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Citizen Science

Why should we bother?

A G E N D A

Examples of Citizen Science

New Ways through Citizen Science

The Place and Worth of Citizen Science

Citizen Science in Lithuania

Definition?

Are you ready?

Citizen Science and Artificial Intelligence

Conclusion

A G E N D A

Examples of Citizen Science

New Ways through Citizen Science

The Place and Worth of Citizen Science

Citizen Science in Lithuania

Definition?

Are you ready?

Citizen Science and Artificial Intelligence

Conclusion





80,000
TAGGED IN
2017

TAG@KU.EDU
MONARCH WATCH
1-888-TAGGING
GHS 831

abc nightline





TAG@KU.EDU
MONARCH WATCH
1-888-TAGGING
GHS 824

1%
WILL BE
RECOVERED

Farmers for Monarchs

Identifying and implementing solutions on agricultural and ranching lands to achieve a sustainable monarch butterfly population

[LEARN MORE ABOUT MONARCHS](#)

[HOW FARMERS CAN HELP](#)

[CONNECT TO RESOURCES IN YOUR STATE](#)



FARMERS FOR
MONARCHS



Research

Cite this article: Flockhart DTT, Wassenaar LI, Martin TG, Hobson KA, Wunder MB, Norris DR. 2013 Tracking multi-generational colonization of the breeding grounds by monarch butterflies in eastern North America. *Proc R Soc B* 280: 20131087.
<http://dx.doi.org/10.1098/rspb.2013.1087>

Received: 30 April 2013

Accepted: 15 July 2013

Subject Areas:
ecology

Keywords:
migratory connectivity, *Danaus plexippus*, stable isotopes, carbon-13, deuterium, insect

Tracking multi-generational colonization of the breeding grounds by monarch butterflies in eastern North America

D. T. Tyler Flockhart¹, Leonard I. Wassenaar^{2,†}, Tara G. Martin³, Keith A. Hobson², Michael B. Wunder⁴ and D. Ryan Norris¹

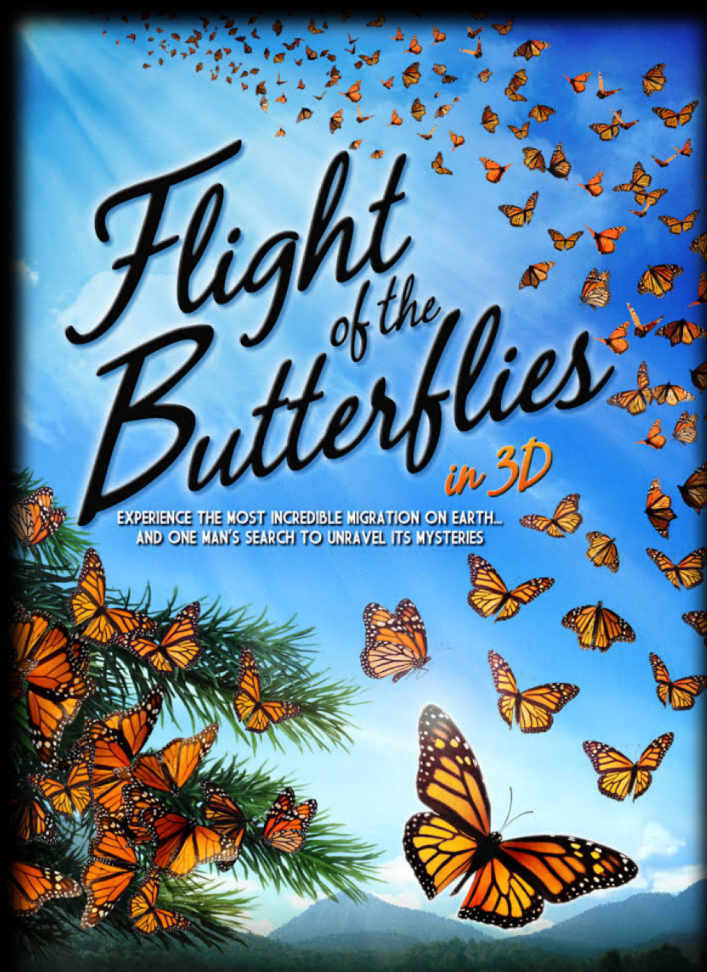
¹Department of Integrative Biology, University of Guelph, Guelph, Ontario, Canada N1G 2W1

²Environment Canada, Saskatoon, Saskatchewan, Canada S7N 3H5

³Ecosystem Sciences, CSIRO, GPO 2583, Brisbane, Queensland 4001, Australia

⁴Department of Integrative Biology, University of Colorado Denver, PO Box 173364, Denver, CO 80217, USA

