2020-1-SE01-KA203-077973

BRIDGE: Bridging Integrity in Higher Education, Business, and Society

FROM ACADEMIC INTEGRITY TO CITIZEN SCIENCE ETHICS

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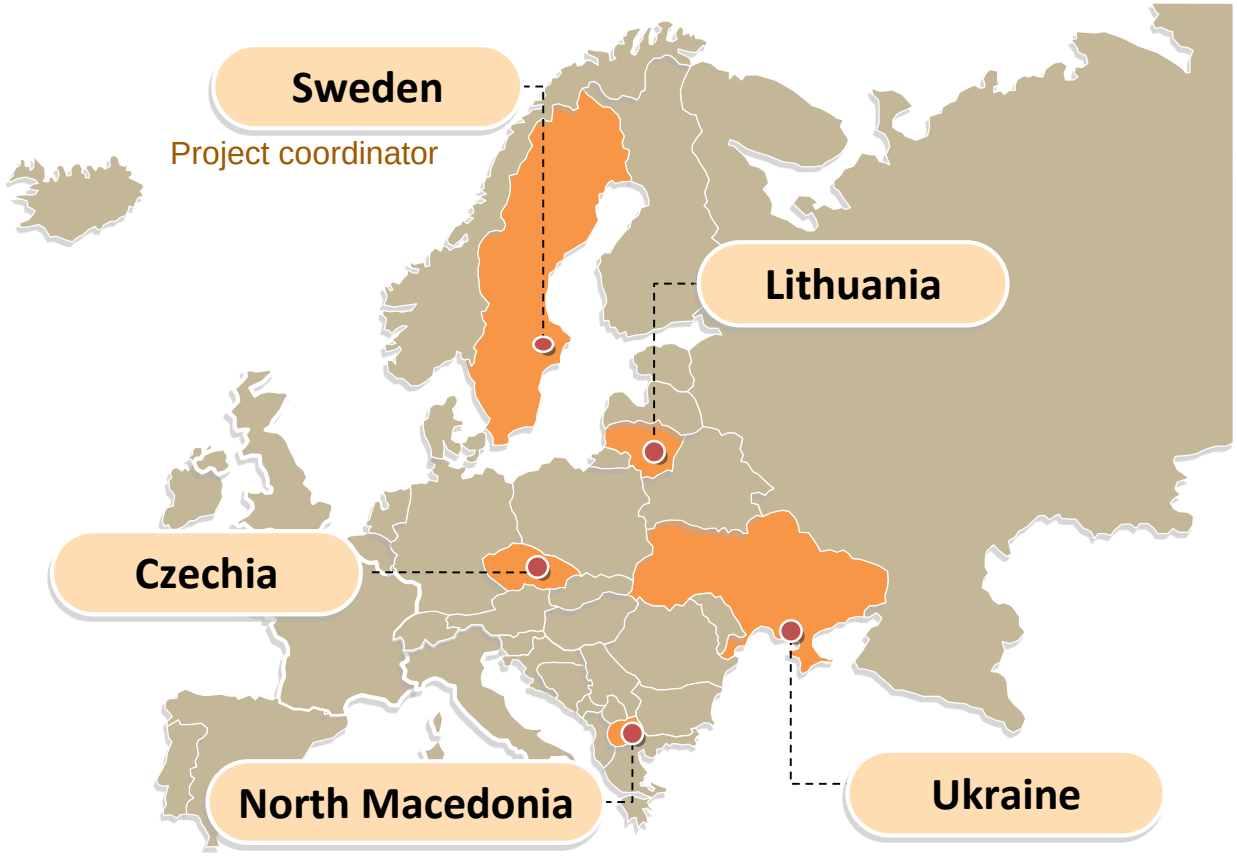
BRIDGE Project team



Map template: yourfreetemplates.com

UPPSALA UNIVERSITET

UNIVERSITETI I EVROPËS JUGLINDORE
УНИВЕРЗИТЕТ НА ЈУГОИСТОЧНА ЕВРОПА
SOUTH EAST EUROPEAN UNIVERSITY

Mendel University in Brno

Lithuanian Centre for Social Sciences

KNTU
KHERSON NATIONAL TECHNICAL UNIVERSITY

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

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We seek to create a bridge between academic sphere, business and society in order to reach a broader understanding of interrelated aspects of integrity between these fields.

