

ECSA
CONFERENCE
// 2020

Conference programme



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DEGLI STUDI DI TRIESTE

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Social room

During the conference you will have the opportunity to *encounter* speakers, chairs and other participants in a social room on Zoom. You can just pop in to see who is connected, or use it to schedule a chat on specific topics with some colleagues you are in contact with. In this case, just enter and ask for a breakout room for your group. You can also ask the speakers of a session to move onto Zoom after their address to continue discussing with them.

The best times to visit the social room will be during the breaks, but you can come at any time during the conference: we will be there to welcome you.

[Join the social room here](#)

Conference menu

We would have loved to delight your palates with our Trieste cuisine during the whole conference. Since going virtual, we have decided to provide you with all the instructions you need to prepare excellent Trieste recipes yourselves. There is something for all tastes: from salty to sweet, from gluten-free to vegetarian.

Every day a new menu will [appear on the conference website](#), inviting you to explore new dishes. Just follow our instructions and post the pictures of your dishes with the hashtags #ecsa2020 and #trieste on social networks!

Enjoy your meal!

Helpdesk

In case you have any queries related to the ECSA 2020 online conference or you have relevant questions, you can write to ecsa2020@medialab.sissa.it

A Helpdesk on Zoom will be active for the entire duration of the conference, starting from Sunday 6 September at 14:00 (CEST) to assist participants with any technical issues.

[Contact the Helpdesk on Zoom](#)

E-posters

You can browse all e-posters [on the conference website](#).

Safe space policy

To ensure this conference is an enjoyable and productive event for all participants, we want it to become a safe space for everyone to come together and express themselves freely. We have therefore elaborated a [Safe Space Policy](#) that states behaviour which is considered harassment and not tolerated at the ECSA2020 conference.

You can find the safe space policy by [clicking here](#).

If you experience or see something

If a participant is being harassed, notices that someone else is being harassed or has any other concerns regarding harassment in relation to the ECSA2020 conference, they are encouraged to:

- Say something: If you are the target of, or witness unacceptable behavior, and do not have reason to fear for your or other's safety, call out that behavior in a calm, matter of fact manner that does not escalate the problem. Sometimes people do not realize their impact on others and need help to learn better ways to interact.
- Report it: There are different ways in which you can make a Safe Space Policy report at ECSA2020. We strongly recommend you act or report as soon as possible. For reports, please note the time, place and any other people present when the behavior occurred. ECSA will make every effort to protect the privacy of those involved. You can:
 - Report to the ECSA2020 Safe Space Support Team. Safe Space Support Team members are [Claudia Göbel](#) (EIE WG Co-Chair), [Daniel Dörler](#) (CS network Austria), [Petra Benyei](#) (EIE WG member), [Simona Cerrato](#) (Sissa team member), [Soledad Luna](#) (ECSA Board member), [Tim Woods](#) (ECSA HQ staff).
 - Fill out a reporting form online. [Click here to get to the form](#). This form is checked frequently by ECSA2020 Safe Space Support Team members, and *may be submitted anonymously*.
 - Email the designated ECSA2020 Safe Space Support Team directly. A dedicated, confidential email [ecsasafespace@gmail.com] will be checked frequently by Safe Space Support Team people who will respond to you as soon as your message is read.
 - Never make an incident report to the Safe Space Support Team on social media of any kind.

What happens when you report an incident

Submitting a report via the form or the email address sends an alert email directly to all members of the Safe Space Support Team. Email will be checked at minimum twice daily during ECSA2020 by at least one member of the Team and at least once daily for the week after. Once your report is read, somebody from the Safe Space Support Team will contact you (if not submitted anonymously) to acknowledge receipt. The Team will then find a time to meet as soon as possible and decide on the response.

Your report will be treated confidentially and not shared beyond the Safe Space Support Team, if you do not wish so. You will not be asked to confront anybody and we will inform you about the action taken (if not submitted anonymously).

Sunday
6 September

14.00: Public event in Trieste

14:00-17:30 Public event

17:30-18:00 Prize-giving ceremony

Location: [Via Bellini](#), Trieste

avvistAPP

[avvistAPP](#) is a freely downloadable app developed to collect sightings of marine organisms by citizen scientists, simply by sending a picture of the animal. The app was initially developed to monitor the invasion of the ctenophore *Mnemiopsis leidyi* (sea walnut) in the northern Adriatic Sea, but it can be used to collect sightings of other jellyfish species, dolphins and sea turtles, whose monitoring is often challenging for researchers.

On 6 September 2020, avvistAPP will be showcased to the public. Citizens will be quickly trained on its use, as avvistAPP is an easy tool that will allow everyone to actively contribute to data collection on several common marine organisms of our sea. How to use it: download and open avvistAPP on your mobile phone, register, recognise the organism, take a photo of the animal and send the sighting. You will receive an email once OGS researchers will have validated your sighting.

Within ECSA, avvistAPP launched from 6 February to 23 August 2020 as a "Sighting Marathon": the three citizens that provided the highest number of sightings with avvistAPP during this period will receive a prize. The award consists of a subscription to the National Geographic magazine and will be delivered during the award ceremony to be held on September 6th, starting at 5.30 p.m.

Noixapp

Noixapp is a crowdsourcing/citizen-science solution to measure acoustic pollution in urban areas that uses cheap mobile phone microphones to acquire data on background noise and send it to an integration platform that allows to reconstruct a full picture of the acoustic space of an area. The solution is based on an application software (currently running on Android only, but soon an iOS version will be available) where it is possible to run recording, compute and average Sound Pressure Level value, georeferenced the data and transmit them to the [OGS](#) central servers. Anonymization is guaranteed.

Among the many forms of pollution in urban areas, acoustic pollution is one of the less considered, albeit very important for the public health and welfare. Being less popular it is also less known and accounted for, so that few initiatives exist in this field. These are generally based on systematic surveying practices based on fixed stations only which cannot reconstruct a full picture of the acoustic spaces of the cities. A new perspective is necessary.

On 6 September 2020, Noixapp will be showcased to the public. Citizens will be quickly trained on its use and a pool of Noixapp volunteers will be committed to acquire data in the city. Every acquisition will increase the score of each participant. The highest scores will receive as a prize a *National Geographic* subscription during the award ceremony to be held on the same day, starting 17:30.

SeaWatcher app

SeaWatcher is a new App for collecting geo-referencing observations of marine litter, invasive and protected species. SeaWatcher was developed by the [Information and Communication Regional Activity Center \(INFO/RAC\)](#), which operates inside the [Higher Institute for Environmental Protection and Research \(ISPRA\)](#) in the framework of the bilateral agreement between the [Italian Ministry of Environment \(MATTM\)](#) and the [Mediterranean Action Plans for the environment and the Mediterranean of the United Nations \(UNEP/MAP\)](#).

On 6 September 2020, SeaWatcher will be showcased to the public. Citizens will be quickly trained on its use, and involved in monitoring marine litter along the coastline of Trieste. The event will also include a brief discussion on the issues related to marine litter, and especially plastic waste, and the role of citizens' involvement in the UNEP Mediterranean Action Plan.

18:30 Virtual visit of Trieste

20:30 Conference opening and keynote session 1

Keynote | Chairperson: Enrico M. Balli | Sunday, 06 September 2020 | 20:45-22:00

20:45-21:00 | Conference opening

Presenters: [Enrico M. Balli](#), [Dorte Riemenschneider](#), [Johannes Vogel](#)

21:00-22:00 | Citizen science in the times of Covid-19

Lucile Ottolini, Thomas Landrain, Marc Santolini

Presenters: [Lucile Ottolini](#), [Thomas Landrain](#), [Marc Santolini](#), [Jérôme Tricomi](#)

Monday
7 September

1. Citizen science and the SDGs I

Workshop session | Chairperson: Fanny Gutsche-Jones | Monday, 07 September 2020 | 10:00-11:30

10:00-11:30 | 1.1 Go local or go home?
Tackling the SDGs at the local level

Rosy Mondardini, Fanny Gutsche-Jones, Florian Heigl and Daniel Dörler; Anna Jobin, Azure Grant, Elizabeth Jones and Fanny Gutsche-Jones; Madeleine Cléa Montanari, Mordechai Haklay, Rosy Mondardini, Liesbet Jacobs and Felix Kwabena Donkor.

Presenters: [Rosy Mondardini](#), [Azure Grant](#), [Madeleine Cléa Montanari](#), [Liesbet Jacobs](#)

2. Citizen science and nature

Workshop session | Chairperson: Rachel Kelly and Aletta Bonn | Monday, 07 September 2020 | 10:00-11:30

10:00-11:30 | 2.1 Citizen science: linking and empowering people to protect nature

Rachel Kelly, Aletta Bonn and Assaf Schwartz

Presenters: [Rachel Kelly](#), [Aletta Bonn](#), [Sven Schade](#), [Assaf Schwartz](#), [Michael Pocock](#)

The panel will be anchored by five short presentations, followed by a Q&A session and an open discussion with workshop participants on the (potential) role of citizen science in connecting people to nature, and empowering people to understand and protect nature. We invite input and participation from researchers and practitioners in the ECSA community, by extending questions and polls to the audience that are intended to develop conversation. We intend to collate the results of this dialogue with a review of the literature, to develop a perspective article on linking and empowering people to protect nature via citizen science.

11:30 Coffee break

Enjoy this coffee break with the Trieste local products you have received in your conference bag*. Join us in the [social room](#) to share your coffee and impressions from the conference.

Enjoy!



* Conference bags were sent to all participants that opted for either the supporter or standard rate.

3. Citizen science and the SDGs II

Parallel session | Chairperson: Martin Brocklehurst | Monday, 07 September 2020 | 12:00-13:00

12:00-12:30 | 3.1 The contribution of citizen science to the monitoring of the UN Sustainable Development Goals

Dilek Fraisl, Jillian Campbell, Linda See, Uta Wehn, Jessica Wardlaw, Margaret Gold, Inian Moorthy, Libby Hepburn, Rosa Arias, Jaume Piera, Jessie L. Oliver, Joan Masó, Marianne Penker, Steffen Fritz and Libby Hepburn

Presenters: [Dilek Fraisl](#), [Linda See](#)

The UN Sustainable Development Goals (SDGs) are a call to action to tackle the world's greatest challenges. The key question is how to achieve the SDGs when there are large data gaps or the data are not comprehensive enough to make timely decisions to enhance people's wellbeing. This session will demonstrate the value of citizen science for the SDGs including examples of how citizen science currently contributes to SDG monitoring as well as where it has the potential to contribute. Recommendations for how citizen science data can be integrated into the official statistics used for SDG reporting will be provided.

12:30-13:00 | 3.2 Citizen science on agriculture and food to achieve the Sustainable Development Goals: co-creating an ECSA working group

Anett Richter, Jacob van Etten and Marijn van der Velde

Presenters: [Marijn van der Velde](#), Jacob van Etten, [Anett Richter](#)

4. Citizen science and health I

Parallel session | Chairperson: Marzia Mazzonetto | Monday, 07 September 2020 | 12:00-13:00

12:00-12:15 | 4.1 Serious games and public health citizen science

Ann Borda, Andreea Molnar and Patty Kostkova

Presenter: Ann Borda

12:15-12:30 | 4.2 Patient science as a new citizen science approach? When fragile groups such as chronically ill people become citizen scientists

Nils Heyen

Presenter: [Nils Heyen](#)

Citizen science in health-related fields usually follows a crowdsourcing approach. By contrast, we set up a citizen science project on a much higher engagement level. Here, a team of professional and citizen (patient) scientists has jointly planned, implemented and evaluated a scientific study on a chronic disease from which the patient scientists themselves suffer. In my presentation, I will briefly introduce this "Patient Science" project and indicate some conceptual differences to traditional participatory approaches in health research. After reflecting on the implications of involving chronically ill people, I will finally discuss the benefits and challenges of the patient science approach.

12:30-12:45 | 4.3 The value of citizen science in a study on chronic pain on the citizen science platform 'Crowdience'

Serena Daalmans, Ruben Blezer, Giulieta Nalbandyan and Kirsten Bevelander

Presenter: [Kirsten Bevelander](#)

Citizen science projects requesting citizens to assist in designs that improve their health (care) are scarce. Additionally, there is debate about the value of citizen science. This study explored crowdsourced information and traditional focus group sessions. Chronic pain patients were asked to share how they deal with chronic pain, how professionals can gain better insights into their health situation and how their ideal care house would look like. Findings of the offline focus group sessions and online crowdsourced information are presented, showing the value of citizen science for health care. Info about the crowdsourcing platform 'Crowdience': www.youtube.com/watch?v=4edo9zXPpqw and www.youtube.com/watch?v=Nf5kIFxUVyA

12:45-13:00 | 4.4 Investigating the process of ethical approval in citizen science research: the case of environmental epidemiology

Antonella Ficorilli, Giovanni Maccani, Mara Balestrini, Annibale Biggeri, Bruna De Marchi, Florence Gignac, Regina Gražulevičienė, Gerard Hoek, Tjaša Kanduč, David Kocman and Xavier Basagaña

Presenter: [Antonella Ficorilli](#)

The presentation provides information about the strategies envisioned by CitieS-Health project to address the ethical issues identified. For instance the adoption of a two-step ethical process and the introduction of new elements in the study protocol. Some relevant feedback of Ethics Committees that emerged during the process of ethical approval will be illustrated. This feedback needs to be investigated as it appears to be a complex issue, considering the current legal rules and the diversity among European countries concerning Ethics Committees. Issues such as how to address the shared responsibilities from a legal point of view should receive special attention.

Lunchtime events

13:00 Networking lunch: meet ECSA and the board

Come and join us for a networking lunch with ECSA – HQ staff, board members and working group chairs – and feel free to ask us anything! This is your chance to get to know ECSA a little better: you can ask us the questions you have always wanted to know, or share your ideas for the association's future.

Whether you have a question in mind, or you are just curious to find out what ECSA is up to, come and join us for an informal chat. We are sure that this will make your lunch much tastier!

13:30 Sponsored lunch with Crowd4SDG



The impacts of climate change include more extreme weather, leading to floods and drought that are putting urban communities under increasing stress. How can crowdsourcing and citizen science be used to monitor and address

Urban Water Resilience? In this ECSA Conference sponsored lunch, the Crowd4SDG project partners, together with the social network Goodwall, the LinkedIn for GenZ, will introduce the #Open17Water challenge that they are launching on this day. Young innovators ages 16-26 who pitch the most inspired ideas over the coming month will be selected for online and in-person coaching over a six-month period provided by the Crowd4SDG partners, to develop their idea into a sustainable project.