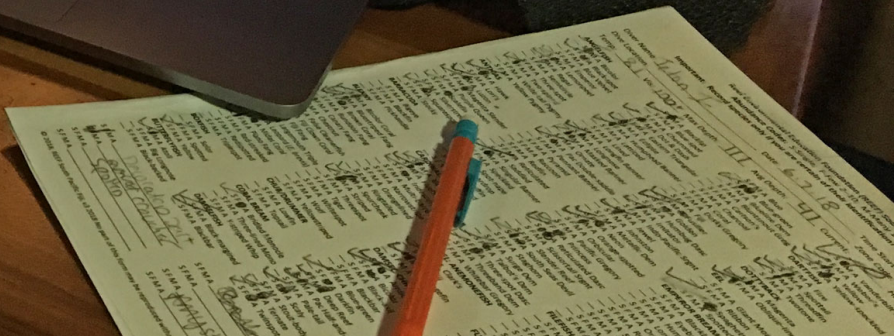
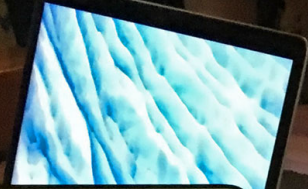
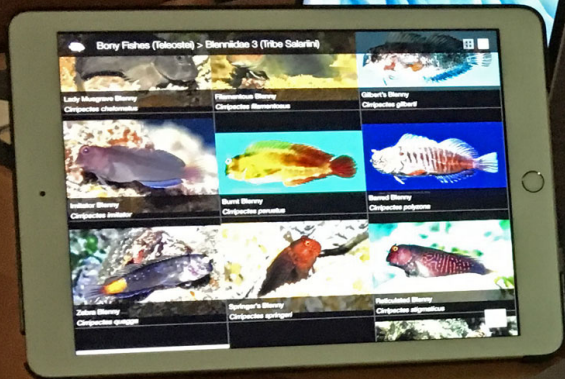
Insect migration may involve movements over multiple breeding generations at continental scales, resulting in formidable challenges to their conservation and management. Using distribution models generated from citizen scientist occurrence data and stable-carbon and -hydrogen isotope measurements, we tracked multi-generational colonization of the breeding grounds of monarch butterflies (*Danaus plexippus*) in eastern North America. We found that monarch breeding occurrence was best modelled with geographical and climatic variables resulting in an annual breeding distribution of greater than 12 million km² that encompassed 99% occurrence probability. Combining occurrence models with stable isotope measurements to estimate natal origin, we show that butterflies which overwintered in Mexico came from a wide breeding distribution, including southern portions of the range. There was a clear northward progression of monarchs over successive generations from May until August when reproductive butterflies began to change direction and moved south. Fifth-generation individuals breeding in Texas in the late summer/autumn tended to originate from northern breeding areas rather than regions further south. Although the Midwest was the most productive area during the breeding season, monarchs that re-colonized the Midwest were produced largely in Texas, suggesting that conserving breeding habitat in the Midwest alone is insufficient to ensure long-term persistence of the monarch butterfly population in eastern North America.



SK FILMS COLLABORATION A CANADIAN-MEXICAN CO-PRODUCTION A FILM BY MING ZHANG CASTING BY CAROLINA PINNEY PRODUCTION DESIGNER PHILIPPE SPOURDAN DIRECTOR OF PHOTOGRAPHY SHANEY DE CARVALHO EXECUTIVE PRODUCERS JUANITA BARBERA AND DANIELA BARBERA PRODUCED BY JUANITA BARBERA AND DANIELA BARBERA WRITTEN BY STEVEN WICKS EDITED BY MING ZHANG AND HEATHER WOODRIDGE MUSIC BY ANDREW WOODRIDGE EXECUTIVE PRODUCERS PHILIPPE SPOURDAN AND SK FILMS PRODUCED BY SK FILMS AND SK FILMS LAURENCE BERNARDI EXECUTIVE PRODUCERS MING ZHANG PRODUCED BY JUANITA BARBERA DANIELA BARBERA MING ZHANG EXECUTIVE PRODUCERS VIVIANO WANDERLAN MARINA CLAUDIA COTRINEZ SANITOCIO JUANITA GALVÁN MALLARÍN EXECUTIVE PRODUCERS JUANITA BARBERA DIRECTOR MING ZHANG

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Curieuze Neuzen

20,000 participants.

90% of measurements passed the quality control

Unique results. Maps that identify the pollution canyons

CoCoast

3000 trained volunteers across the UK



Citizen Science: Where to use it?

PHYSICS

MATHEMATICS

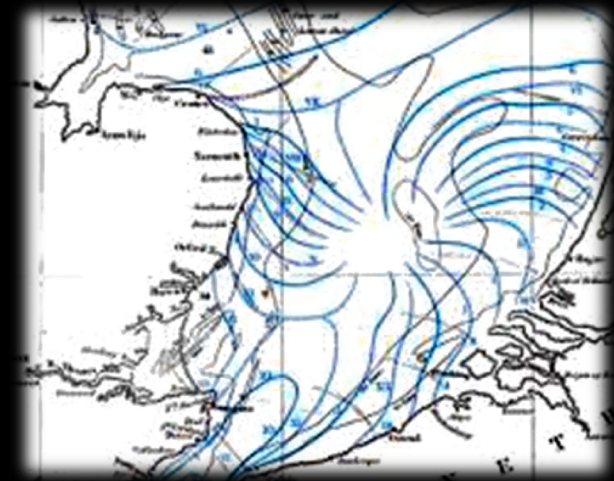
NEUROSCIENCE

GOVERNANCE

ENVIRONMENTAL STUDIES

DIGITAL HUMANITIES

... all fields



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f

🐦

✉

↻

IF WE COULD
 REMOVE ST
 FIND THE
 ALZHEIMER
 BUT WE NE

Librarian step-by-step guide for megathon

Joining the MEGATHON on Citizen Science Day 2019? Here's everything you need to know!