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What was the motivation for this project?

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Three bridges

1. Academic Integrity and Research Integrity
2. Academic Integrity and Business Ethics
3. Academic Integrity and Citizen Science Ethics

Master students

Doctoral students

Supervisors

Erasmus+

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bridge project

PROJECT OUTPUTS

Co-funded by the Erasmus+ Programme of the European Union

2020-1-SE01-KA203-077

Bridging Integrity in Higher Education, Business and Society

SCAN ME

https://dev.academicintegrity.eu/wp/bridge/

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Checklists for the Academic and Research Integrity

Checklist for Supervisors

Checklist for Doctoral Students

Checklist for Master Students

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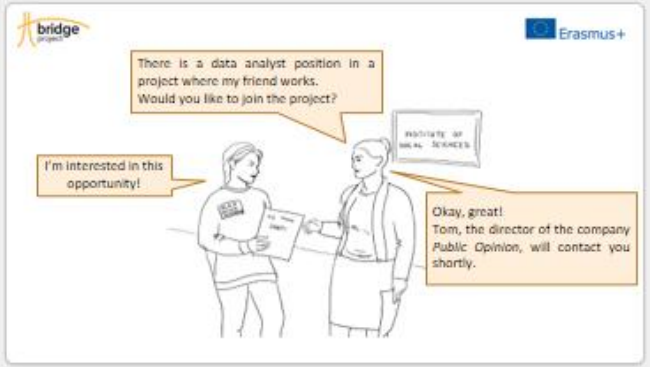
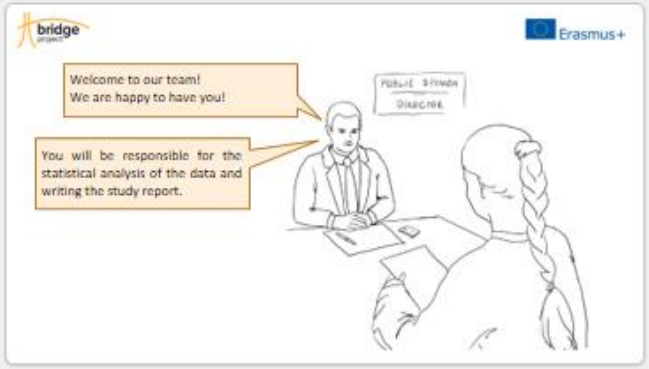
Games (based on real life examples)





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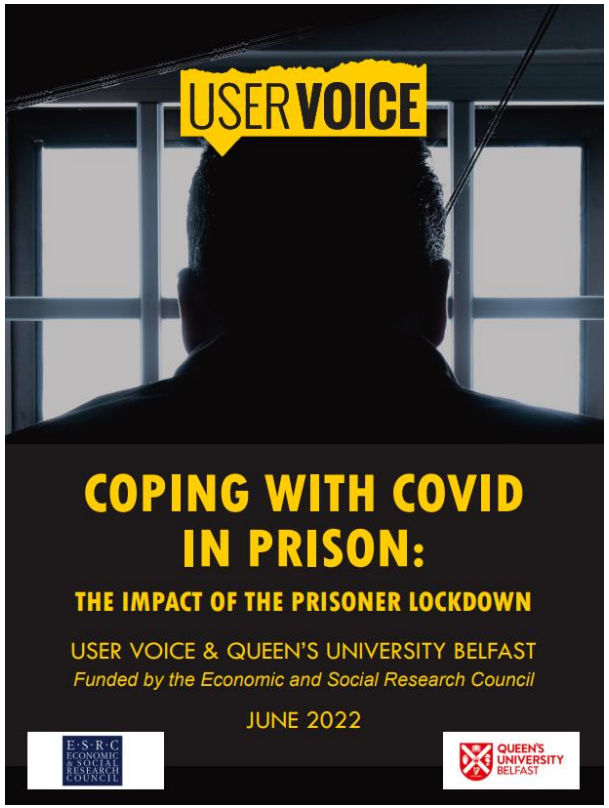
What is citizen science?



Bridger Teton NF / Flickr

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What is citizen science?

