

EUROPEAN UNION Proposed law would make researchers more mobile **p.261**

NATUREJOBS For the latest career listings and advice www.naturejobs.com



Hunter-gatherers in the Congo Basin are using smartphones to track poaching and logging.

CITIZEN SCIENCE

Amateur experts

Involving members of the public can help science projects — but researchers should consider what they want to achieve.

BY TRISHA GURA

Equipped with smartphones, computers and do-it-yourself sampling kits, lay volunteers are tweeting about snowfall, questing for comets and measuring the microbes in their guts. They are part of a growing group of 'citizen scientists', networks of non-scientists who help to analyse or collect data as part of a researcher-led project. They learn about science and get a chance to participate, but the scientists involved stand to gain too. "There is huge amount of spare attention out there and a huge desire to do something real with it," says Christopher Lintott, an astronomer at the University of Oxford, UK, and chair of the Citizen Science Alliance, which hosts projects and advises researchers.

There are indications that in the past five years or so, citizen science has become more popular with researchers — and more likely to translate into a legitimate, publishable research project. It offers a means of doing substantial, thoughtful public outreach, and of tackling otherwise intractable, laborious or costly research problems.

But recruiting non-scientists comes with complications, including finding the right technical tools and partners to organize and execute projects with potentially thousands of data collectors. And scientists must ensure that the data are sound. Researchers thinking about entering the citizen-science fray should contact established associations for guidance and consider what they want from the end result — is it outreach alone, or something more?

It is difficult to measure the growth in citizen science accurately, in part because many ventures overlap with science-education efforts, but projects are definitely becoming more common. The Citizen Science Alliance began with one project in 2007 and has now hosted more than 20. The alliance has received 200 proposals for possible projects in the past year alone, and launched 10. A similar organization called SciStarter now boasts more than 450 projects. Citizen Science Central — co-founded by Rick Bonney, an ornithologist at Cornell University in Ithaca, New York, who in 1995 coined the term citizen science — lists 162 projects.

Some have given rise to peer-reviewed publications. Jake Weltzin, an ecologist at the University of Arizona in Tucson, is executive director of the USA National Phenology Network, which runs a project called Nature's Notebook. Citizen scientists track how climate affects the timing of life-cycle events in plants and animals. Weltzin's group jumped from one publication in 2007 — when citizen science elsewhere meant asking for access to people's computer-processing power to work with huge amounts of data — to more than 100 now. "This is a whole new way of doing science," says Weltzin. "Being able to think about and collect data at a continental scale."