- [Planning checklist](#)
- [Social media](#)
- [Running the meet-up on the day](#)

Additional materials

- [Stall Catchers fact sheet](#)
- [Stall Catchers science](#)

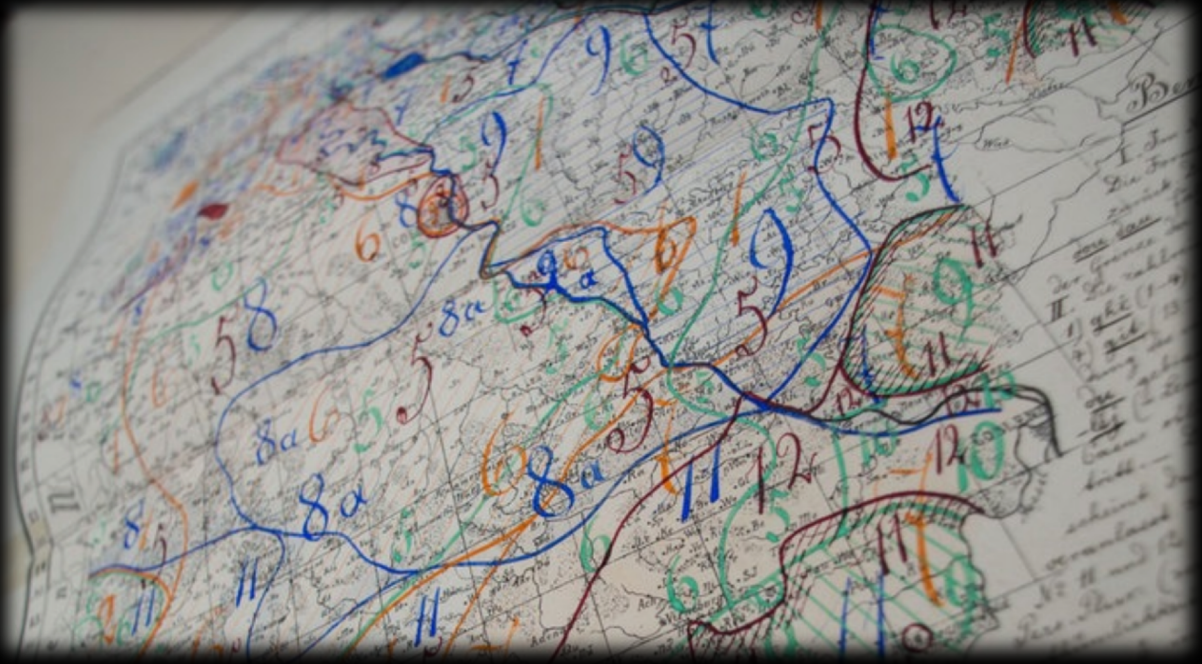
Email us at megathon@eyesonalz.com if you need any additional guidance or support!

Planning checklist

- Sign up here: megathon.us.
- Add your event to SciStarter (SciStarter.org/citizen-science-day). You can then use SciStarter's People Finder tool to find and invite local citizen scientists.
- Consider getting a volunteer(s) on board to help organize and facilitate the event. You can use the SciStarter's People Finder tool to find and invite local volunteers.
- Decide on the space in your library for the Megathon meetup, and book it for April 13, 1:30 to 3:30pm EST (timezone converter [here](#)). Any space works if it can be set up with desktop computers and/or comfortable for participants who bring their own laptops and other devices. Find out more about the details of setting up the event space in [the FAQ](#).
- Create a team on [Stall Catchers](#). [Here's](#) the instructions.
- Invite EVERYONE - the more the merrier! Use resources on SciStarter.org/citizen-science-day to send out a newsletter, social media post, poster, or flyer to spread the word to patrons.
Tip: use the invite link from your team page to recruit patrons directly to your library team. [Here's](#) the instructions how.



Deutscher Sprachatlas



Forschungszentrum Deutscher Sprachatlas, Marburg



RESEARCH ARTICLE

Crowdsourcing Language Change with Smartphone Applications

Adrian Leemann^{1*}, Marie-José Kolly^{2,3}, Ross Purves⁴, David Britain⁵, Elvira Glaser⁶

1 Phonetics Laboratory, Department of Theoretical and Applied Linguistics, University of Cambridge, Cambridge, United Kingdom, **2** Laboratoire d'Informatique pour la Mécanique et les Sciences de l'Ingénieur, CNRS, Orsay, France, **3** Department of Comparative Linguistics, University of Zurich, Zurich, Switzerland, **4** Department of Geography, University of Zurich, Zurich, Switzerland, **5** Department of English, University of Bern, Bern, Switzerland, **6** German Department, University of Zurich, Zurich, Switzerland