An umbrella term for research where laypeople are involved as co-researchers, usally as volunteers.

Research *initiated by researchers*.

Research *initiated by citizens.*

Citizens can be involved in the data collection, but may also contribute to the formulation of research questions, study design and reports.

Citizens may sometimes be co-researchers and research subjects at the same time.

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Why participate in citizen science?

Citizen scientists who choose to participate in CS might have very different reasons for doing so.

- Because they find it rewarding to engage in a scientific project
- Because the specific project genuinely interests them
- Because they believe that the project might help bring about change or influence various stakeholders, including professional researchers and policy-makers.
- Some may simply engage in it as a family activity (as in the case of citizen science apps).

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O4

Guidelines and open educational materials including gamified cases bridging Academic Integrity and **Citizen Science ethics**.

SCAN ME

Master students

Doctoral students

Supervisors

- Focus is on mainstream citizen scientists
- Limitation: extreme citizen scientist

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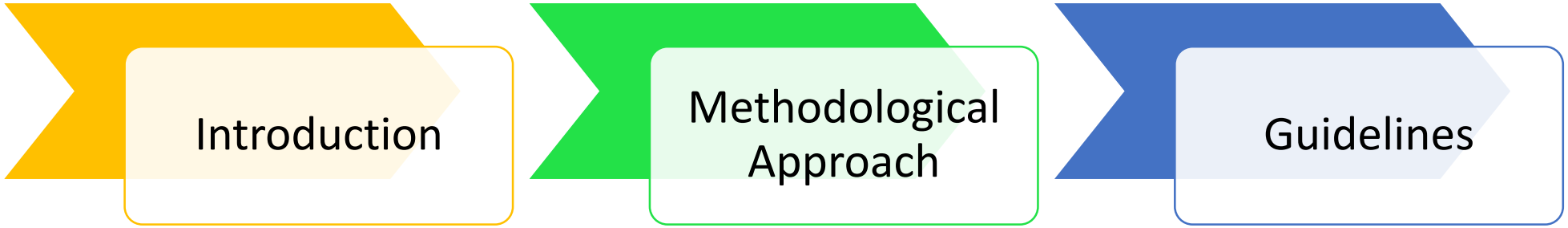

OUTLINE OF THE GUIDELINES

Ozolinčiūtė E, Bülow W, Bjelobaba S, Gaižauskaitė I, Krásničan V, Dlabolová DH, Umbrasaitė J (2022) Guidelines for Research Ethics and Research Integrity in Citizen Science. *Research Ideas and Outcomes* 8: e97122. https://doi.org/10.3897/rio.8.e97122

Method for developing ethics guidelines for citizen science

- Philosophical method (normative analysis and conceptual analysis)
  - Several good examples in the literature (e.g., Baard and Sandin 2022; Elliot and Rosenberg 2019; Rasmussen 2019, Rasmussen 2021; Resnik et al. 2015)
- Literature survey
- Asking experts