The best projects will be invited to Geneva to present their results to UN experts and impact investors. A winning team from a previous #Open17 challenge, Digital Water from Mexico, will present the status of their project today, to illustrate what inspired students can achieve. A Q&A session will focus on connecting the #Open17Water challenge with other citizen science projects and shaping similar citizen science challenges that the Crowd4SDG project will launch over the coming two years.

The Crowd4SDG partners are: University of Geneva, European Organization for Nuclear Research (CERN), Spanish National Research Council (CSIC), Politecnico di Milano, United Nations Institute for Training and Research (UNITAR), University of Paris. The #Open17Water challenge is a collaboration with Goodwall and Citizen Science Center Zurich.

For more information about Crowd4SDG: www.crowd4SDG.eu

To apply for the #Open17Water challenge: www.goodwall.io/tags/open17water

5. Networks and communities of practice

Parallel session | Chairperson: Regina Lenart-Gansiniec | Monday, 07 September 2020 | 14:30-15:30

14:30-15:00 | 5.1 Practice what we preach: co-creating value with participants in communities of practice on citizen science

Uta Wehn, Dilek Fraisl, Joan Maso and Teresa Cerrato Pargman

Presenters: [Uta Wehn](#), [Dilek Fraisl](#), [Joan Maso](#)

15:00-15:15 | 5.2 Onto new horizons: learnings from the WeObserve project to strengthen awareness, acceptability and sustainability of citizen observatories in Europe

Gerid Hager, Margaret Gold, Izabela Freytag, Dahlia Domian, Joan Masó, Inian Moorthy, Linda See, Valantis Tsiakos, Uta Wehn, Mel Woods and Steffen Fritz

Presenters: [Gerid Hager](#), [Margaret Gold](#), [Uta Wehn](#)

WeObserve delivers the first European-wide Citizen Observatory (CO) knowledge platform to share and highlight best practices and to identify and address challenges to inform practitioners, policy makers and funders of (future) COs. This presentation will discuss key insights and recommendations acquired from the WeObserve project, to inform the Horizon Europe research and innovation programme (under Pillar II: Global Challenges and European Industrial Competitiveness and activities for “Widening participation and strengthening the European Research Area”), as well as other funding programmes and CO practitioners more generally.

6. Air quality and citizen science

Parallel session | Chairperson: Martin Brocklehurst | Monday, 07 September 2020 | 14:30-15:30

14:30-15:00 | 6.1 Air quality and citizen science

Hester Volten, Núria Castell, Linda Carton, Lukas Mocek, Marta Oliveira, Györgyi Bela, Micheal Jørgensen, Kate Stone, Sven Schade and Pawel Wyszomirski

Presenters: [Hester Volten](#), [Núria Castell](#), [Kate Stone](#), [Marta Câmara Oliveira](#)

The air quality working group consists of people active in a great diversity of citizen science projects to measure air quality. We learn from each other and work together to scale up measuring methods. We organize the [European Clean Air Day](#) on 15 October 2020. Citizen scientists can find and join activities to monitor air quality all over Europe.

Our next meeting will be about Accessing Air Quality Information Lisbon and San Francisco: Two Perspectives on Governmental and Citizen Science Data, by Marta Oliveira and Kate Stone.

Interested? We welcome new members, [please click here](#).

15:15-15:30 | 5.3 A collaborative endeavour
to develop criteria for citizen science
platforms

Daniel Dörler, Florian Heigl, Jef Van Laer, Gitte
Kragh, Cristina Luis, Patrícia Tiago, Liesbeth
Gijssels and Barbara Kieslinger

Presenters: [Daniel Dörler](#), [Florian Heigl](#),
[Patrícia Tiago](#)

Citizen science (cs) platforms are displaying
cs projects, connecting cs actors and
promoting cs. A challenge for platform
coordinators is to decide which projects to
include on their websites. This requires a
transparent, easy to implement evaluation
process ensuring the credibility of the
platforms and the trust in cs, without being
restrictive towards new and alternative cs. The
ECSA working group “Citizen Science
Networks” is developing inclusion criteria for
projects in an open process. We invite
interested people to be part of this process by
providing feedback on a first draft of criteria,
raise concerns but also to ask questions.

7. Citizen science and humanities

Parallel session | Chairperson: Margaret Gold |
Monday, 07 September 2020 | 15:30-16:30

15:30-15:45 | 7.1 Public participation in humanities research: early citizen science on the example of the DBÖ collection

Thomas Palfinger, Enrique Senabre Hidalgo, Eveline Wandl-Vogt and Barbara Piringer

Presenter: [Eveline Wandl-Vogt](#)

15:45-16:00 | 7.2 Reaching the limits of co-creation in citizen science, exemplified by the linguistic citizen humanities project 'On everyone's mind and lips – German in Austria'

Barbara Heinisch

Presenter: [Barbara Heinisch](#)

Co-creation aims at integrating citizens in the entire research process. The citizen linguistics project German in Austria tests this approach in the humanities based on the assumption that language is ubiquitous. The project combines different forms of public participation, including a co-created format, where citizens can raise (and answer) research questions about the German language in Austria and a linguistic treasure hunt, where citizens collect and analyse data on linguistic landscapes. However, co-creation was hard to implement. Although the number of participants was higher, their willingness to contribute to more than one research step was lower compared to the treasure hunts.

8. Citizen science case studies: insect monitoring

Parallel session | Chairperson: Martin Brocklehurst | Monday, 07 September 2020 | 15:30-16:30

15:30-15:45 | 8.1 Global Mosquito Alert: building a worldwide network to leverage citizen science in the fight against mosquito-borne disease

John Palmer, Anne Bowser, Jessie Oliver, Martin Brocklehurst and Russanne Low

Presenter: [Anne Bowser](#)

Global Mosquito Alert (GMAC) leverages networks of scientists and volunteers for the global surveillance and control of disease-vector mosquitoes. Global Mosquito Alert offers an open, common set of protocols and toolkit that is augmented with modular components created to meet both global and local research and management needs. The initiative is organized around 4 pillars: (1) Real-time targeted vector mosquitoes, (2) Larvae and breeding sites, (3) Bites and nuisance, and (4) Biodiversity specimens/ DNA. This talk offers an overview of projects in the GMAC consortium, and explores overarching concepts of collaboration and scale.

15:45-16:00 | 8.2 *Melanogaster*: Catch the Fly! (MCTF) the first European network of citizen science in adaptation genomics

Roberto Torres, Miriam Merenciano, María Bogaerts-Márquez and Josefa González

Presenter: [Roberto Torres](#)

Melanogaster: Catch the Fly!" (MCTF) is the first European network of citizen science in adaptation genomics. In MCTF, high school teachers and students from rural areas of Spain, participate collecting and classifying *Drosophila melanogaster* (fruit flies). The

16:00-16:15 | 7.3 Citizen Social Science or the public participation in social science research

Rita Campos, José Pedro Monteiro and Cláudia Pato de Carvalho

Presenter: [Rita Campos](#)

Acknowledging the consolidation of citizen science, this paper aims to foster a collective debate on two visible gaps of the field. First, how to overcome the limited participation of social sciences and humanities in the broader field of citizen science, still dominated by natural sciences. Second, how to develop a citizen social science that allows for an active participation of citizens and for a critical engagement with contemporary societies. The authors coordinate a state-sponsored program of scientific dissemination within a Portuguese research institution and this paper intends to lay the groundwork for a future project of Citizen Social Science.

16:15-16:30 | 7.4 Citizen Science Lab Leiden: a co-creative approach to developing citizen science projects

Matthijs Begheyn, Anne Land-Zandstra, Liselotte Rambonnet, Pedro Russo and Frans Snik

Presenter: [Matthijs Begheyn](#)

collections are sent to the Evolutionary and Functional Genomics Laboratory (IBE, CSIC-UPF) in order to study how organisms adapt to the environment. To promote the interest of the public in Evolutionary Biology and the importance of their contributions to scientific research, prior to collecting samples, participants learn about Biology and Genetics concepts as well as the importance of generating knowledge through basic research. We provide the schools with educational materials that help teachers convey the importance of the scientific questions behind the citizen science project. All Spanish schools that are part of MCTF will continue their collaboration with scientists for a five-year period. They will also act as role models for other schools in Europe, as we want to extend MCTF to the countries that are part of the European Drosophila Population Genomics Consortium, and beyond. MCTF promotes a deep engagement of the participants and their communities, because it allows them to directly contribute to research in Evolutionary biology. MCTF also allows the public to be part of science advances, no matter how far away they are from a research center or University.

16:00-16:15 | 8.3 Media presence of 'Mückenatlas' affects citizens to catch mosquitoes for science

Nadja Pernat, Helge Kampen, Emu-Felicitas Miyashita-Ostermann, Jonathan M. Jeschke and Doreen Werner

Presenter: [Nadja Pernat](#)

In 2012, the 'Mückenatlas' was launched to research the distribution of invasive and native mosquitoes in Germany together with citizens who are called upon to catch mosquitoes for science. Although more than 25,000 participants have now sent in more than 138,000 mosquitoes, their motivation for doing so is still unclear. Here we present how the news coverage of the 'Mückenatlas' affects the number of submissions, both in terms of

time and space. We demonstrate that the effort and time the project staff puts into proactive media work and in maintaining media relations present a crucial success factor for the project.

16:15-16:30 | 8.4 Speed talk:

Insekt(en)Mobil(en) - Country specifics to the German adaptation of a Danish citizen science insect monitoring programme'

Susanne Hecker, Cecilie Skræp Svenningsen, Anders P. Tøttrup, Nicole M. van Dam, Juliana Da Silva Menger, Joachim Denzler, Matthias Körschens, Volker Grescho, Anett Richter, Jonas Colling Larsen, Diana Bowler, Guadalupe Andraca, Robert Dunn and Aletta Bonn

Presenters: [Susanne Hecker](#), [Anders P. Tøttrup](#)

InsectMobile is a citizen science insect monitoring project, designed by the Natural History Museum Denmark and University of Copenhagen, using car nets and engaging volunteers in sampling insects in various land use types. Running between 2017 and 2020 in Denmark it has been adopted as a scoping study in Germany since 2018 by the German Centre for Integrated Biodiversity Research and research partners. You will learn about our sampling design and respective analysis from DNA metabarcoding to automated image analysis as well as preliminary results.

16:30 Coffee break

Enjoy this coffee break with the Trieste local products you have received in your conference bag. Join us in the [social room](#) to share your coffee and impressions from the conference.

Enjoy!



Keynote session 2: Interaction Design Encounters Citizen Science: Seeing Eye to Eye!

Keynote | Chairperson: Muki Haklay | Monday, 07 September 2020 | 17:00-18:30

17:00-17:45 | Interaction Design Encounters Citizen Science: Seeing Eye to Eye!

Jennifer Preece

Presenter: [Jennifer Preece](#)

Interaction Design (ID) draws on design methods developed by Human-Computer Interaction (HCI) researchers and practitioners over more than 40 years. Citizen science brings together individuals and communities to provide reliable, trusted methods that create measurable and meaningful impacts. Encounters between Interaction Designers and Citizen Scientists in which project goals and technology design are harmonized can lead to new agendas for both disciplines and more productive use of technology within citizen science projects. In this talk I discuss and provide examples of the challenges and benefits of encounters between these two disciplines.

17:45-18:30 | Citizen Science Theory and Practice and Q&A

Jennifer Preece

Presenter: [Jennifer Preece](#)

This part of the session will take place in the Conference Event Room on Zoom.

Tuesday
8 September

9. Participation in citizen science

Workshop session | Chairperson: Katerina Zourou | Tuesday, 08 September 2020 | 10:00-11:30

10:00-11:30 | 9.1 Working with both 'dabblers' and 'super-users': engagement journeys and data quality

Kate Lewthwaite, Rebecca Gosling and Janice Ansine

Presenters: [Kate Lewthwaite](#), [Rebecca Gosling](#), [Janice Ansine](#)

For Kate Lewthwaite's presentation "Working with Dabblers and Superusers in the Nature's Calendar project" and superusers in the At the Woodland Trust (a UK environment charity) we have three long-term citizen science projects involving both "dabblers" and "superusers".

- Our project "Nature's Calendar" asks volunteers to record seasonal signs like the date when butterflies emerge. These dates feed into monitoring of the impacts of climate change.
- We aim to move people along a deepening engagement journey e.g. we encourage people who have made their first 'Nature's Calendar' record to make more.
- With inexperienced 'dabblers', verification of records is especially important to maintain credibility and reliability of our data and consistency across volunteers with a different amount of experience.

For Rebecca Gosling's presentation "the Observatree project: superusers in citizen science" The UK's Observatree project uses expert citizen scientists to conduct tree health surveys, which identify and record priority pests and diseases throughout the country. The tools and resources developed by the project to create super users and the benefits of these to the volunteers will be outlined. The advantages and challenges of super users will

10. Citizen science and health II

Workshop session | Chairperson: Gaston Remmers | Tuesday, 08 September 2020 | 10:00-11:30

10:00-11:30 | 10.1 Enhancing health through citizen science

Gaston Remmers, Lea den Broeder, Sabine Wildevuur and Martijn de Groot

Presenters: [Gaston Remmers](#), [Sabine Wildevuur](#), [Lea den Broeder](#), [Bastian Greshake Tzovaras](#), [Martijn de Groot](#)

The source of this online, interactive workshop are the experiences of the attendees with Citizen Science for Health. Participants will:

- 1) Jointly explore and discuss what the dimensions and challenges are of citizen science for health, and how citizen science for health is distinct from other areas than health
- 2) Work towards a theoretical framework, based on the active input by the participants (using online polls).

Please share your good practices with us. The output of the workshop will serve as a base for a green paper on Enhancing Health through Citizen Science, that will be shared within ECSA. It will also serve as a starting point for creating an international network on Enhancing Health through Citizen Science.

Please make your interest known and register at: g.remmers@mdog.nl

be discussed, along with how barriers to engagement for this project are identified and overcome. Lastly, some case studies will be presented to demonstrate how super users are contributing important

10:00-11:30 | 9.2 When participants want to do more: co-creating a community of participants

Anne Land-Zandstra, Ilja Beudel and Liselotte Rambonnet

Presenters: [Ilja Beudel](#), [Liselotte Rambonnet](#)

10:00-11:30 | 9.3 A gamified participatory approach for community mapping

Emilio Velis, Diego Torres and Gino Caballero

Presenter: [Emilio Velis](#)

10:00-11:30 | 9.4 Lowering the activation energy for citizen science projects in chemistry

Alice Motion and Claire Murray

Presenter: [Alice Motion](#)

11:30 Coffee break

Enjoy this coffee break with the Trieste local products you have received in your conference bag. Join us in the [social room](#) to share your coffee and impressions from the conference.

Enjoy!