* al764@cam.ac.uk

Abstract

Crowdsourcing linguistic phenomena with smartphone applications is relatively new. In linguistics, apps have predominantly been developed to create pronunciation dictionaries, to train acoustic models, and to archive endangered languages. This paper presents the first account of how apps can be used to collect data suitable for documenting language change: we created an app, Dialäkt Äpp (DÄ), which predicts users' dialects. For 16 linguistic variables, users select a dialectal variant from a drop-down menu. DÄ then geographically locates the user's dialect by suggesting a list of communes where dialect variants most similar to their choices are used. Underlying this prediction are 16 maps from the historical Linguistic Atlas of German-speaking Switzerland, which documents the linguistic situation around 1950. Where users disagree with the prediction, they can indicate what they consider to be their dialect's location. With this information, the 16 variables can be assessed



CrossMark
click for updates

OPEN ACCESS

Citation: Leemann A, Kolly M-J, Purves R, Britain D, Glaser E (2016) Crowdsourcing Language Change with Smartphone Applications. PLoS ONE 11(1): e0143060. doi:10.1371/journal.pone.0143060

Ask for Evidence on advertising c

[Ask For Evidence](#)

[Understand Evidence](#)

A G E N D A

Examples of Citizen Science

New Ways through Citizen Science

The Place and Worth of Citizen Science

Citizen Science in Lithuania

Definition?

Are you ready?

Citizen Science and Artificial Intelligence

Conclusion

New ways for Citizen Science

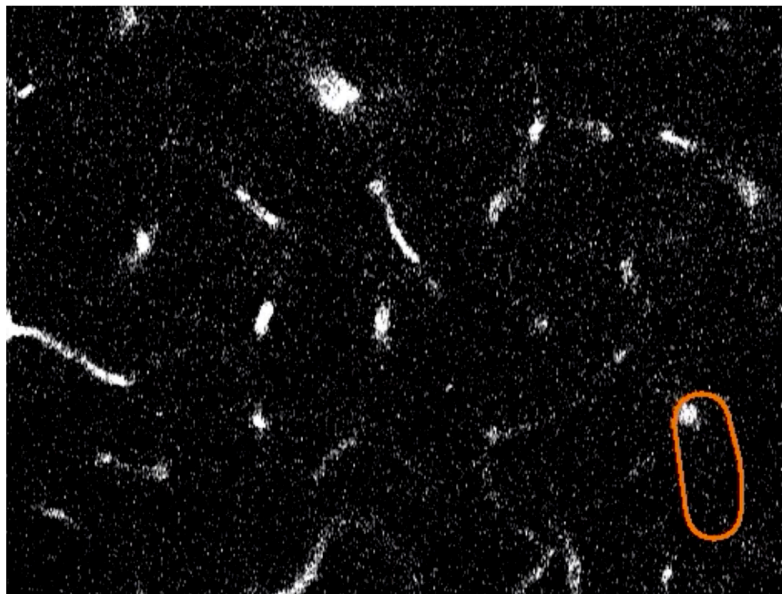
My team is:

Team Humanity

(choose team)

Catchers 39 Today ▾

- 1. caprarom 390,920
- 2. Carol aka Mema 389,337
- 3. Badstallsbadbad 143,028
- 4. glol 134,676
- 5. Hanea11 52,752
- 6. ababbie 40,595
- 7. annettei 30,740
- 8. katherinehebert 21,770
- 9. Batgirl 21,383
- 10. Michael_Landau 15,731



Get ready for.. the
MEGATHON: April 13,
CitSciDay2019!

- Autoscroll
- Show answer

Score	101
Level	0
Next	566
Rank	7789
Movies	6
Stalls	2
Lab time	0

No points yet.
Check back!

▶
●
5
Flowing
🚩
Stalled

Serious-ification: Citizen Science for Serious Gamers

THE HUMAN PROTEIN ATLAS

MMOS



300.000 citizen scientists generated more than 33 million image classifications

A G E N D A

Examples of Citizen Science

New Ways through Citizen Science

The Place and Worth of Citizen Science

Citizen Science in Lithuania

Definition?

Are you ready?

Citizen Science and Artificial Intelligence

Conclusion

Drugs
Services
Hopes
Meanings
Innovation
Dreams
Expectations
Education
Knowledge
Policies
Products
Laws
Treatments
Infrastructure



Science and Society: Culture & Relationship

SOCIETY

SCIENCE

1998: UK Signs Kyoto Protocol and refers to

57
years

120
species

30.000
observations
p.a.

Climate change related to egg-laying trends
Humphrey Q. P. Crick & Timothy H. Sparks
Nature volume 399, page 423 (03 June 1999)
doi:10.1038/20839

The impact of climate change on birds
Humphrey Q. P. Crick
<https://doi.org/10.1111/j.1474-919X.2004.00327.x> (Wiley)
International Journal of Avian Science (23 September 2004)

European Commission - Statement



Circular Economy: Commission welcomes European Parliament adoption of new rules on single-use plastics to reduce marine litter

Brussels, 27 March 2019

The European Parliament today agreed on the ambitious measures proposed by the Commission to tackle marine litter coming from the 10 single-use plastic products most often found on European beaches, as well as abandoned fishing gear and oxo-degradable plastics.