Method for developing ethics guidelines for citizen science

- Philosophical method (normative analysis and conceptual analysis)
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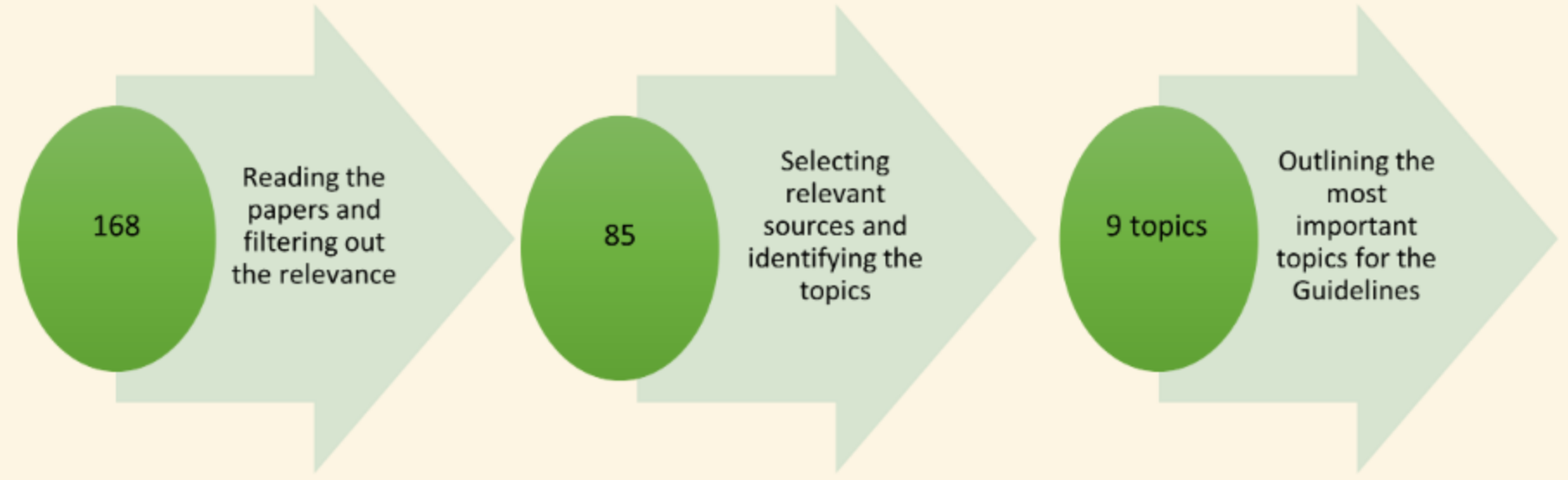

The process of selecting the sources to outline critical topics for the Guidelines.

Part of: Ozolinčiūtė E, Bülow W, Bjelobaba S, Gaižauskaitė I, Krásničan V, Dlabolová DH, Umbrasaitė J (2022) Guidelines for Research Ethics and Research Integrity in Citizen Science. Research Ideas and Outcomes 8: e97122. https://doi.org/10.3897/rio.8.e97122

As Oliver's supervisor, what problems concering research integrity would you anticipate?

- Oliver, a PhD student is facing a difficulty with securing important data which will be able to help him finalise the data collection of his PhD thesis. His thesis student is about the thickness of the ice sheet of a glacier.
- Until now, he has been able to provide some data through satellite images, however, due to the bad weather, he will not be able to do so anymore. This will postpone his data collection for several months. Oliver is under huge pressure because he has a deadline to meet and submit his data collection to the advisory board.
- One way to move forward is by engaging citizen scientists in his research project to provide the data. The citizen scientists are adventurers who are willing to carry out the necessary measurement and provide the necessary data.

