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Introduction

Citizens' active participation in scientific development and knowledge production, commonly referred to as "citizen science", has received unprecedented attention in recent decades (Haklay et al. 2014; Hecker et al. 2018; Vohland et al. 2021). Because citizen science operates at the interface between science, policy and society, it has progressively appeared as a promising way to enrich research approaches and generate new knowledge, boost public engagement and increase trust in science.

While growing bigger, more ambitious and more integrated, citizen science has also adopted more and more varied forms. In this context, citizens are emerging as key contributors to an increasing number of projects, not only as passive data collectors but also as active agents of research activities and strategic agendas.

The Una.Resin project aims at facilitating citizens participation to science in all its diversity by building a community of good practice inside the Una Europa Alliance, encouraging institutional changes necessary to promote citizen science, and implementing a program of actions for knowledge sharing, mutual learning and team cooperation.

To achieve this goal, a first step will be taken with this workshop, during which participants will share their expertise, their practices, the difficulties they have faced, and how these can be overcome, in order to create a broader understanding of what is – and what could be – citizen science within the Una Europa Alliance.

Main aims:

Through this workshop we aim at:



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- **gathering knowledge** from experts (researchers and managers) for the definition of concrete grounding principles and common standards
- **collecting a set of best practices** to promote citizen science at institutional and project levels
- envisioning **possible forms of cooperation** within and between citizen science teams

Collected inputs will lead to a manifesto or position paper, and the propositions elaborated in this way will be tested in pilots implemented within the Una.Resin project.

Issues/problems addressed

This co-creation workshop is conceived as a co-elaboration and reflection space to address, at project and institutional levels, two fundamental dimensions of citizen science:

1. How can citizen science transform science and society?

Citizen science is definitely not limited to bumblebees counting. It encompasses a wide range of approaches and designations (Eitzel *et al.* 2017), such as participatory science, community science, community-based research, contributory research, crowdsourcing, participatory action research...

Beyond this plurality of forms, two intersecting (and sometimes conflicting) ambitions are common to all modes of cooperation with and for citizens (Bedessem 2020, 2021):

1. co-produce, with non-professionals, evidence-based data, results and knowledge that remain fully aligned with scientific quality standards;
2. conduct relevant, transparent, reliable or, in other words, unbiased research, in response to explicit contextual and oriented preferences, needs and values (i.e. political, cultural, social, or economic)

Since there is no “one size fits all”, designing and implementing such projects has inherent difficulties. Bearing in mind that each participatory approach is unique, we aim to encourage a joint reflection on what knowledge production through research characterised by greater openness and cooperation with citizens could look like, and what challenges this raises within our universities and in society at large.

2. How to break down boundaries with Citizens in all their diversity?

«This is renaissance, your dentist now an authority on butterflies and you (in retrospect this happened so pleasantly, watching clouds one afternoon) connected by Twitter to the National Weather Service. This is revolution, breaking down barriers between expert and amateur, with new collaborations across class and education» (Russel 2014, quoted in Hecker *et al.* 2018).

The growing importance of citizens in research shows that science is no exception to the broader “participation imperative” arising in our democracies (Godden 2017). Through the inclusion of more diverse groups of non-professional stakeholders, new perspectives on scientific approaches, discourse and governance modes are expected.

Who are exactly the “citizens” giving time to gather data and contributing to research activities, knowledge production and strategic agendas elaboration? Who is participating and who is not? How does citizen science deal with the participation of generally less represented groups? How far should citizen scientists be representative of the broader society?

These questions are crucial and relate to the many ways to engage with and for citizens (Pettibone *et al.* 2018, Kenens *et al.* 2020, 2022). During this workshop, we intend to further discuss the “double-edge” issue of ensuring sufficient degrees of representativity and inclusiveness while cooperating with



targeted communities which usually have and express specific needs.



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Programme overview

Place: online (zoom) - Date: 1st July 2022

9.50 – 10.00		Onboarding
10.00 – 10.05	Inaugural Plenary session	<i>Welcome and introduction</i> Cécile Faliès - Vice-Rector for Research, University of Paris 1 Panthéon Sorbonne
10.05– 10.15		<i>Citizen Science & Citizen Engagement within Una Europa</i> Seth Amanfo – Una Resin Project Manager, University of Edinburgh
10.15 – 11.00		Keynote 1 <i>Science learning in citizen science: inputs from the analysis of online social interactions within a biodiversity contributory science project</i> Dr Baptiste Bedessem – University of Namur/FNRS/MNHN-CESCO Keynote 2 <i>Measuring Fukushima by with and for Citizens</i> Dr Joke Kenens – KU Leuven
11.00 – 11.30		Problems statement and discussion with participants
11.30 – 13.00	Lunch Break	
13.00 – 13.10		Introduction to the break-out sessions and assignment to Groups
13.1à – 13.35		Ice Breaker Groups sessions : who's who?
13.35 – 15.10		Break-out sessions: Groups 1 & 2: 1. <i>How can citizen science transform science and society? (impact)</i> Groups 3 & 4: 2. <i>How to break down boundaries with Citizens in all their diversity? (stakeholders)</i>
	Break	
15.40 – 16.20	Plenary	Wrap-up and final discussion session with external discussants (B. Brozek)
16.20– 16.30		Closing remarks