11. Data issues

Parallel session | Chairperson: Holly Woodward | Tuesday, 08 September 2020 | 12:00-13:00

12:00-12:15 | 11.1 Data quality in citizen science: a big data aggregator's perspective

Peter Brenton and Anne Bowser

Presenter: Peter Brenton

Data aggregators accumulate data from many sources, including citizen science projects, natural history collections, government databases and researcher datasets. These data are used by research, consulting and applied scientists, natural resource managers, industry, the general public and educators, as well as policy and decision makers in government. Using the Atlas of Living Australia (ALA) and Earth Challenge 2020 (EC2020) as examples, we look at how data flows from collection, through aggregators and on to applied uses by 3rd parties and consider the importance of data quality and data standards in streamlining and maximising the value of data in this supply chain.

12:15-12:30 | 11.2 Citizen science and personal data protection: the LandSense approach

Andreas Matheus, Inian Moorthy, Linda See, Matej Batic and Steffen Fritz

Presenter: [Andreas Matheus](#)

This session introduces the issues, lessons learned and best practices from the perspective of the H2020 LandSense project regarding the implementation and operation of an AaaS (Authentication as a Service) to support login from social media and academic institutions globally via eduGAIN. As a key service of the LandSense Engagement

12. The EU-Citizen.Science platform

Parallel session | Chairperson: Marzia Mazzonetto | Tuesday, 08 September 2020 | 12:00-13:00

12:00-13:00 | 12.1 What is EU-Citizen.Science all about? Join the widest European citizen science community and find out what is in it for you

Marzia Mazzonetto, Francisco Sanz Garcia, Dilek Fraisl, Muki Haklay, Jonathan Brier, Margaret Gold and Katherin Wagenknecht

Presenters: [Marzia Mazzonetto](#), [Silke Voigt-Heucke](#), [Margaret Gold](#), [Francisco Sanz](#), [Jonathan Brier](#), [Dilek Fraisl](#), [Muki Haklay](#)

You might have heard about it, there is a new online platform dedicated to citizen science: [EU-Citizen.Science](#). Launched in Spring 2020, it provides useful services to a very broad community of users. Whether you are a citizen looking for support to find out more about the air quality in your community, a citizen science professional looking for inspiring practices, or a civil servant curious about why some countries are suddenly investing budget in supporting it, that's where you can find what you are looking for. Funded by the EC, EU-Citizen.Science provides high-quality resources, training and networking opportunities.

Platform (LEP), the AaaS enables a GDPR compliant exchange of personal data between users and applications accessing LEP services. Important for establishing trust in user contributions, the AaaS also supports pseudonymized access based on cryptonames that allow profiling of users without being able to resolve the identity of the user.

12:30-12:45 | 11.3 Cos4Cloud - Integrating citizen science in the European Open Science Cloud - Challenges and opportunities for developing a new generation of citizen science observatories

Jaume Piera, Karen Soacha, Sonia Liñán, Miquel-Àngel Rodríguez, Maria Daskolia, Luigi Ceccaroni, Lara Lloret, Fernando Aguilar, Janice Ansine and Cos4Cloud consortium

Presenter: [Jaume Piera](#)

Citizen science is one of the eight priorities of the European Open Science Agenda, together with the creation of the European Open Science Cloud (EOSC). Citizen Science yields in a community that is continuously expanding. This represents large-scale challenges for citizen observatories who facilitate an efficient capture, identification, validation, stewardship and storage of large volumes of citizen science data. Within this framework, the Horizon 2020 project, Co-designed Citizen Observatories Services for the European Open Science Cloud (Cos4Cloud), aspires to integrate citizen observatories in the EOSC ecosystem, developing essential research and technology to co-design and prototype innovative services

12:45-13:00 | 11.4 Empowering individuals and communities to use personal data for citizen science

Bastian Greshake Tzovaras and Mad Price Bal

Presenter: [Bastian Greshake Tzovaras](#)

All of our lives are increasingly digitized and connected to the internet, with each one of us creating and collecting more personal data. While these rich data collections can be highly problematic in how they can potentially be abused by both corporations and academic researchers, they also offer an unprecedented chance for research writ large, including citizen science. We present how Open Humans, a community-based platform, allows members to collect their data across; gives them tools to explore it along with controls to share their data with a variety of projects to enable participant-led citizen science.

Lunchtime events

13:30 Sponsored lunch with JCOM



The pandemic caused by the novel coronavirus SARS-Cov-2 has dramatically re-shaped social relations in many ways including the flow of information around the globe. In such contexts, both science and science communication together have taken an important role in the battle against the disease, developing protocols, vaccines and treatments, but also strategies to communicate change of behaviour and attitudes in order that societies and citizens reduce the chances of being contaminated and the virus propagated.

In this session, we will approach the theme “COVID-19, science communication and citizens” under different perspectives:

Joseph Roche (Assistant Professor, School of Education and Science Gallery Dublin, Trinity College Dublin, Ireland) will talk about EU-Citizen.Science, an online platform for sharing knowledge, tools, training and resources for citizen science – by the community, for the community, in which his role is to look at the challenges and opportunities that arise between citizen science and science education.

Luisa Massarani (Coordinator of the National Institute of Public Communication of Science and Technology and of the Master in Communication of Science, Technology and Health, House of Oswaldo Cruz, Fiocruz, Brazil) will talk about research, science communication and COVID-19, in particular within the scope of the special issue prepared for [JCOM](#): the Journal of Science Communication, in which she is one of the editors.

Marina Joubert Senior researcher on Science Communication, Stellenbosch University, South Africa) will talk about how South African newspaper cartoonists portray the coronavirus.

Padraig Murphy (Assistant Professor, Programme chair for MSc in Science and Health Communication, School of Communications, Dublin City University, Ireland) will be the moderator, also adding a STS perspective to the discussion.

13. Citizen science case study: cross-cultural settings

Parallel session | Chairperson: Baiba Prūse |
Tuesday, 08 September 2020 | 14:30-15:30

14:30-15:00 | 13.1 X-Polli:Nation: expanding encounters on pollination citizen science projects across projects and countries - would you like to join us?

Poppy Lakeman Fraser, Advait Siddharthan, Andrea Sforzi, René van der Wal, Mary Jackson, Annie Robinson, Julie Newman, Paola Talluri, Marco Anselmi, Laurence Evans, Claire Abercrombie, David Slawson, Roger Fradera and Rich Gill

Presenter: [Poppy Lakeman Fraser](#)

X-Polli:Nation: Working together to cross-pollinate ideas for monitoring and conserving pollinators, improving citizen science practice and facilitating learning and wonder in young people.

Join us for an interactive session where we demonstrate how these Artificial Intelligence tools can be useful to you, before we explore the opportunity for building an improved AI and pollination CS network across Europe. From the project's inception, with National Geographic funding, our driving force has been to come together to build technology-enhanced citizen science networks for pollinators and we would love you to connect with us for the next step in this journey.

15:00-15:30 | 13.2 The X-Polli:nation project: technology-mediated actionable citizen science in schools

Advait Siddharthan, Poppy Lakeman Fraser, Julie Newman, Andrea Sforzi, Mary Jackson, Annie Robinson, Claire Abercrombie, Laurence Evans, Roger Fradera, Richard Gill, Rene van der Wal, David Slawson, Helen Anderson,

14. Citizen social science

Parallel session | Chairperson: Niels Gommesen | Tuesday, 08 September 2020 | 14:30-15:30

14:30-15:30 | 14.1 Towards a citizen social science methodology: examining cultural and social practices of citizen science research

Lead authors: Stefan Thomas, David Scheller, Dick Kasperowski, Niels Gommesen, Niclas Hagen. Secondary authors: Jo Havemann, Katja Mayer, Josep Perelló, Veronika Wöhrer

Presenters: [Dick Kasperowski](#), [Niclas Hagen](#), [Stefan Thomas](#), [Deborah Swistun](#), [Niels Gommesen](#), [Guillermina Actis](#)

In recent years, scholars from the social sciences and humanities have engaged in the field of Citizen Science (CS). We understand this turn towards a Citizen Social Science (CSS) as an invitation to citizens to participate and collaborate in potentially all phases of the research process by putting the (local) communities needs and concerns in the center. CSS engages with current discourses on political participation in democratic societies highlighting central dimensions of CS such as inclusion, contribution, and reciprocity, which must be supplemented with further concepts such as responsibility, transparency, mutual trust and research ethics.

Session Organizers: Stefan Thomas (University of Applied Science Potsdam), David Scheller (University of Applied Science Potsdam), Dick Kasperowski (University Gothenburg) Niclas Hagen (University Gothenburg), Niels Jørgen Gommesen (University of Southern Denmark)

“Seven principles for citizen social science: the research forum as a foundation for a participatory approach“

Stefan Thomas (University of Applied Sciences Potsdam), David Scheller (University of Applied Sciences Potsdam)

Stefan Rueger, Janice Ansine, Michael Dodd,
Nirwan Sharma and Ruth Staples-Rolfe

Presenter: [Advaith Siddharthan](#)

“Participatory knowledge production and their transformative potential for environmental justice: the case of Matanza-Riachuelo river basin (Buenos Aires, Argentina)”

14:40-14:50 Débora Swistun (Fundación Ambiente y Recursos Naturales), Valeria Arza and Guillermina Actis (Universidad Nacional de San Martín)

“New boundaries: themes of ethical boundary work in citizen science”

14:50-15:00 Dick Kasperowski (University of Gothenburg) and Niclas Hagens (University of Gothenburg) “Citizen science and artificial intelligence: communication, culture and ethics”

15:00-15:10 Niels Jørgen Gommesen (Southern University of Denmark)

15:10-15:30 General discussion

15. Citizen science and environmental policy

Parallel session | Chairperson: Alison Parker | Tuesday, 08 September 2020 | 15:30-16:30

15:30-16:30 | 15.1 Citizen science and environmental policy

Hester Volten, José Miguel Rubio Iglesias, Jennifer Shirk and Kim de Rijck

Presenters: [José Miguel Rubio Iglesias](#), Kim de Rijck, [Jennifer Shirk](#), [Hester Volten](#)

This workshop reviews work by environmental management and regulatory agencies, both in the US and in Europe, to support citizen science in policy contexts. The session opens with perspectives from several US agencies striving to provide infrastructure for effective projects, illustrated by one regional case study. Attendees will then hear about activities carried out by European EPAs, in particular the Interest Group on Citizen Science and air quality initiatives by RIVM (Netherlands). The workshop will close with the presentation of a European Commission document on citizen science and environmental monitoring, recently published, which targets both public authorities and citizen science communities.

16. Citizen science and mobile apps

Parallel session | Chairperson: Margaret Gold | Tuesday, 08 September 2020 | 15:30-16:30

15:30-16:30 | 16.1 Mobile apps in Citizen Science

Sven Schade, Ulrike Sturm, Soledad Luna and Chrisa Tsinaraki // Steven Richardson, Melanie Duncan, Katy Mee, Anna Hicks, Richard Robertson, Michelle Forbes, Idelia Ferdinand, Colm Jordan and Sue Loughlin // Friederike Klan, Christopher Kyba, Nona Schulte-Römer, Helga Kuechly and Sicco Bauer

Presenters: [Sven Schade](#), [Ulrike Sturm](#), [Soledad Luna](#), [Chrisa Tsinaraki](#), [Steve Richardson](#), [Friederike Klan](#), Sicco Bauer

Mobile applications are increasingly used with the intention to support Citizen Science and to advance scientific research by using new technologies. Over the past decade we witnessed a series of success cases, but also failures. A series of activities were already carried out in order to improve the current situation, but most recent research underlines that we are still far from an ideal setting. Accordingly, this session is set up to raise the awareness and sensitivity about the opportunities and challenges when considering the use and development of mobile applications for Citizen Science.

16:30 Coffee break

Enjoy this coffee break with the Trieste local products you have received in your conference bag. Join us in the [social room](#) to share your coffee and impressions from the conference.

Enjoy!



P1: Citizen science centres I

E-poster session | Chairperson: Joaquin Cochero | Tuesday, 08 September 2020 | 17:00-17:15

17:00-17:05 | P1.1 From science centers to citizen science centers

Ricardo Zabala

Presenter: [Ricardo Zabala](#)

A growing number of amateur science communities are making a contribution to scientific production and significantly changing the way science is done, applied, perceived and disseminated. Citizen science, community bio-DIYbio, and open science movements are redefining scientific production, empowering citizens and expanding amateur expertise. There is a need for spaces and programs that facilitate citizen and community driven scientific and cultural production. Here we present a project to create such a space, a Citizen Science Centre in the city of Bilbao. With the help of an international team of experts BLOOK has created a unique space for citizen science.

17:05-17:10 | P1.2 Discover how libraries are catalyzing citizen science

Darlene Cavalier, Dan Stanton and Vivienne Byrd

Presenters: [Darlene Cavalier](#), [Dan Stanton](#), [Vivienne Byrd](#)

Libraries are strong community anchors, enhance civic engagement, and help prepare people to be full participants in their local and global societies. Well-designed collaborations between libraries and citizen science partners have proven to address critical barriers in citizen science infrastructure—including low awareness of citizen science and lack of access to instruments and resources—which prohibits broad, quality participation in citizen

P2: Biodiversity I

E-poster session | Chairperson: Andrea Troncoso | Tuesday, 08 September 2020 | 17:00-17:15

17:00-17:05 | P2.1 Natura Alert: monitoring biodiversity threats using citizen science

Sofia Capellan, Ivan Ramirez, Linda See, Anto Subash, Inian Moorthy, Steffen Fritz, Octavio Infante and Lalu Abdi Wirastami

Presenter: [Sofia Capellan](#)

Since the late 1970s, the BirdLife Partnership has been working collectively to identify, document and protect the most significant places for the conservation of the world's birds. Over 13,000 Important Bird and Biodiversity Areas (IBAs) have been identified. However, we lack comprehensive monitoring of the condition of these sites, with an increasing number of IBAs under threat from damaging development. Natura Alert has been developed within the Horizon 2020-funded LandSense Citizen Observatory. Natura Alert is a mobile app and web portal that allows users to pinpoint the location of threats to biodiversity and habitat changes, to prevent the further damage or loss to our biodiversity, particularly inside IBAs, Key Biodiversity Areas (KBAs) and Natura 2000 sites. It is being tested in Spain and Indonesia. While the Spanish volunteers are focusing on threats to birds and habitats within IBAs and Natura 2000 sites, the Indonesian communities are validating alerts from satellite-image analysis for forest change on Flores island.

17:05-17:10 | P2.2 Citizen science practices in the International Long-Term Ecological Research (ILTER) Network

Caterina Bergami, Cathlyn Stylinski, Alessandro Campanaro, Alessandra Pugnetti, Alessandro Oggioni and Alba L'Astorina

science. This Poster will highlight successful and expanding citizen science collaborations between libraries and other community partners: in-person, prior to Covid; virtually, during prolonged Covid restrictions; and addressing the shortcomings of each mode, exposed by the Covid crisis.