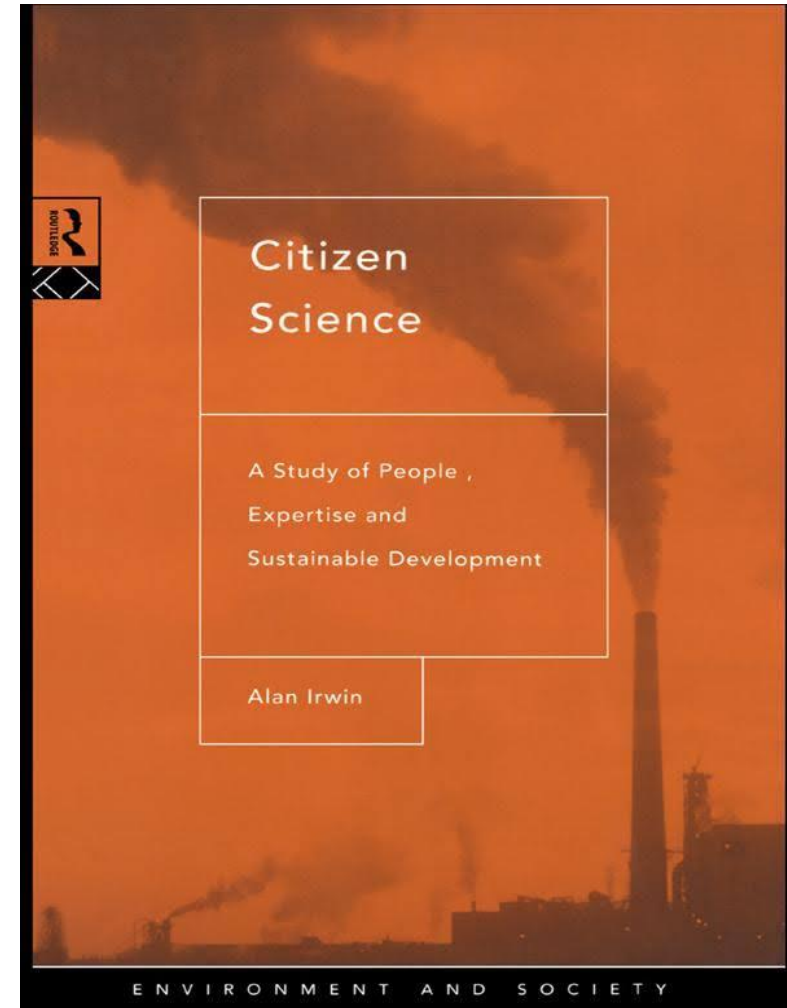
STRENGTH IN NUMBERS

Citizen science can help researchers to address previously insoluble problems. For example, Justin Halberda, a psychologist at Johns Hopkins University in Baltimore, Maryland, wanted to study how cognition develops as people age. He originally thought that he would need to gather data from tens of thousands of people of all ages over the course of years, a feat that would be financially and logistically impossible for one research team with a limited budget.

So he reached out, asking volunteers to play a sort of video game that measures number sense — the ability to estimate how many items there are in a collection without actually counting them. The game involved watching yellow and blue dots flash briefly on a screen, then estimating whether there were more yellow or blue. Over the course of a few months, more than 13,000 individuals — ages 11 to 85 — took the test, and Halberda's team analysed the results.

The researchers not only built up a general description of people's number sense, but also unveiled a surprise: individuals don't achieve the best precision in number sense until ▶

Irwin, A. (1995). Citizen science: A study of people, expertise and sustainable development. Routledge Press.



“La ciencia (ciudadana) debería responder a las inquietudes y necesidades de los ciudadanos.

[...] Los ciudadanos pueden producir un conocimiento científico fiable.”

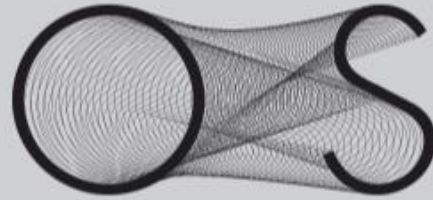
Alan Irwin, Investigador en Ciencias Sociales, Copenhagen Business School. Uno de los introductores del término **ciencia ciudadana**. El libro: Citizen Science: A Study of People, Expertise and Sustainable Development (1995)

Modelo de investigación participada que involucra al público en proyectos científicos.

Green paper on Citizen Science for Europe: Towards a society of empowered citizens and enhanced research Brussels: SOCIENTIZE, 2014 Ibercivis



La ciencia ciudadana necesita infraestructura....



**CAP A UNA PRÀCTICA MULTIDISCIPLINÀRIA ON ART I
PARTICIPACIÓ CIUTADANA SIGUIN PART FONAMENTAL
EN LA MANERA DE FER CIÈNCIA.**

OpenSystems

Investigación
enfocada
a preocupaciones
sociales

Participación i
pràcticas artístiques

ECSA General Assembly 2014. Barcelona

Ajuntament de Barcelona



CIÈNCIA CIUTADANA A LES ESCOLES

PILOTS PER A LA INTRODUCCIÓ DE LA CIÈNCIA CIUTADANA A LES ESCOLES

HOME • QUÈ ÉS LA CIÈNCIA CIUTADANA? • QUI SOM? • PROJECTES • ACTE DE CLOENDA • IMPACTE DELS PILOTS • CONTACTE



2015

<https://cciudadana.wordpress.com>

recerCaixa
ACUP Obra Social 'la Caixa'

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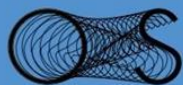
UOC

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CIÈNCIA CIUTADANA A LES BIBLIOTEQUES