Participation and Registration

The inaugural and closing sessions are open to all, while access to break-out sessions are limited to selected participants (more information below).

Registration is mandatory. Please register via the workshop website, here:
<https://bdbcs.sciencesconf.org/>



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Inaugural plenary session

To encourage the debate and initiate a joint reflection, we have invited two specialists of citizen science:

Keynote 1 : Dr Baptiste Bedessem – University of Namur/FNRS/MNHN.

Science learning in citizen science: inputs from the analysis of online social interactions within a biodiversity contributory science project.

Abstract: *Biodiversity citizen science projects are both valued for their contribution to scientific research and for their impact on participants' science learning and engagement towards the environment. In this talk, we explore the impact of participation in a biodiversity citizen science project (the Spipoll, dedicated to pollinators' monitoring) through the analysis of online interactions within the program's data sharing platform. First, a quantitative analysis of the comments' distribution among participants reveals the multiplicity of epistemic and social roles they endorse: helping collective identification of plants and insects, moderating the respect of the scientific protocol, or maintaining community's life. Second, by building a typology of these comments, we show how this space of discussion favors exchanges and reflections about aesthetical, interpersonal, biological and methodological aspects. Finally, we show that long-term participation is associated with the growing expression of scientific procedural skills: formulation of hypothesis and explanation, proposition of new research questions. We also show that long-term participation is associated with the growing attention to natural seasonal cycles.*

Keynote 2 : Dr Joke Kenens – KU Leuven

Measuring Fukushima by, with and for citizens

Abstract: *The 2011 Fukushima nuclear accident was one of the most severe nuclear accidents in the history of nuclear energy. It pushed ordinary citizens to collect their own radiation pollution data in unprecedented ways. The organizations that are born out of these citizen initiatives are referred to as Citizen Radiation Measuring Organizations (CRMOs). They have increased accessibility and transparency of information and data related to the accident for citizens and communities, filling knowledge and information gaps created by the inadequate disaster response of the Japanese government. Taking CRMOs as instances of grassroots citizen science, whereby citizens organize themselves independently from experts, this talk explores the issues and questions regarding citizenship, scientific practices and science-society relations that grassroots citizen science has unearthed in post-Fukushima Japan.*

Break-out sessions

Break-out sessions will follow the inaugural plenary session, and will lead participants to a more in-depth exploration of citizen science.

To prepare these sessions an onboarding kit will be provided to participants ahead of the workshop (accompanying preparatory guide and questions template).



About Una Europa

Una Europa is an alliance of nine leading research universities and is one of 41 emerging European Universities. Our goal is to create a truly European inter-university environment by triggering institutionalised cooperation in the area of education, research, and societal outreach. Una Europa has the long-term objective to transform the institutional framework of its member institutions to prepare for the next wave of global challenges. Una Europa leads: 1Europe (Erasmus+ pilot project) implementing Joint Innovative formats for education and mobility, and Una.Resin building common Una Europa eco-system of research and innovation.

Through the three-year [ERASMUS+ '1Europe' pilot project](#), Una Europa has taken initial steps towards creating a single educational eco-system for our students, by establishing a Europe-wide living lab for testing Joint Innovative Formats for education and mobility including joint degrees. Through the three-year [Horizon 2020 'Una.Resin' pilot project](#), Una.Europa will determine the purpose and areas for future research collaborations within and beyond Una Europa. Una.Resin partners will create strategies for sharing Research & Innovation agendas, opening up and sharing Research Infrastructure and Resources, and strengthening Human Capital. Una.Resin will implement and evaluate pilot actions for the systematic support for excellence as well as create cross-disciplinary and cross-sectoral teams. During the process, non-academic partners of the universities will be reached out to strengthen the R&I ecosystem as a whole.

The Una.Resin co-creation workshop in Paris is a step towards fulfilling these goals. By engaging specialists and enthusiasts in a creative discussion we hope to generate insights and ideas pertaining to Citizen Science as a core component of the future Una Europa Human Capital Development Strategy.

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