17:10-17:15 | P1.3 Impacts of citizen science projects with schools: consolidating partnerships between research and education

Petra Siegele, Marika Cieslinski and Walburg Steurer

Presenters: [Marika Cieslinski](#), [Walburg Steurer](#)

From 2007 to 2019 the Austrian Federal Ministry of Education, Science and Research supported almost 300 citizen science projects with schools through the funding programme Sparkling Science (SPA). The aim was to bridge gaps between educational and academic systems in Austria by actively involving pupils at all levels in scientific research projects. Evaluations show that this bold undertaking was achieved. Cooperation between SPA project partners lasts even beyond project duration and some only start after its end. Types of collaborations include informal contact, common events and research projects, talks or presentations at the partner institution etc.

Presenter: [Caterina Bergami](#)

The International Long-Term Ecological Research (ILTER) network represents an interesting scenario where to explore scientists' perspectives on the benefits, opportunities and challenges of citizen science (CS). Actually, its site-based science research across long time scales, embedded in local communities, presents opportunities for deep relationships with various stakeholders.

We describe some general trends obtained from a survey conducted among ILTER scientists about CS: CS at ILTER sites is quite distributed and common, initiatives are mainly focused on biology and environmental science, volunteers are generally trained and are more involved in collecting samples and data than in defining research questions.

17:10-17:15 | P2.3 What do young volunteers learn from participation in online crowdsourced citizen science? Environmental science learning through Zooniverse

Christothea Herodotou, Tina Papathoma, Maria Aristeidou, Grant Miller, Maryam Ghadiri, Julia Lorke and Heidi Ballard

Presenter: [Maria Aristeidou](#)

We explored whether and what young volunteers report they learn from their participation specifically in the online CS projects on the Zooniverse platform. We interviewed 10 self-selected young volunteers aged 8-13 years old (n=4) and 16-19 years old (n=6) (Male= 3; Female= 7). We used the framework of Environmental Science Agency (ESA) (Ballard et al., 2017), an adaptation from Basu and Calabrese Barton's (2009) concept of Critical Science Agency, for conceptualizing learning. ESA frames learning as the development agency manifested in three components: (a) deepening understanding of environmental science content and practice; (b) identifying an area of one's own expertise in environmental science; and (c) using experiences in community and citizen science as a foundation for change.

P3: Citizen science centres II

E-poster session | Chairperson: Joaquin Cochero | Tuesday, 08 September 2020 | 17:15-17:30

17:15-17:20 | P3.1 Science centers as a broker for citizen science

Katrin Hille and Viola Hoffmann

Presenter: [Viola Hoffmann](#)

The Science Center experimenta in Heilbronn, Germany, wants to promote the joy of science and the desire for knowledge and innovation. One part of the experimenta, the Forum, has an additional goal of wanting to introduce visitors to science. Among other things, this means the Forum wants to support visitors to engage in science, e.g. Citizen Science. This E-Poster shows how the experiment brings interested Science Center visitors together with Citizen Science. Thereby it suggests a blueprint for other Science Centers and similar exhibitions.

17:20-17:25 | P3.2 Setting up a regional citizen science center: the story of Flanders, Belgium

Annelies Duerinckx, Jef Van Laer and Sanne Strouven

Presenter: [Jef Van Laer](#)

In January 2019, the Flemish Citizen Science center - Scivil - was launched with the support of the Flemish Government. Many encounters in the five years before have made this launch possible. In its turn, the launch of Scivil enabled many more interesting encounters, both at a regional and international level.

In this poster presentation we will tell the story of how Scivil came to be. We will share with you our dreams for the future, some plans and ideas to make them come true, and the trials, errors and successes of the first year of Scivil.

P4: Biodiversity II

E-poster session | Chairperson: Andrea Troncoso | Tuesday, 08 September 2020 | 17:15-17:30

17:15-17:20 | P4.1 Biodiversity citizen science projects: outcomes for the participating citizens

Maria Peter, Tim Diekötter, Tim Höffler and Kerstin Kremer

Presenter: [Maria Peter](#)

In a study across more than 60 citizen science projects we aimed to answer two research questions:1. What are the outcomes of biodiversity citizen science projects on the side of the individual participating citizens?2. How are these outcomes linked to the educational and professional background of the participants?We conducted an online survey of more than 1000 citizen science participants in Europe, Australia, and New Zealand. Participants reported changes in knowledge, skills, interest, motivation, self-efficacy, and behavior. We found links between some of these outcomes and participants' level of education and their professional background in environmental research/conservation.

17:20-17:25 | P4.2 Urban Nature: citizen science for "casual gamers"

Stefano Martellos and Marco Galaverni

Presenter: [Stefano Martellos](#)

17:25-17:30 | P4.3 avvistAPP: a new tool to collect sightings of marine organisms by citizen science

Valentina Tirelli and Alenka Goruppi

Presenter: [Valentina Tirelli](#)

avvistAPP is a freely downloadable app developed to collect sightings of several marine organisms by citizen scientists, simply

by sending a picture of the animal. The app was initially developed to monitor the invasion of the ctenophore *Mnemiopsis leidyi* in the northern Adriatic Sea, but it can be used to collect sightings of other jellyfish species, dolphins and sea turtles, whose monitoring is often challenging for researchers. Since July 2019, avvistAPP has been downloaded by more than 2700 citizens and it allowed us to collect more than 900 sightings.

P5: Digital and technology I

E-poster session | Chairperson: Joaquin Cochero | Tuesday, 08 September 2020 | 17:30-17:45

17:30-17:35 | P5.1 Conceptualizing the use of blockchain technologies in citizen science

Monika Maciulienė and Aelita Skaržauskienė

Presenter: [Monika Mačiulienė](#)

The purpose of this research is to explore the conceptual relations of citizen science and blockchain technologies and identify the key forms of blockchain applications. We present a review of selected citizen science and blockchain projects highlighting an emerging culture of massive collaborative initiatives that make use of decentralized technologies enabling more transparency in the process and data. We argue that deconstructing the current blockchain related efforts into more discrete forms has considerable benefit as it can assist scientists to focus on a more innovative range of data co-creation opportunities.

17:35-17:40 | P5.2 Using citizen science and technology to empower a new generation of explorers: case studies and conversation with National Geographic

Mary Ford

Presenter: [Mary Ford](#)

The National Geographic Society has developed a wide range of free materials and programs to assist educators, families and youth using citizen science as an opportunity for learning. Citizen science helps young people develop the attitudes, skills and knowledge of an explorer—what we call the Explorer Mindset (read about the Explorer Mindset and our Learning Framework at <https://www.nationalgeographic.org/education/about/learning-framework/>).

P6: Environment I

E-poster session | Chairperson: Andrea Troncoso | Tuesday, 08 September 2020 | 17:30-17:45

17:30-17:35 | P6.1 Plastic Spotter: successes and challenges of co-creating a citizen science project on plastic pollution

Liselotte Rambonnet, Daniël Siepman, Tim van Emmerik, Auke-Florian Hiemstra, Martina Vijver, Anna Schwarz, Thijs Bosker, Ellen Cieraad, Jeffrey van Gelder, Gabriël Olthof, and, Rik Schalbroeck

Presenter: [Liselotte Rambonnet](#)

Initiated and co-created by the public, the citizen science project Plastic Spotter maps the hotspots and sources of plastic pollution in the canals of Leiden, The Netherlands. It connects already existing bottom-up grassroots movements and top-down science to study this problem. Bringing these and also other local stakeholders like restaurant owners and municipalities together is important to tackle the issue and create more impact but is also challenging. In this session, we will share opportunities and challenges of supporting project ideas and initiatives from citizens and how to match these with the agendas and expectations of researchers and other stakeholders.

17:35-17:40 | P6.2 #8 steps to addressing odour pollution with citizens: a model to orchestrate quadruple helix stakeholder engagement in citizen science

Louise Francis, Mara Balestrini, Nora Salas Seoane, María Alonso-Roldán, Hannah Stockwell, Valeria Righi, Lucía Paz Errandonea and Rosa Arias

Presenter: Louise Francis

Our poster highlights several citizen science technologies that we support: iNaturalist, Seek, Debris Tracker and SciStarter. You can learn more about these initiatives and our other citizen science educational resources on our website at NatGeoEd.org.

17:40-17:45 | P5.3 Synergies by design - citizen science on the SPOTTERON app-platform

Phillip Hummer

Presenter: [Phillip Hummer](#)

Developing a Citizen Science App can be a time-intensive task. With often tight research budgets and competitive grants, there is always a limit in what a single project can make available for its participants. On the SPOTTERON Citizen Science App platform, we take a different approach – by sharing the previously developed features among all Citizen Science projects for free, a single project can already start with many advanced functionalities without adding development costs. This collaborative “Feature Ecosystem” lets projects build upon each other and provide a reliable basis for new Citizen Science apps.

Here we present the first version of the D-NOSES engagement model. It is largely based on engagement models by project partners Ideas for Change (The Bristol Approach, Balestrini et al., 2017) and Mapping for Change (Haklay & Francis, 2018), and incorporates the Extreme Citizen Science approach (Haklay, 2013). These have been previously tested and validated in a wide number of citizen science projects ranging from [air](#) and [noise](#) pollution, to [damp](#) problems in homes. D-NOSES combines the best practices of both models whilst expanding them with the inclusion of tools specific to odour pollution and the quadruple helix approach.

P7: Digital and technology II

E-poster session | Chairperson: Joaquin Cochero | Tuesday, 08 September 2020 | 18:00-18:15

18:05-18:10 | P7.1 Creating a citizens' information pack on ethical and legal issues around ICTs: what should be included?

Tim Woods, Dorte Reimenschneider and Barbara Carneiro

Presenter: [Barbara Carneiro](#)

Changes to the EU's regulations regarding ICT-based research and innovation are creating a new scenario, one to which stakeholders – scientists, policymakers, citizens and citizen scientists – must adapt. Panelfit, an EC research project, is facilitating this process. As part of its communication and outreach activities, Panelfit will create a citizens' information pack explaining the ethical and legal issues related to data protection and security. As citizen science projects often collect, store and process data, this will be especially relevant. This e-poster presents the proposed contents for the citizens' information pack, based on findings from a workshop held in March 2020.

18:10-18:15 | P7.2 OpenStreetMap: an opportunity for citizen science

Alessandro Sarretta, Marco Minghini, Maurizio Napolitano, Alexander Kotsev and Peter Mooney

Presenter: [Alessandro Sarretta](#)

[OpenStreetMap](#) is the largest, richest, most up-to-date and complete open geospatial database and the most participated crowdsourced geographic information project in the world. Currently, the relation between OSM and science is mostly focused on studying aspects of OSM more than directly shaping Citizen Science (CS) projects around OSM. Links between OSM and CS might be

P8: Environment II

E-poster session | Chairperson: Mariana Varese | Tuesday, 08 September 2020 | 18:00-18:15

18:00-18:05 | P8.1 Opportunities and challenges of engaging citizen scientists in environmental decision-making: mapping Estonian environmental practitioner's perceptions

Monika Suškevičs, Terje Raadom, Brenda Härm, Silja Kana, Reigo Roasto, Veljo Runnel and Mart Külvik

Presenter: [Monika Suškevičs](#)

Implementing CS projects in Eastern Europe is often challenging due to their socio-political transition histories. We explore links between CS and environmental decision-making in Estonia. We conducted interviews and a short e-mail survey with activists of three CS biodiversity monitoring projects and environmental practitioners. We queried CS and official databases on vascular plants. Practitioners are interested in CS data, but current use is difficult because of the perceived problematic data quality and user-friendliness of databases. The amount of CS data has grown over 2014-2018, but only 11,4% of data has been added to the official Environmental Register in some form.

18:05-18:10 | P8.2 Lessons learnt from developing a web-library with tools for cross-fertilizing knowledge in the Arctic

Finn Danielsen and Michael Kjøie Poulsen

Presenter: [Michael Kjøie Poulsen](#)

Arctic people observe the Arctic environment year-round. In community-based monitoring (CBM) are people directly involved in data collection and sometimes data interpretation. CBM is using methods that are simple, low-cost and require few resources.

relevant in different directions: how OSM data may assist in the development of CS initiatives and complement data collected by citizens; how CS data may be included in the OSM database; how OSM best practices may assist in organizing and running CS initiatives.

The EU Horizon 2020 project INTAROS has a work package on CBM programs. With Arcticcbm.org as a starting point we gathered information on 170 Arctic CBM programs, looked closer at 30 programs and selected 7 for a web-based library. The library presents manuals used by the programs and an overview over the lessons learned. The materials have been prepared by the organizers of each CBM program.

P9: Digital and technology III

E-poster session | Chairperson: Joaquin Cochero | Tuesday, 08 September 2020 | 18:15-18:30

18:15-18:20 | P9.1 Citizen science and crowdsourcing in the field of marine scientific research: the MaDCrow project

Paolo Diviaco, Antonio Nadali, Francesca Malfatti, Max Iurcev, Rodrigo Carbajales, Alessandro Busato, Alessandro Pavan, Lorenzo Grio, Massimiliano Nolich and Andrea Molinaro

Presenter: [Paolo Diviaco](#)

The MaDCrow project (Marine Data Crowdsourcing) is a marine technology research and development project co-funded by the ERDF, that aims to create an innovative technological infrastructure for the acquisition, integration and dissemination of data on the marine ecosystem of the Gulf of Trieste, which, at the same time, aims also at increasing public awareness of environmental issues and in particular of climate changes. The project developed all the tools (HW and SW) to acquire the data and addressed the gap between researchers and several types of end users such as for example fishermen, tourists or policy makers.

18:20-18:25 | P9.2 From contributory to collegial: a model to foster citizen-led open data innovation in citizens' observatories

Raquel Ajates, Mel Woods, Nil Gulari, Drew Hemment, Pavlos Georgiadis, Gerid Hager, Naomi van der Velden, Susan Verrall and Victoria Burton

Presenter: [Mel Woods](#)

P10: Ecology I

E-poster session | Chairperson: Mariana Varese | Tuesday, 08 September 2020 | 18:15-18:30

18:15-18:20 | P10.1 Diversity for biodiversity: social inclusion and butterflies monitoring in a citizen science project

Simona Bonelli, Francesca Martelli, Federica Paradiso, Anna Laura Ventresca, Alessandra Riganello, Tamara Pollo, Franca Dall'Armellina and Giorgio Gallino

Presenter: [Federica Paradiso](#)

Farfalle in ToUr is an innovative Citizen Science project that promotes social inclusion through butterfly conservation in Turin urban areas (NW Italy). The project was born in 2014 thanks to the proposal of doctors of Mental Health Centres, who immediately involved scientists. Farfalle in ToUr involves fragile people, in all the project activities: creating butterfly gardens with suitable native plants, observing and recording butterflies, managing the website, training other volunteers, engaging stakeholders. Creating connections between green areas means, at first, allowing butterflies to overcome urban barriers, and at the same time, helping users to fight isolation and social stigma.

