

A person wearing a yellow hat and a green jacket is looking through binoculars at a body of water. The scene is outdoors, with trees in the background and a clear sky. The overall color palette is dominated by greens and yellows.

HOW TO BECOME A CITIZEN SCIENTIST? A BEGINNER'S GUIDE

You do not need to be a trained scholar to be a citizen scientist! This guide explains what citizen science is, why it matters and how you can get involved.

WHAT IS CITIZEN SCIENCE?

Citizen science involves the active participation of individuals in scientific research, encompassing activities such as data collection, interpretation, and evidence-informed decision-making. This co-creative approach is also known by other terms, including *participatory science*, *collaborative research*, *crowdsourcing*, and *participatory monitoring*.

Citizen science aims to enhance our understanding of scientific concepts and foster increased public involvement in decision-making processes and societal impact. A citizen scientist is typically a layperson who engages in research without formal training in the subject. Additionally, citizen science projects can be integrated into school curricula, providing students with hands-on research experience.

WHY PARTICIPATE IN CITIZEN SCIENCE PROJECTS?

Science needs you. Linguists and artificial intelligence researchers require extensive amounts of data in order to develop language technology. Ecologists need comprehensive information on species numbers and distribution. Climate scientists require detailed data on the effects of temperature changes on the environment.



IMAGE: DAIGA ELLABY / UNSPLASH

As a citizen scientist, you get to participate in research projects.

Citizen science can be a fun and rewarding hobby.

Researchers often need more material than they are able to collect on their own.

At times, a comprehensive interpretation regarding specific phenomena in a dataset can be unattainable to the researcher. For instance, the interpretation of data on young people's social media use may not be reliable unless youth themselves take part in the analysis. Incorporating diverse perspectives greatly enhances the quality and depth of research. Sometimes scientists have acquired the necessary data but require assistance in processing it due to its sheer volume or other complexities. For example, a biologist might need to sift through a million photographs to identify the species living in a particular area. While artificial intelligence can provide tools for analysing diverse datasets, they are often no match for the nuanced capabilities of human judgement.



IMAGE: TAPIO HAALJA / UNSPLASH

Engaging in citizen science will equip you with valuable research skills.

By getting involved in citizen science projects, you can contribute to solving shared problems.

As a citizen scientist, you can make a meaningful impact on society. For example, you can participate in improving the quality of drinking water or air in your neighbourhood, thereby enhancing the development and living conditions of the area. Your observations, views and initiatives may play a key role in studying various phenomena.

Citizen science is an effective way to combine people's passions and interest in science while promoting more diverse knowledge production and providing solutions to local and global problems.

WHO CAN BECOME A CITIZEN SCIENTIST?

Anyone can become a citizen scientist regardless of financial means, age, or education level. All you need is an interest in a subject matter and willingness to commit to a research project for a while.

The role of a citizen scientist may vary greatly depending on the research project. Among other things, it may involve:

- making observations and gathering information
- interpretation and reflection
- defining problems and collecting data
- conducting science in collaboration with a professional researcher.

It is important to discuss and agree upon the goals, expectations and practical aspects of a research project in advance. Citizen scientists typically do not need to provide their own research equipment or make financial contributions.

HOW TO GET INVOLVED?

1. **Recognise your interest:** Think which theme or discipline piques your interest. Could you take part in monitoring birds, assessing air quality or interpreting hand-written historical documents and letters, for example?
2. **Explore citizen science projects:** Many organisations, including universities and research institutes, provide online information about citizen science projects and opportunities in your area. You can also find up-to-date information about studies utilising citizen science through the following examples:

- Participate in **'backyard spotting'** or record your nature observations, in Finnish, through **the Finnish Environment Institute's kansalaishavainnot** toolbox, the **"Muuttolintujen kevät"** -application, available in the app stores, or the **iNaturalist** service. The observations generated through the service are ultimately stored in **the Finnish Biodiversity Information Facility** and made available through it to researchers, authorities and non-scientists. Similarly, any artefacts that you may discover can be recorded in **the Finnish Heritage Agency's Ilpari** service, after which they can be viewed by browsing **the FindSampo** portal.
- The most well-known international examples include **Zooniverse**, **Scistarter's Project Finder**, **the EU's own citizen science platform**, **Patientslikeme** and **VERA** maintained by the OPERAS consortium. Fun gamification activities are available at **Citizensciencegames.com**. More information can be found on the European citizen science organisation **ECSA's** website and, in Swedish, at **Medborgarforskning.se**, for example.

- 3. Get involved:** Download a citizen science app or explore other opportunities to contribute. Once you have found an interesting project, contact its organisers and express your interest in getting involved. They will help you get started, assist you with the practical aspects and explain your options for taking part in different phases of the study.
- 4. Be active:** Do not hesitate to get involved. Through active participation, you will learn about the research topic and gain tools to engage in the decision-making regarding your



Your discovery may increase our knowledge of our shared past or shape our understanding of the surrounding society.

living environment. Choose a project that interests you and fits into your schedule.

- 5. Stay in touch and share your experience:** By engaging in citizen science, you become part of a global community. Your participation will inspire others, advance scientific knowledge, and promote societal engagement. Additionally you may have the opportunity to meet new people.

AUTHOR AND CONTACT INFORMATION

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IMAGE: GREEN CHAMELEON / UNSPLASH



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