OBSERVA, ANALITZA,
CREA I PARTICIPA

OpenSystems



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Diputació
Barcelona

biblio**Lab**

AMGEN

Oltra Social 'la Caixa'

NISSAN

ARCA'91

[Tots som genis]

12è Festival
de la Ciència

9 i 10 de juliol

Plaça de la Ciutadella

barcelona.cat/cienciagenera

Barcelona Ciència

Barcelona

Barcelona

Barcelona

#TotsSomGenis



FESTIVAL DE LA CIÈNCIA A LA CIUTADELLA



DAU
BARCELONA
1r FESTIVAL DE JOCS DE TAULA

15 i 16 de desembre de 2012
de les 10 del matí a les 8 h del vespre
Fabra i Coats - Fabrica de Creació de Barcelona
c. de Sant Adrià, 20

per
per a
tots!
Entrada
lliure



Quants dies
hi ha a dies?
Pis i gorges!
L'important és que
t'ho doni de tota.
Participa-hi!

Ajuntament de
Barcelona

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OFICINA
CIÈNCIA CIUTADANA
BARCELONA



Hacemos ciencia ciudadana....

Definición i disseny
de la
investigación.

Interpretación de
resultados

Recogida de
datos

Propuesta de
acción

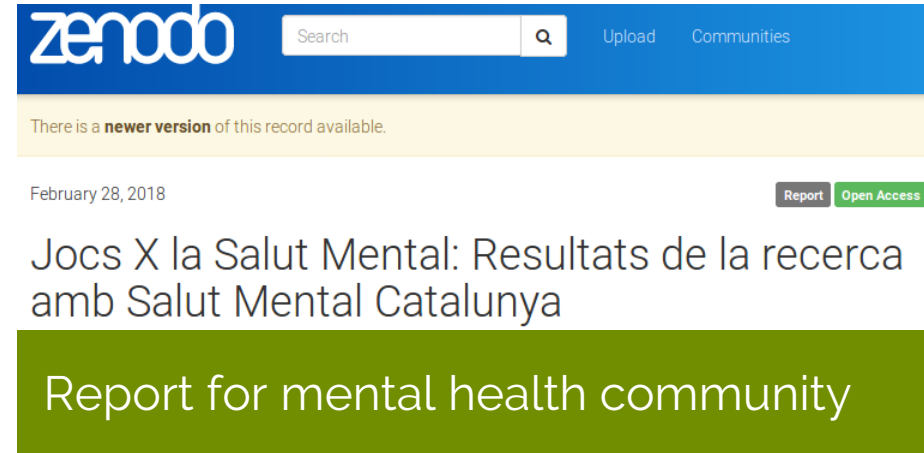
Extreme citizen science UCL-Muki Haklay and others

Salud Mental



Press Conference: OpenSystems and Federació Salut Mental Catalunya (Universitat de Barcelona, March 6, 2018)

Open data available with SciRep paper




Public discussion session of the results (World Mental Health Day, Girona, October 6, 2018)

Festival de Teatre al Carrer




Urgent Estimar with Ada Vilaró and Chris Salter
Opening event in a Street Arts Festival.
FiraTàrrega
Tàrrega, September 2017



	C	D
C	10	0
D	15	5



Optimism, choose which action (Cooperate or Defect) do you expect from the other.

Cooperation, choose Cooperate or Defect with the other.