18:20-18:25 | P10.2 From ash dieback to Chalara fraxinea: creating expert citizen science Observatree volunteers to record UK tree health

Rebecca Gosling

Presenter: [Rebecca Gosling](#)

The UK's Observatree project has developed and delivered the tools and resources to create expert citizens scientists. These citizen scientists are then able to accurately conduct tree health surveys to identify and record priority pests and diseases. This valuable data

is submitted to tree health professionals to act fast to mitigate the spread and impact of pests and diseases on our woods and trees. This poster covers how the network has been developed, the tools used and the results from the project. From this other projects and networks can share ideas and learnings regarding best practice on this topic.

18:25-18:30 | P10.3 BioDiversity4All: 10 years recording “fantastic beasts” in Portugal - how a citizen science project made people more connected with nature and scientists more connected with citizens

Patrícia Tiago, Inês Rosário, Cristina Luis, Filipe Ribeiro and Luís Ferreira

Presenter: [Patrícia Tiago](#)

“Portugal has no naturalistic tradition!”, “Citizens data is unreliable!” or “This information can compromise species conservation!”. These were some of many concerned comments BioDiversity4All had to deal with, at the beginning of the project. Growing slowly, adjusting the path to academia, citizens, local authorities, making national and international partnerships and implementing specific initiatives was the way to develop and improve the project for ten years. BioDiversity4All became useful for different target audiences and citizens/scientists realized the advantages of citizen science. The project results, today, in more than 360,000 biodiversity records, from over 7,500 observers and validated by 5,300 identifiers.

P11: Digital and technology IV

E-poster session | Chairperson: Joaquin Cochero | Tuesday, 08 September 2020 | 18:30-18:45

18:30-18:35 | P11.1 Combining citizen science and machine learning techniques to address the two main issues of user engagement and data validation in citizen science projects

Maryam Lotfian and Jens Ingensand

Presenter: [Maryam Lotfian](#)

Nowadays there are many citizen science applications to collect biodiversity observations, and this has resulted in freely accessible large species datasets. However, it is essential to understand how to validate such large datasets taking into account species characteristics. We have developed a citizen science application to collect biodiversity observations, which includes a real-time automatic filtering functionality to flag rare or erroneous observations with the aid of machine learning techniques. The objective of this automatic filtering and real-time feedback is on the one hand to improve data quality, and on the other, to sustain participation by giving informative feedback to the volunteers.

18:35-18:40 | P11.2 Crowdsourced and surveyed images as a source of in-situ data for crops, phenology, and agricultural landscapes

Marijn van der Velde, Raphaël d'Andrimont, Momchil Iordanov, Laura Sanchez Martinez and Guido Lemoine

Presenters: [Marijn van der Velde](#), [Laura Martinez Sanchez](#)

Use of crowd and expert surveyed imagery in combination with machine learning algorithms to extract geo-located information on crops and phenology. High-quality in-situ data is needed to complement and extract information from the near-instantaneous and

P12: Ecology II

E-poster session | Chairperson: Mariana Varese | Tuesday, 08 September 2020 | 18:30-18:45

18:30-18:35 | P12.1 Consolidating butterfly monitoring with citizen science in Europe: lessons learnt from the Assessing ButterfLies in Europe (ABLE) project

Cristina G. Sevilleja, Nigel Bourn, Sue Collins, Josef Settele, Chris van Swaay, Martin Warren, Irma Wynhoff and David B. Roy

Presenter: [Cristina G. Sevilleja](#)

In this talk, we will provide an overview of the achievements of the project Assessing ButterfLies in Europe to date, which has the aim to develop a representative butterfly monitoring network across the whole of Europe based on citizen science. We will share lessons learned in two years of the project in working closely with volunteers, partner organisations and member states to engender their support for butterfly monitoring. This support, together with infrastructure and support provided through this project, gives a strong signal of the ambitions of the EU to develop sustainable butterfly monitoring to deliver key biodiversity indicators.

18:35-18:40 | P12.2 Coffee, cameras and climate change: seeing through the farmers' eyes

Onno Giller and Noelle Aarts

Presenter: [Onno Giller](#)

Climate change is a reality that people experience. This project aims at giving agency to farmers by giving them an active role in capturing how climate change is impacting their communities through the use of disposable cameras, a methodology commonly referred to as Photo Voice. Coffee farmers took an active role in the project and felt empowered as they were not obliged to follow questions raised by the researcher, yet

time-dense Earth Observations (EO) by the Copernicus Sentinel 1 and 2. For this purpose, experts collected SLI using side-looking action cameras for a fixed route survey in Flevoland (NL) during eight dates in the 2018 growing season. This resulted in a SLI dataset of nearly 200,000 full HD resolution images. At more than 200 parcels detailed phenological observations were made for a range of crops. This information provides training data to extract crop type and phenology from the SLI images with machine learning algorithms.

18:40-18:45 | P11.3 Building a European community of interest around invasive alien species

Eugenio Gervasini, Celia López Cañizares and Ana Cristina Cardoso

Presenter: [Eugenio Gervasini](#)

Invasive Alien Species (IAS) affect all environments including cities. Citizens can greatly contribute to their detection, monitoring and management, supporting the implementation of the European policy on biodiversity. The European Alien Species Information Network (EASIN), disseminates updated scientific information on alien species in Europe, and is committed to Citizen Science, via a dedicated App, a communication strategy, including Social Media, to create a European-wide community of interest on IAS. Interactions with the public allow better and personalized feedback, help improve communication, update the App features, and promotes people's long term engagement in early detection, monitoring, and management of IAS.

instead capture impacts important to them. Discussing the photos helped the researcher and other actors involved to understand how people experience climate change in their daily lives.

18:40-18:45 | P12.3 Perspectives on a researcher-practitioner partnership: our role as practitioner researchers studying youth learning through participation in NHM-led citizen science

Lucy Robinson, Sasha Pratt-Taweh, Jessie N. Jennewein, Annie E. Miller, Heidi L. Ballard, Maryam Ghadiri Khanaposhtani, Julia Lorke, Jessica Wardlaw, Lila M. Higgins, Alison N. Young, Rebecca F. Johnson, Christothea Herodotou, Maria Aristeidou and Grant Miller

Presenter: [Lucy Robinson](#)

The LEARN CitSci project brings together practitioners and educational researchers from the UK and US to answer key questions about youth participation and learning in citizen science. Within this research team, we created the role of Project Coordination Officer (PCO) - a "practitioner researcher" based at a museum and trained in research methods. They collect educational research data and facilitate collaboration between museums and university researchers. In this poster we share the unique perspective of PCOs including:

- Working with our theoretical framework as novice researchers
- Developing a shared understanding of constructs like learning and agency
- Adapting projects based on research findings

Wednesday
9 September

17. Engagement in citizen science

Workshop session | Chairperson: Simone Rüfenacht | Wednesday, 09 September 2020 | 10:00-11:30

10:00-11:30 | 17.1 You've got the buzzwords, have you got the people? A highly inclusive engagement model to tackle socio-environmental issues using citizen science

Maria Alonso Roldán, Lucía Paz Errandonea, Simone Rüfenacht, Nora Salas Seoane, Rosa Arias, Louise Francis, and Hannah Stockwell.

Presenters: [Nora Salas Seoane](#), [Maria Alonso Roldán](#), [Simone Rüfenacht](#), [Lucía Paz Errandonea](#)

The D-NOSES quadruple helix methodology aims at engaging people from different realities, maximising inclusiveness. We aim to empower citizens to become drivers of change in their own communities for which we have applied this methodology in 10 different pilots to promote social innovations at the local level.

At this workshop, we will introduce the practicalities of implementing such methodology. We will share how we adjusted it to different cultures and social structures as well as some of our most important and most entertaining engagement stories.

18. Evaluation in citizen science

Workshop session | Chairperson: Ayelet Baram-Tsabari | Wednesday, 09 September 2020 | 10:00-11:30

10:00-10:25 | 18.1 Co-evaluation in citizen (social) science

Barbara Kieslinger, Teresa Schäfer and Katja Mayer

Presenter: [Barbara Kieslinger](#)

10:25-10:50 | 18.2 Developing metrics and instruments to evaluate the impacts of citizen science on society, governance, the economy, the environment and science

Luigi Ceccaroni, Uta Wehn, Steven Loiselle, Stephen Parkinson, Hannah Joyce, Mark Naura, Martin Janes, Mohammad Gharesifard, Sasha Woods and James Sprinks

Presenter: [Luigi Ceccaroni](#)

10:50-11:10 | 18.3 Exploring synergies between citizen science and social sciences and humanities

Loreta Tauginienė, Eglė Butkevičienė, Katrin Vohland, Barbara Heinisch, Maria Daskolia, Monika Suškevičs, Manuel Portela, Bálint Balázs and Baiba Prūse

Presenters: [Loreta Tauginienė](#), [Eglė Butkevičienė](#), [Barbara Heinisch](#), [Baiba Prūse](#)

Citizen science (CS) evolved through multiple disciplinary manifestations into a new field of study and a participatory method of inquiry. While most CS projects take place within problem-focused natural sciences, social sciences and humanities help understanding the human dimension and open a broad methodological spectrum for enriching scientific research with new approaches and for boosting public participation. In this presentation, using a meta-synthesis

approach, we found out that social sciences are gaining more acknowledgment within interdisciplinary CS projects by addressing 'wicked' problems of human behaviour and agency, while humanities are in quest of a better-defined locus in CS.

11:10-11:30 | 18.4 Measuring impact in participatory research: an open, multidimensional and multi-actors online evaluation platform

Anna Cigarini, Josep Perelló, Anne-Sophie Gresle, Leonardo de la Torre Avila, María-Jesús Pinazo, Mireia Ribera, Herman Dempere and Eloi Puertas

Presenter: [Anna Cigarini](#)

The evaluation and impact assessment of citizen science is crucial to assess its utility, relevance and transformative change capacities. We will discuss the InSPIRES Open Platform, an evaluation tool which is both an online questionnaire and a platform for automatic data analysis visualization (with open, shareable and comparable data). The platform understands evaluation as a co-learning process within and between projects as well as a self-reflection around the research process and results obtained. Platform development, preliminary results, limitations and challenges will be discussed.

11:30 Coffee break

Enjoy this coffee break with the Trieste local products you have received in your conference bag. Join us in the [social room](#) to share your coffee and impressions from the conference.

Enjoy!



19. Fragile contexts and indigenous communities

Parallel session | Chairperson: Artemis Skarlatidou | Wednesday, 09 September 2020 | 12:00-13:00

12:00-13:00 | 19.1 Fragile contexts and indigenous communities

Marcos Moreu, Artemis Skarlatidou, Muki Haklay, Megan Laws, Simon Hoyte and Fabien Moustard; Ramin Soleymani-Fard, Petra Benyei, Laura Aceituno-Mata, Alexandra Castañeda and Victoria Reyes-García; Rick Hall, Petra Benyei and Marta Oliveira; Ida Theilade, Nerea Turreira Garcia, Dimitris Argyriou and Soren Brofeldt;

Presenters: [Artemis Skarlatidou](#), [Petra Benyei](#), [Nerea Turreira Garcia](#), [Dimitris Argyriou](#)

Despite the benefits of bridging different knowledge systems to advance science and policy/management, citizen science still mostly engages people from Western, Educated, Industrialized, Rich and Democratic contexts and is designed to fit western scientific epistemologies and worldviews. In this session we will present four projects that, under the transdisciplinarity and extreme citizen science approach, are working with communities from non-western contexts to advance climate and conservation science and to propose better solutions towards the sustainable management of resources. After the presentations we will discuss common lessons learned regarding challenges, opportunities and good practices when working in these fragile contexts.

20. Inclusiveness and equity in citizen science

Parallel session | Chairperson: Ayelet Baram-Tsabari | Wednesday, 09 September 2020 | 12:00-13:00

12:00-12:30 | 20.1 Framing empowerment, inclusiveness and equity as aspects of citizen science within the environmental area

Michael Søggaard Jørgensen and Marta Câmara Oliveira

Presenters: [Michael Søggaard Jørgensen](#), [Marta Câmara Oliveira](#)

We propose to discuss and reflect how empowerment, inclusiveness and equity (EIE) can be strengthened as aspects and results of citizen science. Findings of a literature review of scientific articles about citizen science within the environmental area, will be shared. We'll provide a look at enabling elements, barriers and challenges to EIE and finally, suggest strategies for enhancing empowerment, inclusiveness and equity as aspects of citizen science in different societal contexts.

12:30-13:00 | 20.2 Using open-access science communication for widespread inclusiveness and empowerment in citizen science

Kate Stone, Steven Spence and Caroline Nickerson

Presenters: [Kate Stone](#), [Caroline Nickerson](#)

Lunchtime events

13:30 Sponsored lunch with EU-Citizen.Science



You might have heard about it, there is a new online platform dedicated to citizen science: EU-Citizen.Science. Launched in Spring 2020, it provides useful services to a very broad community of users. Whether you are a citizen looking for support to find out more about the air quality in your community, a citizen science professional looking for inspiring practices, or a civil servant curious about why some countries are suddenly investing budget in supporting it, that's where you can find what you are looking for. Funded by the EC, EU-Citizen.Science provides high-quality resources, training and networking opportunities.

Come and find out more during this sponsored lunch!

Keynote session 3. Encounters in citizen science

Keynote | Chairperson: Susanne Hecker | Wednesday, 09 September 2020 | 14:30-15:30

14:30-15:30 | Encounters in citizen science

Núria Castell, Jacob Sherson, Pietro Michelucci and Katja Mayer

Presenters: [Núria Castell](#), [Jacob Sherson](#), [Pietro Michelucci](#), [Katja Mayer](#)

15:30 Coffee break

Enjoy this coffee break with the Trieste local products you have received in your conference bag. Join us in the [social room](#) to share your coffee and impressions from the conference.

Enjoy!



21. The science of citizen science I

Parallel session | Chairperson: Claudia Göbel |
Wednesday, 09 September 2020 | 16:00-17:00

16:00-17:00 | 21.1 Research atelier:
co-designing a space for citizen science

Claudia Göbel, Pia Viviani, Andrea Giacomelli

Presenters: [Claudia Göbel](#), [Pia Viviani](#), [Andrea Giacomelli](#)

Together with you we want to imagine an accessible, inclusive and fun space for finding the right people to start CS activities. The existing places often function very academically. This can be an obstacle for civil society groups and public administrations. A great added value of CS is to bring together various types of knowledge and skills, held by different people and organisations. The CS meeting spaces we build need to engage productively with such differences in order to help establish successful cooperations. After a short input we'll move to Zoom for group discussions, interaction and good music.

