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BEST PRACTICES FOR MANAGING INTELLECTUAL PROPERTY RIGHTS IN CITIZEN SCIENCE

A GUIDE FOR RESEARCHERS AND CITIZEN SCIENTISTS

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BEST PRACTICES FOR MANAGING INTELLECTUAL PROPERTY RIGHTS IN CITIZEN SCIENCE

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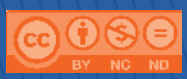

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Citizen science involves "a form of collaboration where members of the public participate in scientific research to meet real world goals." Citizen science rests on the idea that collaboration can create and harness synergies that lead to innovation; that more minds may generate better and more robust outcomes; and that the distribution of tasks over a broad base of participants can facilitate research and innovation on a scale that might be hard to match otherwise. Intellectual property (IP) rights in scientific research are often of great significance to researchers whose career advancement may depend upon the ability to publish their work in select journals, to maintain the confidentiality of their research results until they are ready to publish, or to obtain patents. **Citizen science research can be quite different in many respects from conventional scientific research because it involves large numbers of non-professional participants; nonetheless, it can still give rise to IP considerations.** Citizen science may also present IP issues that are relevant to citizen scientists who are invited to be part of projects: sharing facts, observations, photographs, or even inventive ingenuity. IP issues carry over into the dissemination of citizen science research for both researchers and citizen scientists, particularly since the very nature of such projects, combined with community and participant expectations, may demand forms of dissemination different from the traditional method of disseminating research through proprietary peer-reviewed publications. Conducting scientific research publicly with nonprofessional participants may create an expectation that the research be openly available for re-use by other scientists and for use by ordinary citizens for education and community development. **In many instances, the need to manage IP rights in citizen science may be less about ownership and control for the purposes of career advancement or commercial exploitation and more about appropriate management to serve a broader public interest.**

The following table and checklist are excerpted from a larger research paper, *Managing Intellectual Property Rights in Citizen Science: A Guide for Researchers and Citizen Scientists* by Teresa Scassa and Haewon Chung, which delves into these topics much more deeply from a legal perspective. The table and checklist offer an overview of best practices aimed at researchers who are creating or implementing citizen science research projects. For the table, we have divided considerations into four broad categories.

The first is project design and planning. This is the initial stage where the project has yet to be launched. At this stage it is important to think about the researchers' own IP needs and constraints, how they would like to ensure access to and use of project outputs, and how they will protect or manage any IP generated by the project. It is also a stage at which it is important to consider how users will contribute to the project. As noted earlier, for example, data entered onto electronic forms is much less likely to give rise to IP rights that rest with the contributor than data submitted in the form of written observations, photographs or videos. The second main consideration relates to the use of third party tools or platforms that a researcher may decide to incorporate into the project. In many cases, there will be IP rights that relate to these tools and platforms, along with agreements that constrain how they are to be used. A third consideration is how to deal with participant contributions to the project. Not only is it important to set terms and conditions for contribution and use of this material, it is important to pay attention to how these terms and conditions are framed and how participants are given effective notice. This is not just a legal consideration; it is an ethical one, as this is part of how the relationship between researchers and participants is defined. The final consideration relates to research dissemination and commercialization, and those things that should be taken into account to ensure that any plans for dissemination and/or commercialization can be fully realized.

This table is followed by a checklist aimed at those who engage as participants in citizen science projects. In many – if not most – cases participants are not motivated by thoughts of gain, nor are they necessarily interested in exercising any particular level of control over any IP rights in their contributions. Nevertheless, IP issues are still important. Some participants may be happy to share their photographs or other contributions with the project, but want to retain the right to use these materials themselves for other purposes. In some cases, participants are content to share with researchers, but may be concerned about broader re-use or sharing without some say in how this will take place. This may be the case, for example, where what is shared is traditional knowledge or has some level of personal significance. In some cases, it will be important for participants to know not only on what terms and conditions they share their contributions, but their rights to access or use any project output. They may also be interested in knowing whether the project data or other outputs will be kept confidential, shared with other researchers, or shared more broadly with anyone with an interest in the topic.