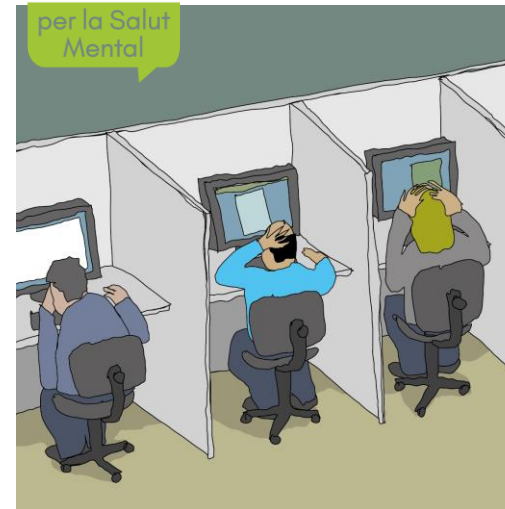
CoAct for Mental Health

This morning at 8am...
I have received a message
in Telegram



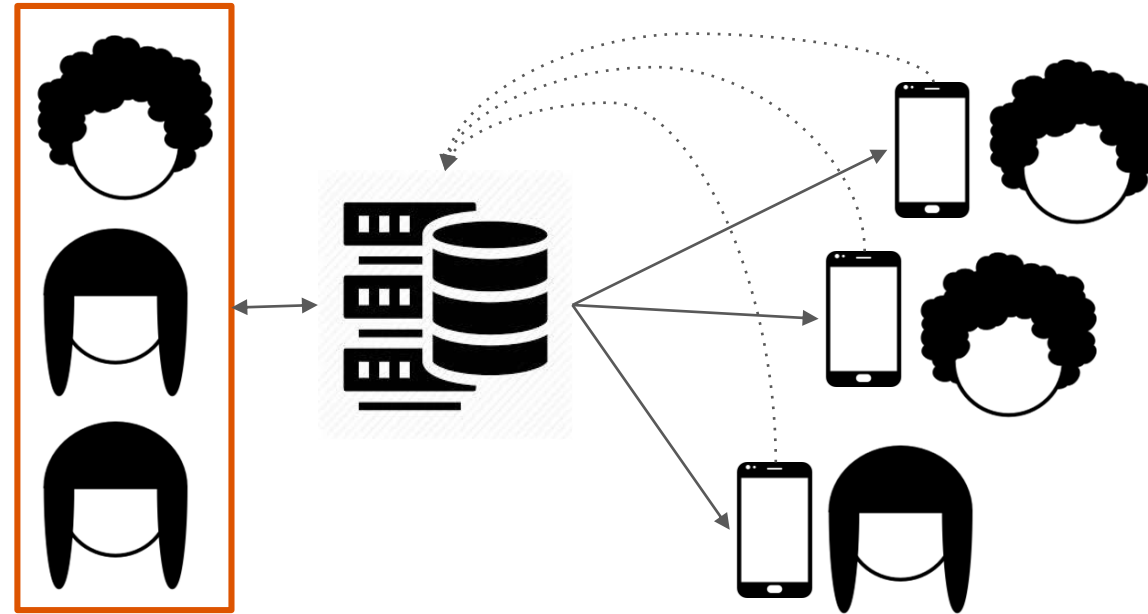
The CoAct project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No. 873048

C*
Actuem
per la Salut
Mental



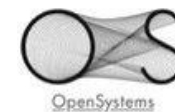
I often think work is one of those places where there are a lot of people in my situation, with a mental health problem. But at the same time it's an environment where it's very hard to say it and show it. People are afraid of losing their job. I miss a place to share some things emotionally. It would be very good for me and we'd all stop having so many prejudices.

A people-to-people chatbot





El proyecto CoAct ha recibido financiación del programa de investigación e innovación Horizon 2020 de la Unión Europea con contrato No. 873048



General Assembly - November 2022



The first Mental Health Community Assembly deliberated and validated **14 proposals** to improve social support networks in mental health



The CoAct project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No. 873048



The “CoActuem per la salut mental” project, an initiative promoted by the OpenSystems research group at the University of Barcelona and the Mental Health Federation of Catalonia, has received the European Union’s Prize for Citizen Science 2024 in the digital communities category.