22. Young people and citizen science in education

Parallel session | Chairperson: Christopher Tripp |
Wednesday, 09 September 2020 |
16:00-17:00

16:00-16:20 | 22.1 Whose data? Whose project? Some considerations on children's voices and choices in citizen science and participatory research

Nadja Kerschhofer-Puhalo

Presenter: [Nadja Kerschhofer-Puhalo](#)

While many citizen science studies focus on adults, the participation of children in the research process requires a number of additional considerations that are not yet discussed sufficiently. This paper will focus on young participants (age 8-11) who took part in the Sparkling Science project "My Literacies". As I will argue, due to the institutional framing in school and the fragile and sensitive status of young children in this context, the participation of children requires a particularly careful consideration of several dimensions at all stages of the research process, where macro- and micro-ethical aspects have to be considered.

16:20-16:40 | 22.2 Effects of different participation levels in a citizen science project on pupils

Josephine Berndt and Sandra Nitz

Presenter: [Josephine Berndt](#)

Citizen Science (CS) projects have a great potential for participants to learn about science. Several studies show that participating in CS has different impacts on participants. One reason for the different results can be the different designs of the citizen science projects and especially the participation in the scientific process. Based on these, the research question is: On which

level of participation do we achieve the greatest learning potential for pupils? To answer this question we developed a CS project called "QueichNet" with three experimental groups for schools and the pupils answered to questionnaires before and after.

16:40-17:00 | 22.3 Partnering science education research and citizen science practice: lessons from using a design-based research approach in the informal learning setting of natural history museums

Jessica Wardlaw, Heidi Ballard, Lucy Robinson, Rebecca Johnson, Alison Young, Lila Higgins, Christothea Herodotou, Julia Lorke, Maryam Ghadiri Khanaposhtani, Annie Miller, Sasha Pratt-Taweh, Jessie Jennewein, Maria Aristeidou, Victoria Burton, Tina Papatoma and Grant Miller

Presenter: [Jessica Wardlaw](#)

For three years, a Research-Practice Partnership (RPP) has been working to foster the environmental science agency (ESA) of young participants in Citizen Science programmes in natural history museums, by using a Design-Based Research (DBR) approach. This presentation reports what we mean by ESA and DBR, as well how the collaboration has adopted and adapted DBR through specific examples of the interventions made to foster ESA. We report the challenges, successes and opportunities we have found of using DBR for facilitating this process in a RPP.

P13: Health I

E-poster session | Chairperson: Holly Woodward | Wednesday, 09 September 2020 | 17:30-17:45

17:30-17:35 | P13.1 Pathway for citizen science: radiation detection and everyday sources of radioactivity

Györgyi Bela, Béla Mihalik and Zoltán Csiki

Presenter: [Györgyi Bela](#)

17:35-17:40 | P13.2 The potential of artificial intelligence and citizen science to improve the eye health of diabetes patients

Carina Veeckman, Patrick De Boever, Bart Elen and Laura Temmerman

Presenter: [Carina Veeckman](#)

To support medical professionals, the “Eye for Diabetes” project is developing and training a computer model based on artificial intelligence to detect diabetic retinopathy in retina images. The project bridges with the citizen scientist community of the Zooniverse platform, whereby volunteers are helping to label retina images. Volunteers are performing basic and more advanced screening tasks with a public dataset, such as assessing the image quality, detecting the blind spot and macula and most importantly they help to label lesions. More than 7000 users participated in the “Eye for Diabetes” project, with over 95 000 analysed images.

17:40-17:45 | P13.3 Genigma: a citizen science project for cancer genomes assemblies

Elisabetta Broglio, Alessandra Merlotti, Marc Martí-Renom, Juan Antonio Rodríguez and Marco Di Stefano

Presenter: [Elisabetta Broglio](#)

GENIGMA is a smartphone game to identify in a collective way genome fragments that may

P14: Project profiles I

E-poster session | Chairperson: Margaret Gold | Wednesday, 09 September 2020 | 17:30-17:45

17:30-17:35 | P14.1 Community, inclusion and participation: citizen science to achieve the SDGs

Kat Austen, Sibylle Schroer, Franz Hölker, Núria Castell, Sonja Grossberndt, Neal Reeves, Oscar Corcho, Esteban González, Antonella Passani and Elena Simperl

Presenter: [Antonella Passani](#)

To tackle the most pertinent and complex global challenges, engagement from all parts of society is required. Citizen Science (CS) projects often thematically address SDGs, and beyond this possess the potential to support societal change that will create a culture ready to meet these goals. In this poster, we present the first round of pilot projects funded and supported through the Horizon2020 project ACTION (Participatory Toolkit Against Pollution). In addition to detailing the value that CS can have for Sustainable Development, we describe how our own pilots align with the SDGs and indicators defined by the United Nations.

17:35-17:40 | P14.2 Development of a framework to drive national cohesion in fragile contexts using citizen science: Nigeria as a case study

Obasegun Ayodele and Obialunanma Nnaobi

Presenter: [Obasegun Ayodele](#)

17:40-17:45 | P14.3 Protected by the anonymous mass? Reflecting anonymity and informed consent in a citizen science project on social media platforms

Veronika Wöhrer, Saskja Schindler, Annika Schönauer and Ulrike Papouschek

play a significant role in cancer. The aim is to build cancer-specific genomic references, essential to advancing cancer research and exploring new medical treatments. We are specifically working to decipher cancer cell lines. As human eyes currently perform better than machines in identifying visual patterns, players will scan small DNA fragments to unlock new insights. More than 300 people have already collaborated with the project between 2018-19 through co-design and test events. The game will launch in November 2020.

Presenter: [Veronika Wöhrer](#)

Protected by the Anonymous Mass? Reflecting Anonymity and Informed Consent in a Citizen Science Project on Social Media Platforms
In this poster we reflect on methodological and ethical aspects of the citizen science project „Worlds apart? Solidarity concepts and political orientations in social media“ (funded by the Austrian science fund; project number: TSC49) that we believe can be helpful for the conceptualization of other citizen science projects. The purpose of this citizen science project was to analyze different and opposing concepts of solidarity and their negotiation in discussions on the social media platform Facebook (FB). Due to ethical considerations we decided that the citizen scientists should not analyze ‘natural’ discussions happening in the citizen scientists’ timelines, but rather start closed discussion groups with Facebook friends who have explicitly given their informed consent to taking part in a discussion that will be analyzed by professional and citizen scientists in an anonymous form. While this approach seemed ethically more robust at first, the format was only partly successful in terms of participation and expression. It turned out that only a very small number of interested friends took part in these discussions. Analysis revealed that the closed discussion groups were not perceived as more secure by the participants, but on the contrary as less secure. They felt that their comments were not anonymous within the FB group, as the other participants could see their FB names and - in contrast to regular timelines - their comments did not fade quickly into a cloudy past, but stayed there for a longer time. Especially participants with controversial standpoints refused to raise their voice, because they felt exposed. We suggest that further citizen science research on social media platforms has to take into account that anonymity has different meanings here than in traditional group discussions as well as in traditional research concepts where anonymity is considered towards researchers only.

P15: Health II

E-poster session | Chairperson: Holly Woodward | Wednesday, 09 September 2020 | 17:45-18:00

17:45-17:50 | P15.1 From individual to public knowledge in health: implications from the patient-led MyOwnResearch project on fatigue and gut health

Gaston Remmers, Anje Te Velde, Dennis Zeilstra, Jan Houtveen, Aletta Kraneveld, Jos Bosch, Henk Duinkerken, Pieter Pekelharing, Kathelijne Dik, Isolde Besseling, Kiauw de Munck-Khoe, Marjan Schellinger, Jako Burgers and Karen Knipping

Presenter: [Gaston Remmers](#)

MyOwnResearch is a large award-winning Dutch patient-led research project, started in 2018, that aims to develop a new research protocol enabling collective knowledge development out of individual citizen-designed health experiments. Target group were people with chronic fatigue and experiencing gut problems. At present, the vast majority of these experiments cannot be used by scientists due to a supposed lack of scientific rigor. On the other hand, citizens do not fit in the typical randomized clinical trials required by most medical research. This presentation relates the methodological and ethical constraints MyOwnResearch has faced in its development.

17:50-17:55 | P15.2 Applying citizen science principles to assess perceived walkability at the University of Malta

Carlos Cañas, Maria Attard and Muki Haklay

Presenter: [Carlos Cañas](#)

The importance of pedestrian experience is being increasingly recognised as a crucial determinant to assess the walkability of a place. An innovative methodological approach

P16: Project profiles II

E-poster session | Chairperson: Margaret Gold | Wednesday, 09 September 2020 | 17:45-18:00

17:45-17:50 | P16.1 A brief history of failure: learning from mistakes in citizen science

Simone Rüfenacht, Tim Woods and Dorte Riemenschneider

Presenter: [Simone Rüfenacht](#)

Have you ever been part of a citizen science project that (partly) failed? What a great opportunity to share and learn with others! At ECSA, we want to embrace failure, make it part of how we and our members improve. Stories about failures can help others avoid making the same mistakes. We want to become a flexible, supportive and sympathetic association in which people and projects can make mistakes and proudly learn from and share them. Learn about our 'learning by messing it up' culture and let us know if and how this would be most useful to you!

17:50-17:55 | P16.2 Integrating open and citizen science into active learning approaches in higher education

Antoine Blanchard, Vasso Kalaitzi, Kai Pata, Evangelia Triantafyllou, Essi Vuopal, Katerina Zourou and Elisha Teo

Presenter: [Elisha Teo](#)

Open Science and Citizen Science are key catalysts in shaping research and society in the European Union and the world. The INOS Project aims to modernize Higher Education curricula through civic engagement in Open and Citizen Science. This project tackles relevant issues and connects three features that have yet to be associated: a) Open and Citizen Science together, b) active learning approaches and c) mainstreaming in Higher Education interdisciplinary practice and

inspired by citizen science principles allows participants to contribute to walkability research, in order to better understand the underlying relationships between the public space and pedestrian mobility and behaviour. This research develops a perceived walkability assessment based on street safety, comfort, pleasantness and vibrancy. It also identifies the most relevant environmental elements that influence such experiences, both in a positive and negative way. The use of social media and messaging platforms presents some innovative and cost-effective data collection and analysis methods.

curricula. This poster presents nine ways to integrate Open and Citizen Science into active learning approaches in Higher Education. More information and resources are available on our website (inos-project.eu).

17:55-18:00 | P15.3 Enhancing health through citizen science

Gaston Remmers, Lea Den Broeder, Sabine Wildevuur and Martijn De Groot

Presenter: [Gaston Remmers](#)

This presentation will summarize the findings of an online virtual workshop that will take place at the ECSA conference on Tuesday 8 September 2020, 10-11:30 h. If you want to join that workshop, please contact Gaston Remmers at g.remmers@mdog.nl

Goal of the workshop is to develop the base for a joint green paper on the core dimensions and challenges for the development of Citizen Science in Health. The green paper will be shared within ECSA. It will also serve as a starting point for creating an international network on Enhancing Health through Citizen Science.

P17: Health III

E-poster session | Chairperson: Holly Woodward | Wednesday, 09 September 2020 | 18:00-18:15

18:00-18:05 | P17.1 GeoVin: public participation in the fight against Chagas disease

Joaquin Cochero, Lorenzo Pattori, Agustín Balsalobre, Soledad Ceccarelli and Gerardo Marti

Presenter: [Joaquín Cochero](#)

In Geovin we gather information about the distribution of “kissing bugs” (triatomines), that include a vector species of the parasite that causes Chagas disease. The GeoVin app has over 700 registered citizen scientists in Argentina; with the information gathered through this tool, we used a machine-learning approach to train a Convolutional Neural Network (CNN) to recognize true kissing bugs directly from photos taken with cellphone cameras. The CNN reached correct identification rates of 94%, identifying true kissing bugs from other insects even with blurred images, poor lighting or with the presence of other objects in the photo.

18:05-18:10 | P17.2 TOPFIT Citizenlab: a citizen science region for health, well-being and prevention in the Netherlands

Sabine Wildevuur, Steven Dorrestijn, Jan Jukema, Kornelia Konrad, Marjolein den Ouden, Frits Oosterveld, Monique Tabak, Renske van Wijk, and Ben Kokkeler

Presenter: [Sabine Wildevuur](#)

Answering complex societal challenges such as the increasing health inequalities between groups of citizens, requires a collaborative approach between citizens as end-users, professionals as facilitators of healthcare and scientists as co-developers of knowledge and innovation. To this end, a consortium in the east of the Netherlands of universities,

P18: Lessons from projects

E-poster session | Chairperson: Margaret Gold | Wednesday, 09 September 2020 | 18:00-18:15

18:00-18:05 | P18.1 The LandSense Innovation Challenge

Vladimir Mrkajic, Nemanja Nicin, Matej Batič, Margaret Gold, Tim Woods, Inian Moorthy, Linda See and Steffen Fritz

Presenter: Inian Moorthy

18:05-18:10 | P18.2 Participant motivation to engage in a citizen science campaign: the case of the TESS network

Irene Celino, Gloria Re Calegari, Mario Scrocca, Jaime Zamorano and Esteban González Guardia

Presenter: [Gloria Re Calegari](#)

This poster presents the methodology to study the motivation of CS participants. The motivating factors that influence people’s participation are investigated through surveys, which are designed and administered through a conversational survey toolkit called Coney. Coney provides an interactive chat-like interface that makes the survey filling more enjoyable and intriguing. As a case study, we investigated the motivation of the TESS network (<https://tess.stars4all.eu/>), a community focused on fighting light pollution in which volunteers are asked to host sensors to monitor sky brightness in order to collect data for measuring the level of light pollution in many areas of the Earth.

companies, local and regional government and healthcare organizations have developed the 3 research and innovation program Citizenlab. This is part of the open innovation program TOPFIT that aims to add two healthy years to life expectancy in the next decade. Citizenlab is an environment that allows experimenting with the concept of citizen science.