Best Practices

Tasks	Considerations	Examples
Project Design or Planning	*Identify pre-existing IP requirements or restrictions*	Identify possible IP claimants in the research output by reviewing IP policies of your research institution or university, employment agreement, funding agreement, the user agreements of any third-party content, tool or service provider. [see full report, p. 14, p. 19, p.37] Consult the legal department in your research institution if necessary, to discuss your plans. Identify the values of citizen science research and the user community's expectations for ethical operation of the project and ethical management of IP rights. [see full report, p. 28, p. 38] Determine your data sharing or publication responsibilities in any funding agreements.
	Identify any IP rights likely to arise from the project	Project-related IP may include a project website, software written specifically for the project, the project name and/or logos, compilations of research data, scientific reports or other publications, inventions, and so on. Consider who will have rights in these works/inventions, and how these rights should be managed. [see full report, p. 28, p. 39]
	Citizen scientists' level of involvement and access	Consider the research goals and the direction of research to define the nature of the public's involvement and the level of access to project outputs. The level of involvement and access should reflect any pre-existing IP agreement with project partners or funders. Consider whether participants will be making contributions in which they may have IP rights and manage these rights through a user agreement/license in a manner that is appropriate to the project goals. [see full report, p. 16, p. 39] Where necessary, implement security measures to prevent any unauthorized use or downloading of the project's contents, tools, and services (if possible). [see full report, p. 26]

	Plan data gathering and data sharing	If commercialization is a potential goal, consider ways your research might be commercialized or might become part of a commercial work so that you can protect the financial value of your research (or its patentability) by not over-sharing the research and by ensuring all rights are cleared (including in relation to user contributions). Consider whether there is a need to enforce a confidentiality agreement on research partners or citizen scientists during research. [see full report, p. 21, p. 26] Determine what type of data will be gathered and reported by citizen scientists and consider what format or tools will be used in this process. (For example, electronic forms may raise no contributor IP issues, whereas photographs and written observations do.) [see full report, p. 16] Decide what data will be shared, in what format, and how it will be shared (e.g. open access or proprietary). This can help you select an appropriate licensing scheme Consider the type of data you will be gathering and whether these data raise other legal and/or ethical considerations (such as privacy or obligations in relation to traditional knowledge). [see full report, p. 26]
	Prevent plagiarism or theft of research or of project goodwill	Consider registering the project name and its logos as trademarks to prevent unauthorized use. [see full report, p. 23, p. 47] Instead of releasing data into the public domain, share collected data using open access licensing (which may allow you to attach conditions such as attribution, non-commercial use, or share-alike) to ensure proper acknowledgement and to limit uses considered inconsistent with project goals. [see full report, Table IV, p. 51] Consider publishing research results (e.g. in open access journals) before making them available on the project website for public viewing.

Using third party tools, contents, and/or services in citizen science [see full report, p. 18, p. 37]	*Using web platforms and services (e.g. Facebook, SciStarter)*	Be aware of IP policies of the third party platform and communicate the existence of such policies to citizen scientists. The project's IP policy should reflect any restrictions of the third-party website or service provider to maintain consistency. If a portion of the project is hosted on a third-party website, give users notice whenever a link from the project website directs users to the external website where different terms and conditions may apply.
	Third party contents, tools, or software	Give citizen scientists notice before they interact with third-party contents. Identify unauthorized uses in the project's terms and conditions. Even if third-party contents are made available under an open access license, notify users of any limitations set out in the license (e.g. no commercial re-use). When there are multiple third-party contents or tools, clearly notify users in the terms and conditions that different terms may apply to each.
Participant contributions	*License enforceability* [see full report, p. 49]	Choose click-wrap agreements over browse-wrap where possible. Click-wrap agreements give notice of the user agreement and provide citizen scientists with an opportunity to read the terms and manifest assent prior to joining the project. In case of a browse-wrap agreement, place the link in locations that are logical and visible to a reasonably prudent user (e.g. consider whether the link is visible without scrolling and where it is located in relation to other important hyperlinks).
	Collecting participant contributions	Secure all necessary rights to use contributions of citizen scientists in the project and in related future activities. [see full report, p. 46] Obtain a waiver of moral rights from citizen scientists where project is on an international scale or in a country outside the United States. [see full report, p. 46] Include a disclaimer in case citizen scientists upload infringing contents. [see full report, p. 45]