Activation of public space



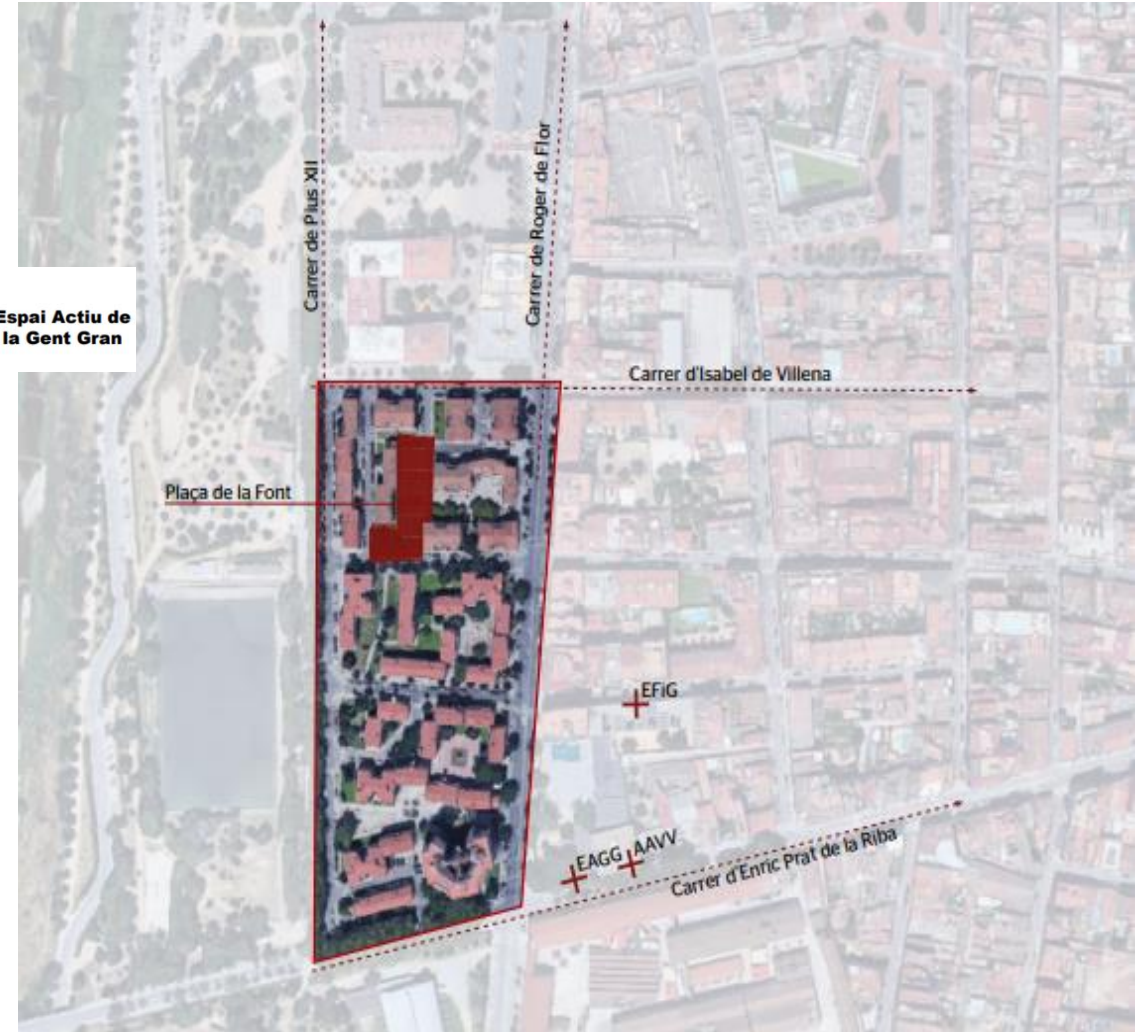
Espai Actiu de la Gent Gran

Groups: 19 teams, 3-6 people each

Missions

Wikiloc: GPS

Granollers