The rules on [Single-Use Plastics](#) items and fishing gear, addressing the ten most found items on EU beaches place the EU at the forefront of the global fight against marine litter. They are part of the [EU Plastics Strategy](#) - the most comprehensive strategy in the world adopting a material-specific lifecycle approach with the vision and objectives to have all plastic packaging placed on the EU market as reusable or recyclable by 2030. The Single-Use Plastics Directive adopted by the European Parliament today is an essential element of the Commission's [Circular Economy Action Plan](#) as it stimulates the production and use of sustainable alternatives that avoid marine litter.

First Vice-President Frans **Timmermans**, responsible for sustainable development said: "Today we have taken an important step to reduce littering and plastic pollution in our oceans and seas. We got this, we can do this. Europe is setting new and ambitious standards, paving the way for the rest of the world."

Vice-President Jyrki **Katainen**, responsible for jobs, growth, investment and competitiveness, added: "Once implemented, the new rules will not only prevent plastic pollution, but also make the European Union the world leader in a more sustainable plastic policy. The European Parliament has played an essential role in laying the foundation for this transformation and in giving a chance to the industry to innovate, thus driving forward our circular economy."

Commissioner for environment, maritime affairs and fisheries, Karmenu **Vella** concluded: "We should all be very proud of these new rules because they tackle marine plastic pollution at its source - one of the most called for and supported EU initiatives among European citizens. After the favourable vote by the Parliament today, our main task will be to ensure that these ambitious measures are quickly implemented in practice, which will be common work for public authorities, producers and consumers alike."


The Single-Use Plastics Directive voted on by the European Parliament today tackles directly marine litter thanks to a set of ambitious measures:

- A **ban on selected single-use products** made of plastic for which alternatives exist on the market: cotton bud sticks, cutlery, plates, straws, stirrers, sticks for balloons, as well as cups, food and beverage containers made of expanded polystyrene and on all products made of oxo-degradable plastic.
 - **Measures to reduce consumption** of food containers and beverage cups made of plastic and specific marking and labelling of certain products.
 - **Extended Producer Responsibility schemes** covering the cost to clean-up litter, applied to products such as tobacco filters and fishing gear.
 - A 90% separate **collection target for plastic bottles** by 2029 (77% by 2025) and the introduction of design requirements to connect caps to bottles, as well as target to incorporate 25% of recycled plastic in PET bottles as from 2025 and 30% in all plastic bottles as from 2030.
- The proposed Directive follows a similar approach to the successful 2015 Plastic Bags Directive, which brought about a rapid shift in consumer behavior. When implemented the new measures will bring about both environmental and economic benefits, such as for example:
- avoid the emission of 3.4 million tons of CO₂ equivalent;
 - avoid environmental damages which would cost the equivalent of €22 billion by 2030;
 - save consumers a projected €6.5 billion.

Next steps

Following this approval by the European Parliament, the Council of Ministers will finalise the formal adoption. This endorsement will be followed by the publication of the texts in the Official Journal of the Member States which will then have two years to transpose the legislation into their national law.

Emerging policies and recommendations



Citizen Science

Publicly funded Citizen Science projects (as part of FP7 projects) should actively apply the principles of Open Science (including openness and reuse of all research outputs, data and publications).

Research performing organisations (RPOs) are encouraged to promote infrastructures and human capacity to create a supportive and open environment for Citizen Science, which can further strengthen the outreach of RPOs to society. Research infrastructures are well placed, amongst others, to coordinate activities to the necessary coordination and communication infrastructures as well as research training, transferable skills such as community management, co-production of knowledge, Open Science standards and social diversity. Appropriate funding and incentives need to be put in place to support this endeavour.

The EC must support an online social for Citizen Science in Europe. The tool must promote Citizen Science as a European asset, offering an entry point and mutual learning space, interconnecting with existing activities and infrastructures at the European, national and local level. It should highlight particular achievements and best practices, and promote a clear set of principles, guidelines & quality criteria for Citizen Science.

Funding for Citizen Science projects should be flexible, long-term and allow for small or experimental projects in collaboration with non-establishments to be funded. A small section of FP7 should be set aside for citizens to propose research topics or projects. These should be filtered on the basis that they are high risk, beyond traditional research fields and conform to the rigorous standards expected of other projects. Successful proposals will need to work with compliant institutions.

OSPP-REC

Open Science Policy Platform Recommendations



LIBER
Open Science
Roadmap

EUROPE'S RESEARCH LIBRARY NETWORK

LE RU PUSHING THE FRONTIERS OF INNOVATIVE RESEARCH

ADVICE PAPER
NO.24 - MAY 2018

Open Science and its role in universities:
A roadmap for cultural change

LEAGUE OF EUROPEAN RESEARCH UNIVERSITIES

LIBER Recommendations for Citizen Science



LIBRARY

Active partner

**Support
infrastructure**

Responsible conduct

**Good scholarly
practice**

Guidelines

Skills

Researchers

The public



Explore Citizen Science: Join LIBER's Newest Working Group

<https://libereurope.eu/blog/2019/03/28/explore-citizen-science-join-libers-newest-working-group/>



The Librarian's Guide to Citizen Science

Understanding, planning, and sustaining ongoing engagement
in citizen science at your library.

scistarter[™]
Science we can do together.