	Drafting Terms and Conditions	Choose appropriate language – simple or complex – according to the circumstances of research. Where possible, use simple and accessible language. [see full report, p. 39, p. 44] Even when the project's IP policy is determined by an external source (e.g. research institution) and these terms are posted online elsewhere, consider distilling these principles into a simple license and providing links to other relevant documents where necessary. [see full report, p. 49] Choose governing law in case of a dispute and in case of possible changes to IP law. Try to clearly identify the conditions and the limitations of the license, such as the durationof the license and the type of use provided for. [see full report, p. 17, p. 34, p. 25, p. 37] Do not commit a copyright infringement by directly copying the terms and conditions of another project without permission. [see full report, p. 20, p. 49]
	Acknowledge participant contributions [see full report, p. 30]	Determine and explain how user contributions will be acknowledged (e.g. web-based acknowledgement by posting names or login names online). List contributors as co-authors in peer-reviewed publications when appropriate. Include contributors as co-inventors in patent applications when appropriate. Acknowledge collective contributions in publications and/or on website. Attribute citizen scientists when their copyright protected works (e.g. photos) are featured or displayed in announcements, publications, presentations, or demonstrations.

Research dissemination and commercialization	*Choose a method of publication*	Choose a vehicle for publication (e.g. proprietary publishers, open access journals, or the public domain) that is most appropriate for the project objectives.
	Dissemination [see full report, p. 23, p. 47]	Disclaim all warranties for user contributions. Where appropriate, include a statement of non-endorsement for third-party works or user contributions. If data or results are published under an open license, consider whether any use limitations are appropriate (e.g. non-commercial, share-alike). Consider also whether and how attribution should be made to the project in downstream uses. If considering trade secret protection, weigh its benefit against the benefit of openly sharing knowledge. [see full report, p. 26] Research dissemination should not breach any external IP restrictions imposed on the research.
	Commercialization	Patenting – consider the costs, the length of time, and the legal requirements for registering a patent in the countries where you plan to enforce your patent rights. Identify any possible participant co-inventors. [see full report, p. 21] Consider providing for an equitable sharing of royalties, particularly for inventions developed in the course of community-based projects. [see full report, p. 30]

IP Checklist for Citizen Science Participants

- ✓ Consider the nature and type of contribution required by the citizen science project. Are contributions likely to be ones in which you have IP rights (e.g. photographs, written observations, or commentary, inventive activity)? Have you already assigned your IP rights in the content you plan to submit to someone else?
- ✓ How does the user agreement/licence address IP issues? Are you satisfied with the terms and conditions?
- ✓ Be aware that you should not contribute (and cannot licence the use of) content in which others hold the IP rights (e.g. photographs taken by others).
- ✓ What does the user agreement say about how your contributions will be used, shared, and disseminated (e.g. open access publications, data shared with other researchers, or with public at large)? Are you satisfied with the plans for use?
- ✓ What does the user agreement say about how any contributions will be acknowledged in publications, on the website, or in other project output? Are you satisfied with this?
- ✓ If you are part of a community-based project, are there clear provisions for how the community may use the project data or publications to address local problems?
- ✓ Is the objective of the research project consistent with your expectations? For example, how do you feel about your contribution being part of a proprietary (restricted access) research output?

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