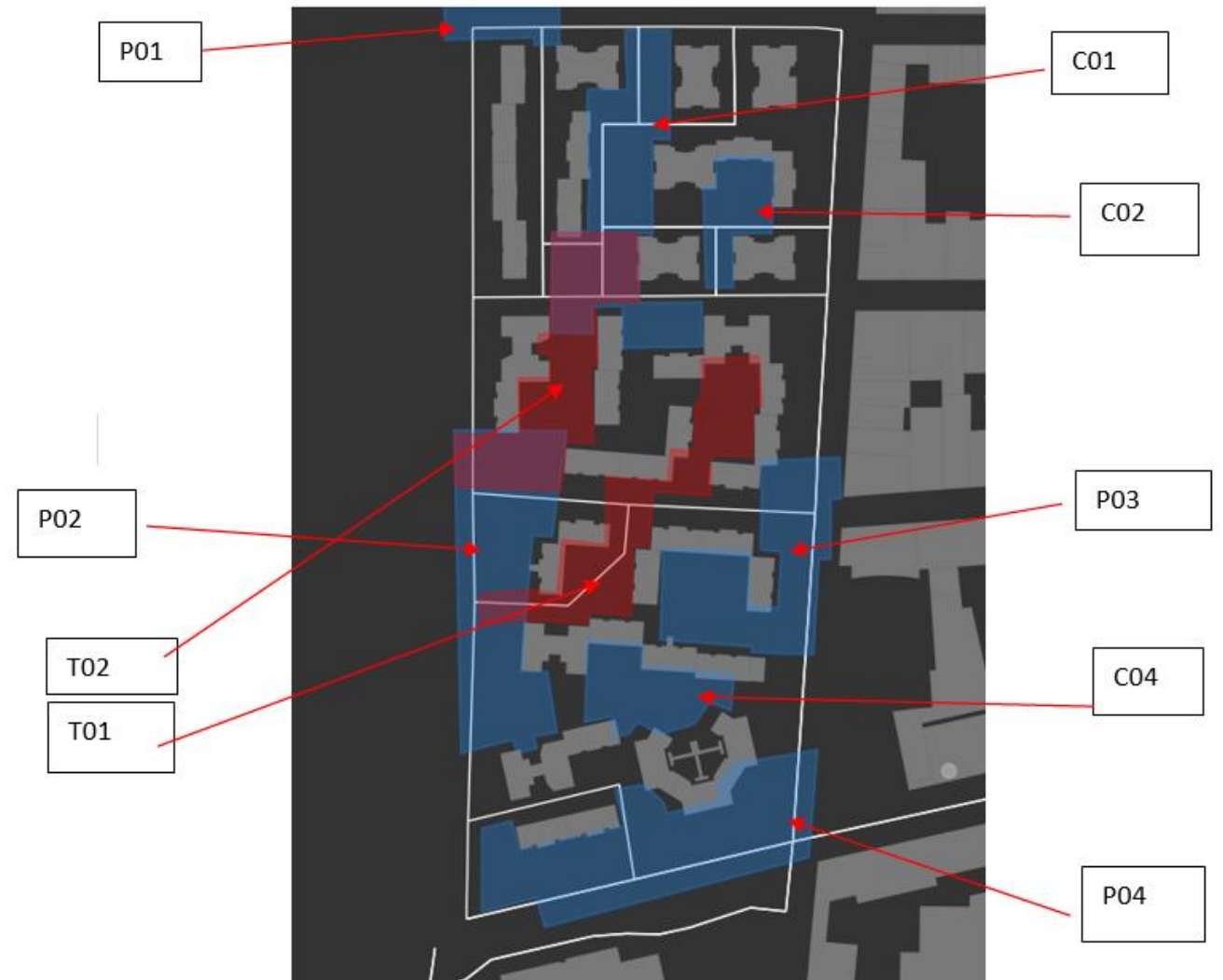
Activación del espacio público

Els parterres verds



Els espais intermitjos





Cròniques de la calor



Projecte PCI2022-132996 finançat per:

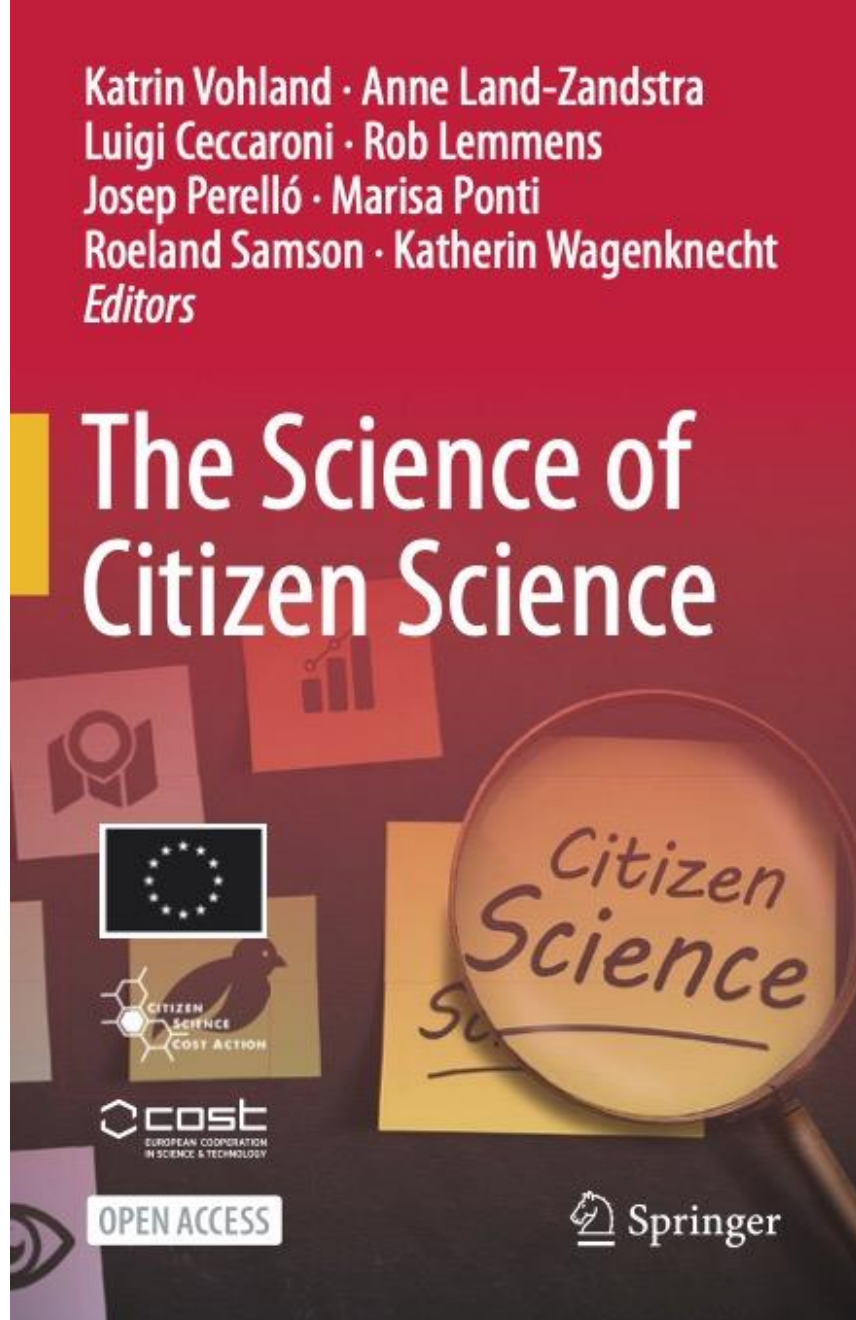


Aprendemos ciencia ciudadana....

Vohland, K., Land-Zandstra, A., Ceccaroni, L., Lemmens, R., Perelló, J., Ponti, M., ... & Wagenknecht, K. (2021). The science of citizen science (p. 529). Springer

OPEN ACCESS

<https://doi.org/10.1007/978-3-030-58278-4>



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 UNIVERSITAT DE BARCELONA

Ciencia ciudadana

[Els projectes](#) [Idees força](#) [Financiación](#)

Descubre la ciencia ciudadana de la mano de la Universidad

La ciencia ciudadana es una práctica emergente en la forma de hacer ciencia que cuenta con la implicación de la ciudadanía en tareas propias de la investigación.

Es uno de los pilares de la ciencia abierta y, al mismo tiempo, una vía para que las universidades del futuro exploren nuevos espacios. Se la considera una estrategia clave para conseguir una ciencia transformadora y con mayor compromiso social que facilite la cooperación con diferentes actores de la sociedad civil. Es una oportunidad para que las comunidades y la ciudadanía organizada encuentren nuevas vías para desplegar acciones y políticas en temas socialmente relevantes.