ASU School for the
Future of Innovation
in Society
Arizona State University

338 citizen science biodiversity projects (1930-2012)
Estimated in-kind contributions
(1.3-2.3 million citizen science volunteers) up to

How much it worth?

\$2.5 billion per year

A G E N D A

Examples of Citizen Science

New Ways through Citizen Science

The Place and Worth of Citizen Science

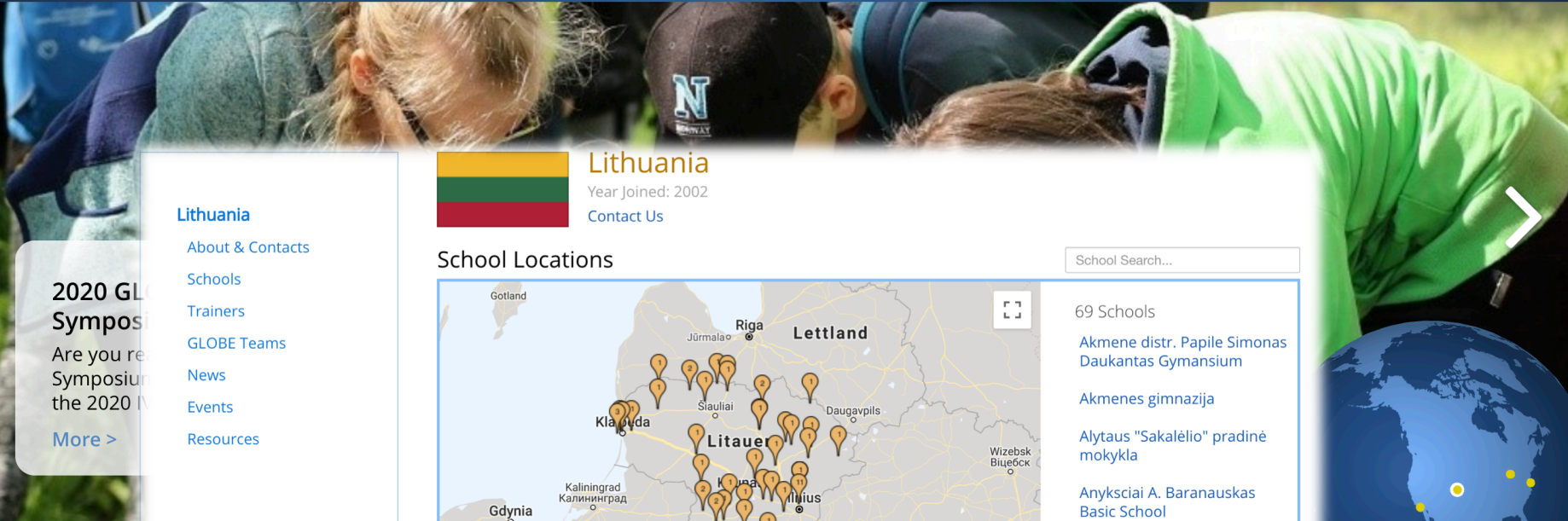
Citizen Science in Lithuania

Definition?

Are you ready?

Citizen Science and Artificial Intelligence

Conclusion



2020 GLOBE Symposium
Are you ready for the 2020 Symposium?

[More >](#)

Lithuania

- [About & Contacts](#)
- [Schools](#)
- [Trainers](#)
- [GLOBE Teams](#)
- [News](#)
- [Events](#)
- [Resources](#)

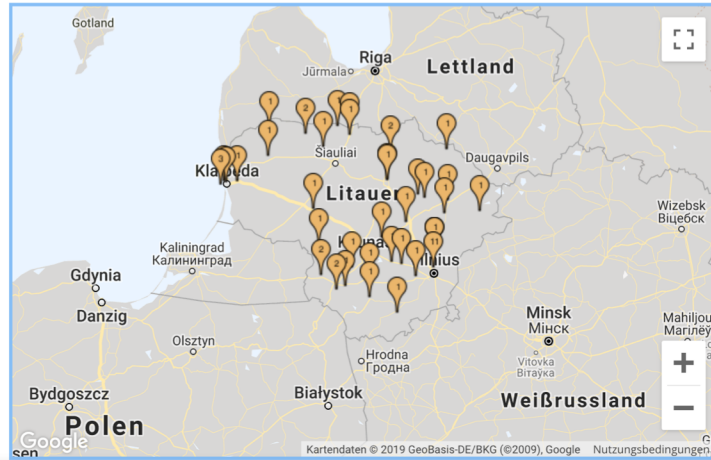


Lithuania

Year Joined: 2002

[Contact Us](#)

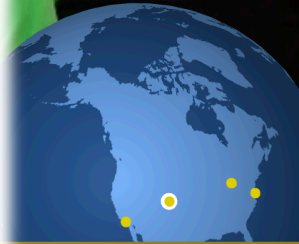
School Locations



69 Schools

- Akmene distr. Papile Simonas Daukantas Gynamsium
- Akmenes gimnazija
- Alytaus "Sakalėlio" pradinė mokykla
- Anyksčiai A. Baranauskas Basic School
- Anyksčiai distr. Troskunai K. Inciura Gymnasium
- Anyškėčių Antano Vienuolio progimnazija