18:10-18:15 | P17.3 Ergocity app: Pilot mobile application for real-time measurement of ergonomic deficiencies in public space

Rebeca Silva-Roquefort, Pamela Smith and Valentina Zuñiga

Presenter: [Rebeca Silva-Roquefort](#)

P19: Policy I

E-poster session | Chairperson: Christopher Tripp | Wednesday, 09 September 2020 | 18:30-18:45

18:30-18:35 | P19.1 Guidelines on citizen science for environmental monitoring and policy-making

Kim De Rijck, Sven Schade and Jose Miguel Rubio Iglesias

Presenters: [José Miguel Rubio Iglesias](#), Kim De Rijck

Building on a EU-wide inventory of practices and an extensive stakeholder consultation, the European Commission has recently published the document “Best Practices in Citizen Science for Environmental Monitoring”, which summarizes the opportunities for and benefits of using citizen science for environmental monitoring, highlights good practices and identifies the obstacles preventing its broader uptake. It also puts forward possible actions for the various actors in the field such as supporting existing and new initiatives in environment policy areas under the Green Deal, promotion of availability of citizen science data on open platforms and communication of data quality requirements and methodologies.

18:35-18:40 | P19.2 Drivers and barriers for participating in Citizen Science: Multi-actor case study

Abeer Almomani, Uta Wehn and Ken Irvine

Presenter: [Abeer Almomani](#)

Successful implementation of Citizen Science (CS) for environmental policy hinges on active participation of multiple actors i.e. citizens, policy/decision making authorities, as well as scientists and technology experts. Effectively engaging this trio of actors requires thorough understanding of their individual drivers for taking part in CS and the barriers holding them back. This poster presents the results of a

P20: Insights and reflections

E-poster session | Chairperson: Vickie Curtis | Wednesday, 09 September 2020 | 18:30-18:45

18:30-18:35 | P20.1 Citizen science from the Iberoamerican perspective: an overview, and insights by the RICAP network

Natalia Piland, Alexandra Castañeda, Mariana Varese, Karen Soacha, Lesandro Ponciano, Guillermina D'Onofrio, José Edilson Espitia, Cristina Luis, Jaume Piera, Anabela Plos, Juan Felipe Restrepo and Diego Torres

Presenter: [Mariana Varese](#)

CS study and practice in Iberoamerica and the Caribbean is widespread and diverse. We identified 30+ search terms that embody CS in the region. A search in bibliographical databases resulted in 200,000+ publications, mostly concentrated in 7 countries. Out of 685 documented CS experiences in 9 countries, 81% focus on biodiversity, ecology and environment, and natural resource management; 73% are local or subnational. Further research is urgent to include other countries. Also, to understand diverse goals driving CS in the region, e.g., informing decisions to improve livelihoods and conserve; educating youth for social change; (c) addressing epistemic violence.

18:35-18:40 | P20.2 Engaging citizens in regulatory science: insights from the field of risk assessment

Leonie Dendler and Gaby-Fleur Boel

Presenter: [Leonie Dendler](#)

The poster presents empirical reactions to a potential greater participatory opening of the German Federal Institute for Risk Assessment (BfR), a prominent regulatory scientific organisation in the field of risk assessment. We identify a general support for greater engagement in science-based risk assessment, especially concerning the

case study exploring the drivers and barriers for participating in CS from the unique perspectives of different actors involved in citizen-based air quality and noise monitoring project in Mechelen, Belgium.

18:40-18:45 | P19.3 How to define governance in a citizen science network: a proposal for guiding the process

Karen Soacha, Mariana Varese, Claudia Villa and Jaume Piera

Presenter: [Karen Soacha](#)

The roadmap is a proposal for guiding the process of arriving at governance agreements in knowledge networks—both existing, as well as emerging—in the field of citizen science. It is composed of a roadmap and a decision tree of alternatives to be explored according to the purpose and needs of each network. It addresses aspects such as the definition of organizational approach, operational structure, communication channels, decision-making model and financial sustainability. It was built from the analysis of existing governance models and literature review and has guided the implementation of governance models of two regional networks in Iberoamerica.

consumer. Focussing on the method of consumer conferences, we also discuss challenges in enacting these demands. In particular, we illustrate difficulties in ensuring inclusive input from across society and facilitating such events in a way that contesting demands can be appropriately balanced.

18:40-18:45 | P20.3 Designing a specific policy for citizen science in Spain

Francisco Sanz, Jorge Barba, Jesús Clemente Gallardo, Cesar López, Laude Guardia, Mari Carmen Ibáñez, Maite Pelacho and Fermin Serrano

Presenters: [Francisco Sanz](#), [Maite Pelacho](#)

In Spain, as in many other countries, diverse citizen science initiatives have been developed over decades. Nowadays there is a growing interest in providing the proper support from institutions, respecting the "extraterritorial" character of a large number of citizen science projects. In 2018-2019, the Ibercivis Foundation together with the Spanish Foundation for Science and Technology (FECYT)-Ministry of Science and Innovation carried out a Collaboration Agreement to promote both the concept and practices. Ibercivis Foundation elaborated a final report-proposal including the following steps for the consolidation of the Network of Citizen Science in Spain. Here we offer its main results.

P21: Policy II

E-poster session | Chairperson: Christopher Tripp | Wednesday, 09 September 2020 | 18:45-19:00

18.45-18:50 | P21.1 Citizens and local authority working together for a sustainable management of their territory

Bruna Gumiero, Anna Kamila Jerusiack, Maria Rosaria Pascale, Luna Girolamini, Marta Mazzotta and Sandra Cristino

Presenter: [Bruna Gumiero](#)

This project has developed a partnership with the community of San Lazzaro and its Local Authority (Municipality) with the main aim to create a virtuous collaboration between citizens, local authority and scientists in order to analyze the impact of sewer spillways on freshwater. The impact was measured by several parameters such as: E. coli, fecal coliforms, nitrate, fosfate and turbidity. Additional analyzes such as land use and the compilation of a form were also carried out. Moreover because the bacteriological kit has not been extensively tested we compared this method with a well known scientific method to assess its reliability.

18:50-18:55 | P21.2 Linking community and water governance through citizen science: A social network analysis

Patrick Bonney, Angela Murphy, Birgita Hansen and Claudia Baldwin

Presenter: [Patrick Bonney](#)

In natural resource management contexts, citizen science programs can involve diverse stakeholders collaborating in broad social networks. However, the characteristics and features of these networks are largely unknown despite there being a well-known relationship between network structure and the effectiveness of collaborative environmental initiatives. This e-poster presentation presents the findings of a

P22: Motivations

E-poster session | Chairperson: Vickie Curtis | Wednesday, 09 September 2020 | 18:45-19:00

18.45-18:50 | P22.1 Citizen science impact pathways for a positive contribution to public participation in science: a logic model approach for the EU project Doing It Together Science

Artemis Skarlatidou and Muki Haklay

Presenter: [Artemis Skarlatidou](#)

Citizen science (CS) encompasses a wide range of activities (from dedicating an hour a year to count birds in your garden, to carrying out biological experiments in DIY Biology which take many hours every week), different levels of engagement, different types of projects, and different levels of technological use. These create implications in terms of how CS is applied and whether anticipated impacts are achieved, with insufficient evidence from real cases and their effect on the broader CS agenda. In this study we used the 'escalator concept' for first time, which helped us understand and encourage engagement in the European project, Doing It Together Science (DITOs), working with a detailed logic model and theory of change analysis to ensure that our assumptions for transformations in DITOs are identified, taken care of, and therefore impacts are achieved. We aim at providing practical evidence and a model that others can replicate for the successful implementation of their programme impacts.

18:50-18:55 | P22.2 Awareness, views and experiences of citizen science among Swedish researchers: two surveys

Pavel Bína, Fredrik Brouneus, Niclas Hagen, Martin Bergman, Gustav Bohlin and Dick Kasperowski

Presenter: [Pavel Bína](#)

This E-poster will present findings from two surveys on attitudes and experiences of citizen

mixed-methods social network analysis of two longstanding freshwater citizen science programs in Australia that have management and policy-oriented goals.

18:55-19.00 | P21.3 Sharing knowledge and best practices at the Barcelona Citizen Science Office

Diana Escobar and Elisabetta Broglio

Presenter: [Diana Escobar](#)

The Barcelona Citizen Science Office supports CS in Barcelona by promoting projects in the city and its Metropolitan Area and by developing actions for connecting citizens and research. Different programs allow us to work with 20 research projects and to maintain permanently networking with diverse civic, cultural, and education agents. The Office fosters interaction within the community sharing common interests and concerns and favoring mutual learning. Being a community of practice has facilitated the development of common methodologies and standardization of program evaluation as well as a better approach to urban challenges and citizen demands.

science (CS) among researchers at Swedish universities. The first (n=636) was exclusively focused on CS and involved researchers and other personnel at Swedish University of Agricultural Sciences. The second (n=3 699) was on the broader topic, including CS, and was distributed to researchers from all Swedish universities. Our results show that CS is a far from well-known concept among Swedish researchers. And while those who have heard about CS are generally positive towards it, researchers overall are hesitant to invite citizens to the research process.

18:55-19.00 | P22.3 Data collectors or analysts? Different engagement profiles in citizen science

Till Bruckermann, Hannah Greving, Milena Stillfried, Konstantin Börner, Anke Schumann, Ute Harms and Miriam Brandt

Presenter: [Anke Schumann](#)

Citizen Science (CS) projects enable citizens to engage in different scientific activities. Although citizens are known to be more motivated to collect data rather than analyze data, investigations of citizens' actual behavior concerning these two activities are sparse. Therefore, we analyzed and clustered log file data of a CS project on urban wildlife (N = 397). Citizens were more active during data collection than data analysis and lurked more (i.e. were more passive) during data analysis than data collection. Moreover, mostly highly engaged data collectors stayed as data analysts. Such differences in engagement patterns should be considered in future research.

P23: Education

E-poster session | Chairperson: Christopher Tripp | Wednesday, 09 September 2020 | 19:00-19:15

19:00-19:05 | P23.1 Taking citizen science to school: a mutualistic ecology of science learning

Ornit Sagy, Yael Kali, Yotam Hod, Ayelet Baram-Tsabari, Tali Tal and Dani Ben-Zvi

Presenter: [Yael Kali](#)

We conceptualize citizen science (CS) as an ecology in which all parties should benefit from their involvement. The “Mutualistic Ecology of Citizen Science” (MECS) framework is examined within the notion of Taking Citizen Science to School (TCSS), which, in addition to citizens and scientists, involves students, school-practitioners, education-researchers and policymakers. We describe our operationalization of the TCSS notion, present preliminary findings on proof-of-concept and value of the approach, and discuss tentative conclusions. Findings exemplify the potential of TCSS as a MECS that can advance science, develop teachers’ professional skills, and provide an effective attractive way of learning.

19:05-19:10 | P23.2 Practical environmental education at school targeting local community issues and SDG goals

Luciano Massetti, Jozef Kahan, Juan Diego Lopez Giraldo, Martin Zemko, Ruth Staples-Rolfe, Imrich Jakab, Jana Sýkorová, Francesca Ugolini, Barbara Finato, Costanza Bagnoli, Piera Papini, Andrea Pecci, Dora Castellano and Adriana Kováčová

Presenter: [Luciano Massetti](#)

BIOPROFILES (ERASMUS+ project) targets teachers of students aged 10-16. It supports teachers’ continuous learning in active use and implementation of environmental topics into teaching. Teachers from the participating countries attended an international training

P24: Methodology

E-poster session | Chairperson: Vickie Curtis | Wednesday, 09 September 2020 | 19:00-19:15

19:00-19:05 | P24.1 Empowering citizens to design and launch their own citizen science investigations through the nQuire platform

Christothea Herodotou, Tina Papathoma, Maria Aristeidou, Mike Sharples and Eileen Scanlon

Presenter: [Christothea Herodotou](#)

The nQuire platform (nquire.org.uk) is an innovative citizen science platform developed at the Open University, in collaboration with the BBC. It has been iteratively designed to address a major gap in the field of citizen science, that of a dynamic and educationally-sound digital solution that will enable members of the public to act as scientists. The platform allows citizens not only to contribute to projects but also design, run and manage projects within a single learning environment. The vision of the nQuire platform is to educate the public in thinking scientifically through the support of technology and knowledgeable others.

19:05-19:10 | P24.2 Action-research: assessment on using a 3D participatory platform for reviewing a Swiss city urban development plan

Thibaud Chassin, Jens Ingensand and Florent Joerin

Presenter: [Thibaud Chassin](#)

The revision of a city’s Master Plan is a crucial step for its urban future development. Engaging citizens in its elaboration could increase its acceptance and understanding by the public. In this study, we suggest to use a 3D participatory digital platform to improve public engagement. In our 3D virtual platform, citizens were able to share their preferences about various city places. However, the

course on practical and outdoor activities targeting environmental issues. Teachers got practical and engaging activities for teaching environmental education and investigating indicators of local environmental quality. Activities were designed to investigate widespread issues with local and global relevance. Teachers appreciated activities for their integration with school curricula and interdisciplinary. Teachers' professional enrichment inspired their students' motivation towards critical thinking, innovation, creativity and intercultural approaches.

authorities requested to abandon the 3D representation in favor of a 2D portrayal. Our conclusion regarding this decision is a distorted knowledge about 3D and a favored practice of 2D maps.

19:10-19:15 | P24.3 Addressing the measurement gap: embedded assessment strategies to understand volunteers' skill

Cathlyn Stylinski, Tina Phillips, Veronica Del Bianco, Karen Peterman, Rachel Becker-Klein, Andrea Wiggins and Jenna Linhart

Presenter: [Cathlyn Davis Stylinski](#)

Embedded assessment (EA) is an effective but uncommon method to unobstructedly determine volunteers' skill proficiency. We are studying two strategies to streamline the complex EA development process. With five project leaders, we are exploring secondary analyses of existing databases to find "tracers" of individual growth of volunteers' skills. With another 10 leaders, we are co-creating performance-based common EA measures that are broadly applicable but authentic to diverse projects. Overall, our research will build knowledge and provide guidelines on an underutilized evaluation and research method relevant for citizen science and on understudied skill-based outcomes. We will discuss our approach and initial findings.

Thursday
10 September

23. Technology design

Workshop session | Chairperson: Ann Borda |
Thursday, 10 September 2020 | 10:00-11:30

10:00-10:45 | 23.1 Citizen science and
technology for healthy living in future
sustainable cities

Martin Serrano and Achille Zappa

Presenters: [Martin Serrano](#), [Achille Zappa](#)

10:45-11:30 | 23.2 Designing a citizen science
project? Let's explore technology design &
implementation!

Jessie L. Oliver and Philipp Hummer

Presenters: [Jessie L. Oliver](#), [Philipp Hummer](#)

Technologies are central to citizen science, from interfaces of applications that collect and analyze data, to platform infrastructures. The design of such technologies influences how people participate and what they do. We will share an approach to illuminate opportunities, challenges, and practical considerations. First, we will discuss how design research can lead to fun and useful insights, highlighting lessons learned from investigating how to design enticing citizen science technologies to support wildlife conservation. Then, we will delve into the practice of designing and developing citizen science technologies, exemplifying the process through a live demonstration of a growing cooperative app platform.