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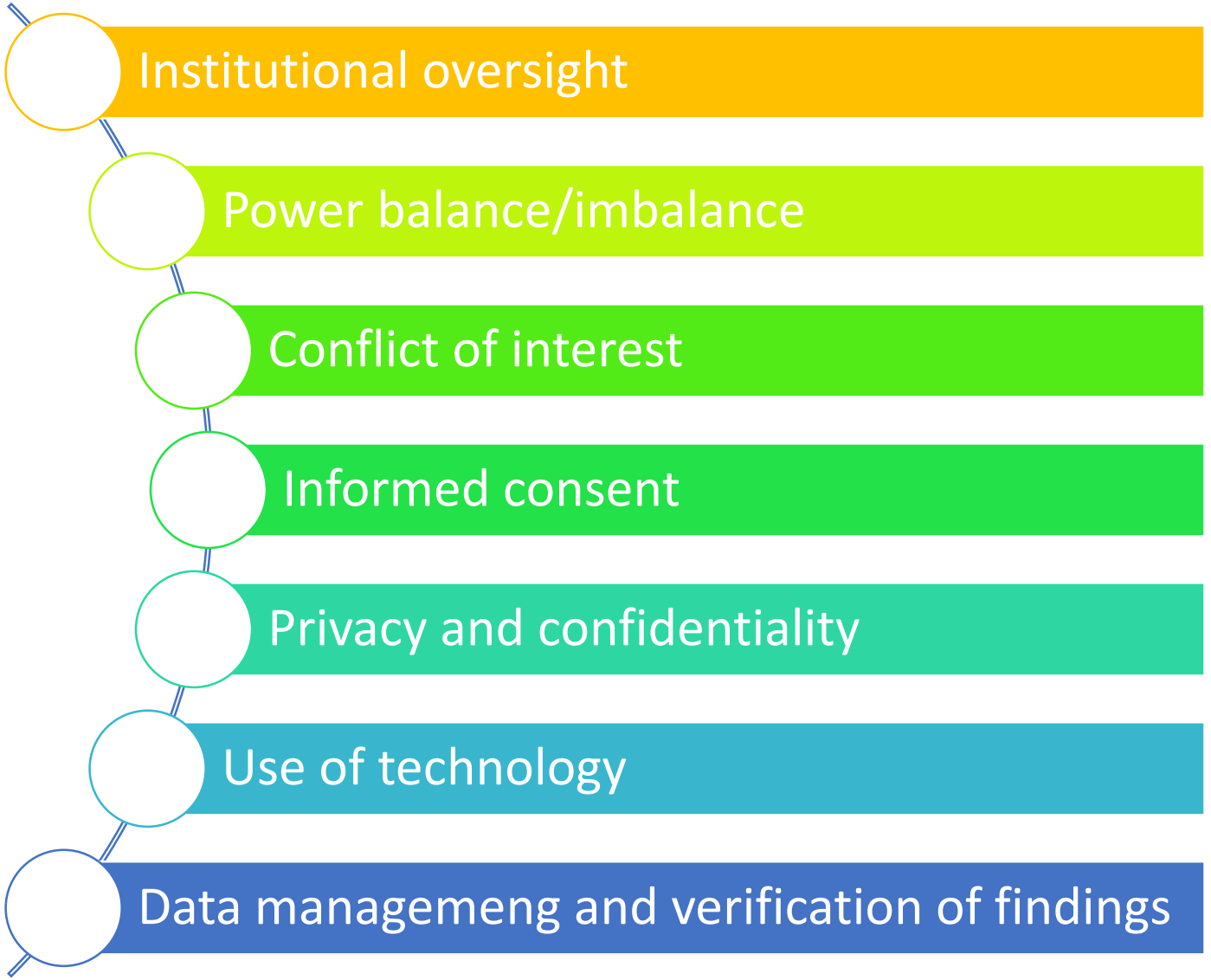
9 themes



Power Balances

Guideline #1

Expectations and characteristics of citizen scientists should be taken into account.

Guideline #2

CS research should involve inclusive dialogue between professional researchers and citizen scientists.

Vignette: Power Balance (Imbalance)

- Joana is a second-year master student in ecology and has recently been involved as a research assistant within a large project that aims to investigate how the population of bumblebees are affected by the growing temperatures and climate change in southern Finland. Her main responsibility is to help collect data and, to somewhat less extent, to compile the data.
- The project involves a large number of citizen scientists and while Joana is employed by her university as a research assistant, most participants that help collect data are doing so on a voluntary basis. Some participate out of mere curiosity, some do it as a family activity, some are school teachers, and some are climate activists. Some of the volunteering citizen scientists have been part of the project for several years.
- Joana is now told by her colleagues at the university that they are planning to write a research article on the basis of the results that they have gathered so far, aiming to publish it in a scientific journal. They ask Joana if she would like to be included as a co-author, given how she has contributed to the data collection. She wonders who else will participate in the co-writing of the report, and is told that it would be the researchers at her department, without the inclusion of the volunteering citizen scientists. Unlike the university-employed researchers in the project, citizen scientists are assumed to lack the relevant academic training. Some of Joana's colleagues also say that the volunteers would most likely not even be interested in the co-authorship.

1. Joana should accept the invitation to be a co-author. It provides a perfect opportunity for her to get relevant merits and experience to secure an academic career.

2. Joana should accept the invitation to be a co-author, but she should also make sure that the citizen scientists are properly acknowledged in the research article, for example by being mentioned in an acknowledgement or contributor statement.

3. Joana should try to convince her colleagues at the university that they should at least have an inclusionary dialogue with everyone involved in the project - including the citizen scientists.- about the dissemination of research results and in what way they may like to be credited for their contribution.

4. Joana should decline the invitation to be a co-author on the basis that she has not been contributing as much as some of the citizen scientists. Accepting the invitation would be unfair and disrespectful towards those citizen scientists that have made larger contributions to the study than Joana.

5. Joana needs to find out more about what it means to be a co-author on a research paper and to what extent it may be appropriate to include or exclude citizen scientists from co-authorship.