* Not on map, no lat/long



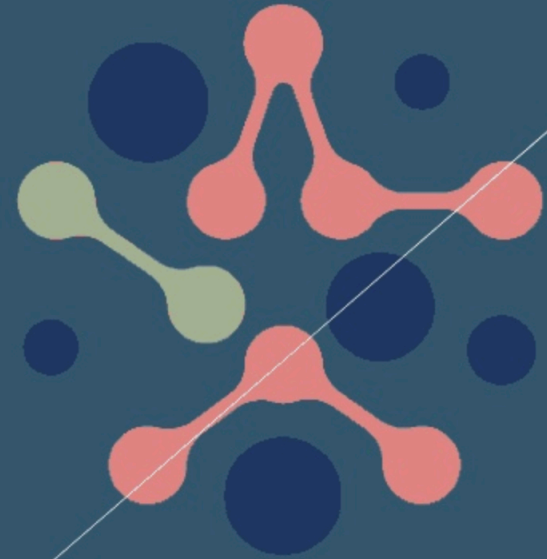
Go

See GLOBE

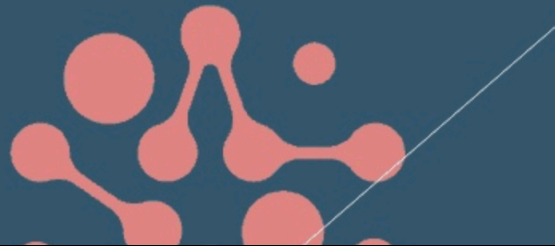
Perspectives of Citizen Science in Lithuania

September 13th, 15:00 – 18:00

Vilnius TechPark, Antakalnio g. 12



Event organizers:



THE OFFICE OF OMBUDSMAN
FOR ACADEMIC ETHICS AND
PROCEDURES OF THE
REPUBLIC OF LITHUANIA

A G E N D A

Examples of Citizen Science

New Ways through Citizen Science

The Place and Worth of Citizen Science

Citizen Science in Lithuania

Definition?

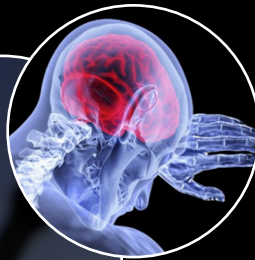
Are you ready?

Citizen Science and Artificial Intelligence

Conclusion

non-scientists
active contribution to science
intellectual effort
knowledge
tools
resources

Citizen Science - Areas of Competence



Enhance Scientific Research



Address Societal Needs



Education and networking

A G E N D A

Examples of Citizen Science

New Ways through Citizen Science

The Place and Worth of Citizen Science

Citizen Science in Lithuania

Definition?

Are you ready?

Citizen Science and Artificial Intelligence

Conclusion

Citizen Science Support

SERVICE READINESS



People



Knowledge and methods



Skills



Competences



Tools



Service design



VELKOMMEN TIL MASTERCLASS-2

"Identificering af fag- og forskningsbibliotekernes rolle
ift. udbredelse og understøttelse af Citizen Science"

Intro og feedback ved Thomas (SDUB) og den øvrige styregruppe

Deff



Science-Public
Bridge

Infrastrucutre

Training & Skills

Advocacy

Merry work: libraries and citizen science

This article highlights important new opportunities for libraries by analysing the roles they could potentially play in citizen science projects. Citizen science is one of the original pillars of open science identified by the Open Science Framework Platform, an EC Working Group. The authors of the article suggest that roles for libraries include: a) a hub for citizen science coordination; b) data storage and management; c) specific skills development; building and maintaining existing user communities; and d) facilitating specific research and training activities. The authors also suggest that libraries should be participating in specific research and training activities to support their role in citizen science projects. Some of these roles are mentioned by participating in the Citizen Science Hub, the University of London, the University of Southampton and Open National Library. This article has previously been published in the Open Science Journal and Open National Library. This article has previously been published in the Open Science Journal and Open National Library. This article has previously been published in the Open Science Journal and Open National Library.

Keywords: Citizen science; University College London; University of Southampton; Open National Library; University of Southampton; Denmark; research libraries; open science



doi.org/10.1629/uksg.431

■ CITIZEN SCIENCE AND LIBRARIES: WALTZING TOWARDS A COLLABORATION

by Tiberius Ignat, Darlene Cavalier and Caroline Nickerson

Abstract: The authors of this paper present context and case studies to illuminate several current policies, recommendations, and practices from the United States and Europe in support of libraries seeking to engage with citizen science, with the goal of encouraging librarians in Europe to leverage existing citizen science resources and take inspiration from successful international examples to make their libraries hubs for citizen science.