24. Citizen science in conflict zones

Workshop session | Chairperson: Eoghan
Darbyshire | Thursday, 10 September 2020 |
10:00-11:30

10:00-11:30 | 24.1 Citizen science in areas
affected by armed conflicts

Eoghan Darbyshire, Doug Weir, Linsey Cottrell
and Leonie Nimmo

Presenters: Eoghan Darbyshire, [Doug Weir](#),
[Leonie Nimmo](#), Mirella Di Lorenzo, Mohamed
Hassan, Mazim Qumsiyeh

Armed conflicts harm the environment and, by disrupting societies and environmental governance, create and sustain the conditions where environmental degradation is more likely. The harm associated with conflicts not only affects biodiversity and ecosystems but often has serious implications for human health and the vulnerability of communities.

Understanding and addressing these impacts requires robust environmental data, yet data collection in conflict areas is difficult. Lack of access, insecurity and capacity deficits can all hamper research. Using examples from Colombia, Palestine and Somalia, this session will explore citizen science's potential to help plug this data gap.

11:30 Coffee break

Enjoy this coffee break with the Trieste local products you have received in your conference bag. Join us in the [social room](#) to share your coffee and impressions from the conference.

Enjoy!



25. Citizen science, AI and algorithms

Parallel session | Chairperson: Marzia Mazzonetto | Thursday, 10 September 2020 | 12:00-13:00

12:00-13:00 | 25.1 Citizen scientists interacting with algorithms: the good and the bad // Can't we all just get along? Hybrid human-machine approaches to citizen science in the Zooniverse

Laure Kloetzer, Frank Ostermann, Marisa Ponti and Sven Schade // Grant Miller, Chris Lintott, Nora Eisner and Mike Walmsley

Presenters: [Marisa Ponti](#), [Laure Kloetzer](#), [Frank Ostermann](#), [Sven Schade](#), Grant Miller

Responding to the continued and accelerating rise of Machine Learning (ML), this panel will address how citizen scientists interact and collaborate with algorithms in citizen science applications. During the session, we will present: Can't we all just get along? Hybrid human-machine approaches to citizen science in the Zooniverse. Using examples from two long-established astronomical projects, Galaxy Zoo and Planet Hunters, we consider the impact that new developments in machine learning are having on citizen science projects which involve visual inspection of large datasets. Suggestions will be made for how machine/human classification systems may produce the next generation of image analysis in citizen science projects.

26. Citizen science and regions

Parallel session | Chairperson: Michael J.O. Pocock | Thursday, 10 September 2020 | 12:00-13:00

12:00-12:20 | 26.1 Citizen science, social cartography and the climate change challenges: a study in Brazil

Sarita Albagli and Allan Yu Iwama

Presenter: [Sarita Albagli](#)

12:20-12:40 | 26.2 A history and vision of citizen science in South Korea

Yunjae Kang and Jiyeon Kim

Presenter: [Ji Yeon Kim](#)

Various civic activities have arisen in South Korea, since its democratization in 1987. In particular, interest in environmental and ecological issues has increased. In 1993, the Korean Federation for Environmental Movement (KFEM) was launched. In 1997, the Council for Democracy in Science and Technology (CDST) was founded, representing the first scientific democratization movement. They represented the issue of scientific democratization for 20 years. They performed many types of activities, but today they are inactive. The emergence and dissolution of the CDST demonstrate the challenges associated with "doing citizen science" in Korea.

12:40-13:00 | 26.3 South Africa's biodiversity citizen science strategy filling taxonomic gaps

Suvarna Parbhoo-Mohan and Domitilla Raimondo

Presenter: [Suvarna Parbhoo-Mohan](#)

A plethora of citizen science initiatives to monitor biodiversity have been initiated in South Africa by a wide range of institutions. These have arisen in an ad hoc manner and dependent on specific interests of the champions that lead each project. The need to

evaluate which of these projects align with national priorities by focussing on the country's Biodiversity Assessment and Monitoring framework and where there are gaps and new projects need to be initiated. South Africa is establishing a network to coordinate and provide best practise guidance for the collaboration and implementation of citizen science work.

27. Citizen science and policy

Workshop session | Chairperson: Niall Ó Brolcháin | Thursday, 10 September 2020 | 14:30-16:00

14:30-16:00 | 27.1 Workshop: Policy perspectives on citizen science: moving from science to action

Niall Ó Brolcháin, Susanne Hecker, Sven Schade, Lea Shanley, Alison Parker and Martin Brocklehurst

Presenters: [Sven Schade](#), [Lea Shanley](#)

28. Citizen science and higher education

Workshop session | Chairperson: Tiberius Ignat | Thursday, 10 September 2020 | 14:30-16:00

14:30-16:00 | 28.1 How new networks can broaden participation within citizen science

Thomas Kaarsted, Kristian Hvidtfelt Nielsen, Torben Esbo Agergaard, Tiberius Ignat, Anne Kathrine Overgaard and Danielle Louise Nørager Johansen

Presenter: [Thomas Kaarsted](#)

14:30-16:00 | 28.2 Encounters for the co-creation of citizen science teaching

Bruna De Marchi, Christian Nold, Frank O. Ostermann, Jako Jellema and Henk A.J. Mulder

Presenter: [Henk A.J. Mulder](#)

The presentation gives a brief overview of current teaching on citizen science in higher education. In the following break-out session, we want to discuss what other best practices in curriculum development around citizen science there are, and how we can assess and grade students. We hope to generate ideas on how we as university teachers can collaborate in the future to advance our teaching, e.g. by collectively developing and sharing modules.

14:30-16:00 | 28.3 A university talent programme in citizen science builds a community of practice

Jacob Buur, Christina Fyhn Nielsen, Thomas Kaarsted and Danielle Louise Nørager Johansen

Presenter: [Jacob Buur](#)

14:30-16:00 | 28.4 Citizen science with and for public libraries: from librarians capacitation to research co-creation, an analysis of two Barcelona region-based projects

Isabelle Bonhoure, Anna Cigarini, Julian Vicens and Josep Perelló

Presenter: [Isabelle Bonhoure](#)

16:00 Coffee break

Enjoy this coffee break with the Trieste local products you have received in your conference bag. Join us in the [social room](#) to share your coffee and impressions from the conference.

Enjoy!



29. Science of citizen science II

Parallel session | Chairperson: Marzia Mazzonetto | Thursday, 10 September 2020 | 16:30-17:30

16:30-16:45 | 29.1 Participation in citizen science and science identity: examining the many aspects of science identity across six projects in the U.S.

Heidi Ballard, Lina Yamashita, Tina Phillips and Rick Bonney

Presenter: [Heidi Ballard](#)

16:45-17:00 | 29.2 SciStarter and Zooniverse: using platforms to cultivate volunteer communities

Caren Cooper, Helen Spiers, Naama Dayan, Bradley Allf, Sara Futch, Lincoln Larson, Maria Sharova and Kobi Gal

Presenter: [Bradley Allf](#)

In this presentation, I will explore our research relating to citizen scientists' participation in projects on "SciStarter," a 3rd party platform that allows citizen science volunteers to find and join projects of interest. In particular, I will explore the degree to which citizen scientists are participating across multiple projects, disciplinary topics, and modes of participation, as well as what we know about the impact of cross-project participation on volunteers' learning and trajectory in citizen science.

17:00-17:15 | 29.3 Analysis of the contextual realities of community-based environmental monitoring initiatives in Kenya and the Netherlands

Mohammad Gharesifard, Uta Wehn and Pieter van der Zaag

Presenter: [Mohammad Gharesifard](#)

30. Citizen science toolkits

Parallel session | Chairperson: Christopher Tripp | Thursday, 10 September 2020 | 16:30-17:30

16:30-17:00 | 30.1 Tell me and I forget, teach me and I may remember, involve me and I learn: the role of toolkits in citizen science

Mara Balestrini, Giovanni Maccani and Valeria Righi

Presenter: [Giovanni Maccani](#)

Context & Issue: Intro about CS and issue around situated impact Objective: The need to re-think scaling and spreading in CS (i.e. simple plug and play likely not to work) How could we address it: Limitations of methodologies → so we focus on toolkit Toolkit suitable for Citizen Scientists as motivated craftsmen Different levels of engagement Some critiques around the current landscape swamped with "want-to-cover-it-all" toolkits Overview of the CitiesHealth toolkit

17:00-17:30 | 30.2 Co-designing environmental solutions for a changing climate in the context of citizens' observatories

Mel Woods, Raquel Ajates, Saskia Coulson, Drew Hemment and Pavlos Georgiadis

Presenter: [Mel Woods](#)

The increasing number of extreme weather events and the rapid changing environment in an unstable climate present critical challenges for communities across the world. Citizens' Observatories (COs) present an unprecedented opportunity to design new socio-technical innovations in which citizens can not only uptake, but also co-design and shape their development.

Community-based environmental monitoring initiatives do not operate in a void. There are always social, institutional, political and technological contexts in which they operate and with which they interact. Yet, the salience of understanding the initial contextual settings is often underestimated or only considered once an initiative has been established. The objective of this presentation is to share the results of a research that employed a newly developed framework called the CPI framework (Gharesifard et al., 2019) for understanding the contextual realities in which the Kenyan and the Dutch case studies of the Ground Truth 2.0 project were being established.

We present a novel gamified card tool tested with multi-stakeholder audiences including service designers, policy-makers, citizens, scientists. Theoretical and methodological insights from the development, testing and outcomes are presented across three dimensions: a) Quality of innovative propositions b) Value of transdisciplinary and multi-stakeholder approaches c) Potential for citizen observatories' sustainability.

17:15-17:30 | 29.4 Enacting scientific citizenship in citizen science: a closer look at the notion of scientific citizenship and the construction of citizens and science in two Danish citizen science projects

Kristian Nielsen

Presenter: [Kristian Nielsen](#)

Citizen science accomplishes scientific objectives while also enacting specific aspects of citizenship. This paper engages empirically and conceptually with the notion of scientific citizenship in relation to citizen science. The first part of the paper reviews existing ideas about scientific citizenship; the second part looks at three citizen science projects in Denmark to see how they enact scientific citizenship. I will argue that citizen science projects enact scientific citizenship in different ways, but also ask the question if citizen science organizers, often scientists themselves, pay enough attention to the enactment of scientific citizenship.

Conference closure

Parallel session | Chairperson: Enrico M. Balli | Thursday, 10 September 2020 | 17:30-18:00

17:00-17:30 | Conference Closure

Presenters: [Enrico M. Balli](#), [Francesca Rizzato](#), Dorina Stanculescu, [Tim Woods](#), [Muki Haklay](#), [Luigi Ceccaroni](#)

21:00 Citizen science disco party

Dancing in a club, surrounded by people, is one of those feelings you can't really recreate at home. But right now, when connection is vitally important, we can try to *approximate* this feeling via Zoom and to bring people together to revel in music while keeping a physical distance.

Of course we can't wait until we can gather in person again but, in the meantime, let's enjoy an *unusual* evening together as a memorable farewell to the ECSA 2020 conference!

What we need is just a vibe and good music!

Friday

11 September

Conference Side Events

11:00-12:30 Global perspectives on Citizen Science and Open Science

Citizen Science (CS) and Open Science (OS) are emerging global movements that are becoming more significant and layered in regard to key themes, dynamics, and shared characteristics. Now, there is an important opportunity for clarifying key synergies and opportunities for alignment moving forward.

The United Nations Educational, Scientific and Cultural Organisation (UNESCO) is developing a global Recommendation on Open Science to be released in 2021. As a legally binding instrument that applies to all UN Member states, the Recommendation seeks to help shape the future of open science from a global public policy perspective. In May 2020, UNESCO invited citizen science practitioners to collaborate in the process of developing their Recommendation. To ensure ongoing input and information exchange from global citizen science communities a Community of Practice (CoP) of the Citizen Science Global Partnership (CSGP) was formed, with the particular intention of drawing on knowledge from the broadest citizen science base to support and inform a broad and holistic open science agenda.

This session will offer the background to this initiative from UNESCO and describe the first steps of the CoP. In addition, we will feature lightning talks from different practitioners working at the nexus of citizen science and open science. The session will conclude with a roundtable discussion to collaboratively identify key considerations and next steps for the common future of CS and OS agendas.

[REGISTER HERE](#)

13:00-16:00 LandSense Online Innovation Challenge

The Challenge targets individuals, web-entrepreneurs, start-ups and SMEs coming from all participating Horizon 2020 countries, to present innovative IT solutions addressing one of the three LandSense domains: (i) Urban Landscape Dynamics; (ii) Agricultural Land Use; (iii) Forest & Habitat Monitoring.

The challenge focuses on using data streams coming from the LandSense Citizen Observatory, the Sentinel Hub Service or other relevant EO data sources to design novel Land Use/Land Cover solutions for a range of applications within the selected domains. Selected finalists will have the opportunity to pitch their ideas online to an expert jury at a side event on September 11, 2020 following the Third International ECSA Online Conference 2020. The participation in the online public challenge is fully free of charge.

The teams with the best pitches will receive:

- (i) 1st prize - a grand prize of 2,000 EUR; a 1 year subscription to Sentinel Hub Enterprise (worth 5,000 EUR, provided by SINERGISE);
- (ii) 2nd prize - a prize of 1,000 EUR;
- (iii) 3rd prize - a prize of 500 EUR. In addition, all finalists will receive online business coaching and mentorship services provided by the LandSense team.

[REGISTER HERE](#)

15:00-16:00 Toward reinventing Institutional Review Boards (IRB) for Citizen Science

Institutional/Ethical Review Boards (IRB/ERB) play an important role in ensuring ethical compliance in research projects and that human subjects are protected. Citizen science, however, introduces a gray area for traditional IRB requirements because of the many new ways in which members of the general public can now engage in the scientific process.

These new engagement modalities along with new ethical considerations may not have been considered in the original conception of IRB, which was geared primarily toward medical research and protecting human subjects from physical harm.

Therefore, this one-hour virtual workshop aims at identifying the moral underpinnings of online citizen science and establishing relevant and actionable ethical guidelines. To kick off an open discussion, we would like to share findings from our recent engagement with an IRB on a citizen science application.

We are inviting interested members of our community as well as citizen science participants themselves to join our discussion on the moral underpinnings of citizen science participation. The topics we wish to address go beyond assessing and eliminating risk, beginning at the root issue of identifying community morals upon which an ethical framework could be developed. After exploring ethical considerations, we would like to begin formulating a decision tree that could guide citizen science developers through the process of evaluating ethical issues to help decide whether and how to seek ethical review and consultation.

[REGISTER HERE](#)