Ciencia ciudadana: El puente entre la investigación y las personas

Visualitza ... Comparteix



Mira a  YouTube



Ideas fuerza

Datos

La gestión de los datos recogidos y cómo compartirlos y comunicarlos.

Los datos deben gestionarse cuidadosamente, con sistemas de almacenamiento seguros. La calidad de los datos la pueden supervisar los propios participantes o expertos. Los datos deben ser abiertos y pueden orientarse a preocupaciones de una comunidad o colectivo. Los datos recogidos ayudan a proveer un conocimiento con capacidad de transformación social.



Por qué

La ciencia ciudadana genera datos y evidencias que de otra forma serían imposibles o difíciles de obtener

- Crear nuevos datos orientados a preocupaciones de una comunidad o colectivo
- Obtener información y conocimiento difíciles de obtener sin participación
- Proveer un conocimiento accionable



Cómo

Gestión de datos

- Tener sistemas de almacenamiento seguros y organizados siguiendo la legislación vigente
- Supervisar con los mismos participantes o con expertos la calidad de los datos
- Documentar los datos con tutoriales y metadatos
- Seguir los estándares
- Preservar la privacidad de las personas
- Reconocer a las personas participantes como coautores

Consejos

- Datos abiertos siguiendo los principios FAIR (Findable, Accessible, Interoperable, Reusable)
- Otros datos para mejorar el proyecto de ciencia ciudadana
- Actividades para hacer los datos más accionables

CO-CREATION

CITIZEN SCIENCE

1/6

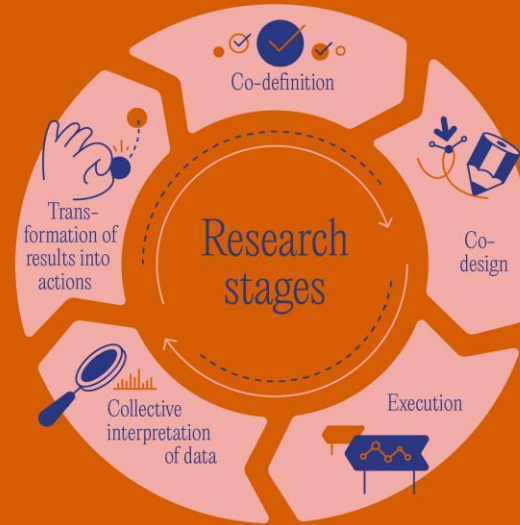


WHY

Co-creation and co-design increase the quality of participation



HOW



RECOMMENDATIONS

The role of the facilitator

- Support communities
- Address the interests of all communities
- Ensure good communication
- Strive to create empathy, trust and respect
- Maintain a permanent balance between all actors

Good practices

- Use plain language for clear communication
- Experiment to facilitate reflection and learning
- Show and act, don't just describe
- Work within cooperative and horizontal settings
- Listen to and engage with participating communities

Actions

- Generate visual elements and physical, tactile materials
- Use design thinking strategies
- Provide clear information about goals, tasks and commitments
- Generate documents to ensure traceability and transparency
- Evaluate at each stage and change strategy if necessary

www.ub.edu/ciencia-ciudadana • Infographics created under the CSNOW project with the Citizen Science Work Group of the IDP-ICE UB, coordinated by Josep Perelló • CC BY-NC-SA 4.0 DEED • DOI: 10.5281/zenodo.10171552



Ideas fuerza



- ✓ La ciencia ciudadana emerge
- ✓ Necesita infraestructura
- ✓ Hacer ciencia ciudadana
- ✓ Aprender ciencia ciudadana

Otros miembros de OpenSystems: Isabelle Bonhoure, Anna Cigarini, Ferran Larroya, Franziska Peter, Rebekah Breeding, Mario Gutiérrez-Roig (ex), Julià Vicens (ex)



Projecte PCI2022-132996 finançat per:



Stochastic Methods And Citizen science practices in the study of social Complex Systems (SMACXS)
Proyecto PID2022-140757NB-I00 financiado por MCIN/AEI/10.13039/501100011033 y por FEDER, UE

Muito obrigado!