Keywords: Citizen Science; Libraries; Collaboration

CITIZEN SCIENCE UND BIBLIOTHEKEN: WALZER TANZEN AUF DEM WEG ZUR ZUSAMMENARBEIT

Zusammenfassung: Die Autor*innen dieses Beitrags präsentieren Kontext- und Fallstudien, um verschiedene aktuelle Strategien, Empfehlungen und Praktiken aus den USA und Europa zur Unterstützung von Bibliotheken zu beleuchten, die sich mit Citizen Science befassen, mit dem Ziel, Bibliothekar*innen in Europa zu ermutigen, die vorhandenen Citizen Science-Ressourcen zu nutzen und sich von erfolgreichen internationalen Beispielen inspirieren zu lassen, um ihre Bibliotheken zu einem Drehkreuz für Citizen Science zu machen.

<https://doi.org/10.31263/voebm.v72i2.3047>

Review Article

Paul Ayris*, Tiberius Ignat

Defining the role of libraries in the Open Science landscape: a reflection on current European practice

<https://doi.org/10.1515/opis-2018-0001>
Received October 27, 2017; accepted December 23, 2017

Abstract: This collaborative paper looks at how libraries can engage with and offer leadership in the Open Science movement. It is based on case studies and the results of an EU-funded research project on Research Data Management taken from European research-led universities and their libraries. It begins by analysing three recent trends in Science, and then links component parts of the research process to aspects of Open Science. The paper then looks in detail at four areas and identifies roles for libraries: Open Access and Open Access publishing, Research Data Management, E-Infrastructures (especially the European Open Science Cloud), and Citizen Science. The paper ends in suggesting a model for how libraries, by using a 4-step test,

doi.org/10.1515/opis-2018-0001.pdf

AGENDA

Examples of Citizen Science

New Ways through Citizen Science

The Place and Worth of Citizen Science

Citizen Science in Lithuania

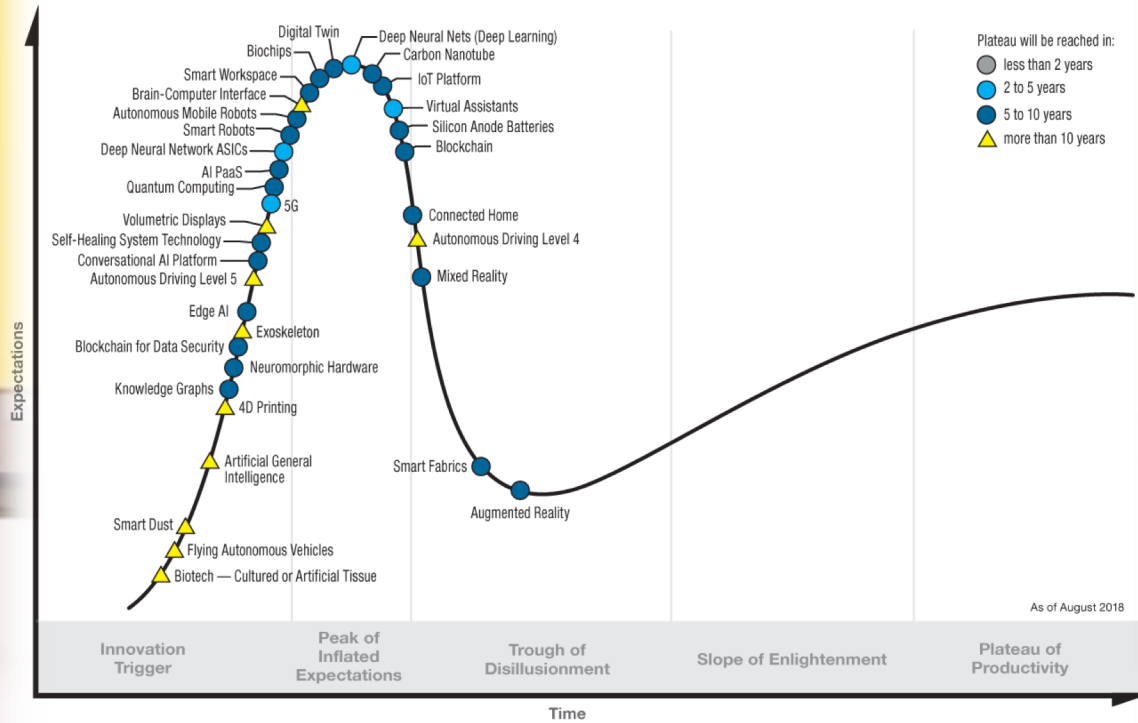
Definition?

Are you ready?

Citizen Science and Artificial Intelligence

Conclusion

Hype Cycle for Emerging Technologies, 2018



gartner.com/SmarterWithGartner

Source: Gartner (August 2018)
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Gartner.

Citizen Science? Artificial Intelligence? Both!

A G E N D A

Examples of Citizen Science

New Ways through Citizen Science

The Place and Worth of Citizen Science

Citizen Science in Lithuania

Definition?

Are you ready?

Citizen Science and Artificial Intelligence

Conclusion

We need data and collective intelligence that is orders of magnitude larger than what scientists could do alone.

Citizen science is making scientists better citizens

The underuse of citizen science is a missed opportunity for science and society!

Tiberius Ignat

Managing Director

Scientific Knowledge Services

www.knowledge.services

tiberius@scientificknowledgeservices.com

[linkedin.com/in/tiberiusignat](https://www.linkedin.com/in/tiberiusignat)