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Vignette: Power Balance (Imbalance) - FEEDBACK

- It is important to recognize that there may exist a range of different power imbalances within a specific citizen project due differences in academic level or training, and how the people involved are compensated or credited for their work. Some of these imbalances may result in exploitation and instrumentalization of citizen scientists and related tensions between professional researchers and citizen scientists. For example, there is a risk that professional researchers, either knowingly or accidentally, might exploit the goodwill of citizen scientists due to different expectations about the project and its expected outputs. If citizen scientists do not feel that they are treated fairly or with the type of respect owed to them as persons, this might jeopardise the citizen project and undermine future collaboration. It is therefore important that professional researchers take a proactive responsibility to avoid the risk of exploiting or instrumentalizing citizen scientists and encourage an inclusionary dialogue between professional researchers and citizen scientists. Even though the form of communication that is suitable to this end depends on the scale and the nature of the project, questions that should be addressed in such a dialogue are why do citizens wish to contribute and what do they wish to gain from participating in the project? How do they wish to be credited and in what way do they wish to contribute to the project? How do they want the information about the project as well as its data and results to be disseminated? The correct thing to do for Joana, then, is to try to convince her colleagues about the importance of having an inclusionary dialogue with everyone involved about these issues.

Informed Consent

Guideline #1

Whenever CS projects involve humans as citizen scientists and research subjects, informed consent should be obtained.

Guideline #2

In CS research, the appropriate protection of vulnerable groups must be ensured. Citizen scientists should benefit from knowledge, practices or interventions.

Guideline #3

It should be seriously considered what type of consent best fits CS.

Vignette: Informed Consent

- Andrea is a master student in linguistics who lives in a multicultural city and would like to find out what languages are used in the graffiti and stickers art in the public spaces in that city.
- Inspired by citizen science, she contacts a group of teenagers that are active graffiti artists and asks them to help her collect the photos of the graffiti and/or stickers and send her their exact GPS position, the time slot when the photo was taken, the name of the language, as well as the translation of the text. Most of them are teenagers active in a youth centre nearby. She also needs the contact information of her volunteers, as well as the information on their background and language proficiency in order to validate that their knowledge of the language is sufficient for her project.
- As she is taking help of people to obtain data for her research, her supervisor has explained that she needs an informed consent, so she writes a short form for her volunteers to sign. Although she might want to use the translations provided by the volunteers in a future doctoral study, she only states that the data will be used in her Master thesis.
- Both volunteers and Andrea are eager to start as soon as possible so she is happy that she gets the signatures without any further questions. One of the teenagers knows that his friend who is sick that day loves graffiti and would love to participate in her research, so he signs the informed consent for her as well.

1. As Andrea's research is not about the volunteering citizen scientists, but about graffiti and sticker art, she does not need an informed consent at all even though she follows the supervisor's requests.

2. As Andrea collects information on volunteers as well, such as their background, language skills, and GPS location, she needs an informed consent. Her informed consent is sufficient for her Master thesis, but not for a Doctoral thesis, but she renegotiates the consent using a dynamic informed consent. As her research involves children and adolescents as citizen scientists, she also needs to get a consent from their legal guardian.

3. As Andrea collects information on volunteers as well, such as their background, language skills, and GPS location, she needs an informed consent. Andrea needs to find out more how the informed consent should be formulated. The information provided about the research is not sufficient neither for her Master nor for a Doctoral thesis. As her research involves children and adolescents as citizen scientists, she needs to get consent from their legal guardian. She should not have accepted the informed consent signed for someone else.

4. Andrea needs to find out more how the informed consent should be formulated. Andrea should provide more information about the aims and methods of her research to those participating as citizen scientists in her thesis work. As her research involves children and adolescents as citizen scientists, she needs to get a consent from their legal guardian. It is ok to accept the informed consent signed for someone else as it can be confirmed later.

5. Andrea's informed consent is sufficient both for her Master and a Doctoral thesis. The second thesis is just a continuation of the first thesis, so she can use the same informed consent. Informed consent is important in this case as she collects the information about her volunteers as well. Andrea's informed consent is sufficient as all of her volunteers are older than 12. It is ok to accept the informed consent signed for someone else as it can be confirmed later.

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Vignette: Informed Consent - FEEDBACK

- When a CS project involves humans as citizen scientists and research subjects, informed consent should be provided. Although Andrea later could renegotiate the consent using a dynamic informed consent, she does not provide enough information on her research in the first place, so her informed consent is not sufficient for her Master thesis. She needs to find out more about the informed consent form and specify her the aim and purpose of the study, research methodology, risks and benefits associated with their participation, what measures will be taken to protect their rights and integrity, and the dissemination of results. She also needs to clarify that they have the opportunity to withdraw the consent at any time and not accept the informed consent signed by someone else. As her research involves children and adolescents who are vulnerable groups, she needs to get consent from their legal guardian as well. The informed consent cannot be signed on behalf of someone else. As citizen scientists often actively participate in CS projects not only as research subjects, but as co-creators, it might be relevant to use a dynamic informed consent that allows the participants to select which data to be shared and under what circumstances during different stages of the project.

Intellectual Property

Guideline #1

Both professional researchers and citizen scientists should adhere to intellectual property regulations in the country or countries where a CS project will be implemented.

Guideline #2

Professional researchers should ensure the respect and protection of intellectual property in line with a CS project's needs.

Guideline #3

Professional researchers should discuss issues pertaining to data ownership and intellectual property with all researchers (both professional researchers and citizen scientists) before the CS project begins.

Vignette: Intellectual Property

- Nicola is a doctoral student in marine biology. Currently, he is collecting data for his doctoral thesis on the depth of the newly discovered lake underneath the ice sheet in the northern part of Greenland. Due to the bad weather, hostile conditions, and limited budget, Nicola reaches out to the local community for them to help with their knowledge and experience of the area and contribute to carrying out measurements in such a difficult environment. Following up on the advice of his mentor, Nicola also needs citizen scientists to increase the exemplary measurements and therefore improve the accuracy of the research. Citizen scientists will provide measurements from more various locations across the island. Nicola provides the necessary information about the location where the measurements need to take place, provides training for the citizen scientists, as well as the tools to carry out the measurements based on the international standards respecting IP rights. The citizen scientists carry out the measurements, and deliver the data as required and contribute to the successful completion of the data collection process.

- One of the citizen scientists kindly requests Nicola to provide the overall findings of the data collection process prior to his final defence. Nicola refuses to share the data that have been collected by him or anyone else in the project, including other citizen scientists, with the justification that such a request requires further processing of data followed by verification steps until it can be fully disclosed. Also, as the collected data is used to support the thesis hypothesis, it is subject of intellectual property. Therefore, the data cannot be shared until the thesis is defended.

1. There is no need for Nicola to share the data of his PhD thesis since the data is subject to further processing by him consequently, and subject to intellectual property rights.

2. Nicola needs to find out if sharing the data prior to his thesis defence can be considered a violation of academic integrity policies of his university.

3. Nicola shall share the data once the thesis is defended with request of proper acknowledgment of the source i.e. the thesis.

4. Nicola had to discuss the terms and the conditions of the ownership of the data with the citizen scientists before they carried out the measurements, and they have agreed to share the data at any stage of the study

5. Nicola is in violation of generally accepted ethical standards within the academic community.

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Vignette: Intellectual Property - FEEDBACK

- The Guidelines for Research Ethics and Research Integrity in Citizen Science recommend that citizen scientists must be informed of issues related to Intellectual Property, preferably at the beginning of the project. These issues need to be thoroughly discussed with citizen scientists in terms of the data ownership together with the researchers, as well as other contributors and the extent to which this ownership is limited. In the case of Nicola, he will need to share information with the citizen scientists at any stage of the doctoral thesis and maintain an open access of the data with all contributors equally regardless of the timing when the access has been requested.

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2nd Multiplier BRIDGE Event

International conference on integrity in higher education, business and society

KNTU
KHERSON NATIONAL TECHNICAL UNIVERSITY

UPPSALA UNIVERSITET

18th May 2023

A one-day online conference co-organized by Kherson National Technological University (Ukraine) and Uppsala University (Sweden)

CALL FOR PAPERS – DEADLINE February 28th

https://www.academicintegrity.eu/wp/2nd-event-bridge/

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PROJECT OUTPUTS

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