# Gathering for Open Science Hardware

doi: 10.5281/zenodo.5164598

## CSCCE Community Profile

CREATED IN COLLABORATION WITH: Wilson Center

## COMMUNITY OVERVIEW

The Gathering for Open Science Hardware (GOSH) is a global community aiming to make open science hardware (OScH) ubiquitous by 2025, decreasing the cost of scientific research and increasing access to technologies that address issues such as environmental pollution. GOSH convenes global gatherings, produces publications, facilitates activities, and hosts a community forum. GOSH stakeholders include scientists, social scientists, entrepreneurs, hackers, and community organizers. The intention of GOSH programming is to connect researchers, activists, and citizens to share open hardware and increase its use by communities on the ground. The GOSH virtual forum offers a place for anyone to connect and learn more about open science hardware and its role in society.

- Website: https://openhardware.science/

## COMMUNITY BASICS


200-300 members with a broader reach of 300-500 who have worked with members on a project, event, or activity

Equally online and offline*

*all activities were online during the COVID-19 pandemic

International

Open - anyone can join

## KEYWORDS

**Paradigms**

- CITIZEN SCIENCE
- CRITICAL MAKING
- DIY BIOLOGY
- ENVIRONMENTAL JUSTICE
- OPEN HARDWARE
- PARTICIPATORY DESIGN
- COMMUNITY OR CIVIC SCIENCE

**Disciplines / skills**

- INTERDISCIPLINARY
- ENVIRONMENTAL SCIENCE
- ELECTRONICS
- MANUFACTURING
- BIOTECHNOLOGY

**Programming and goals**

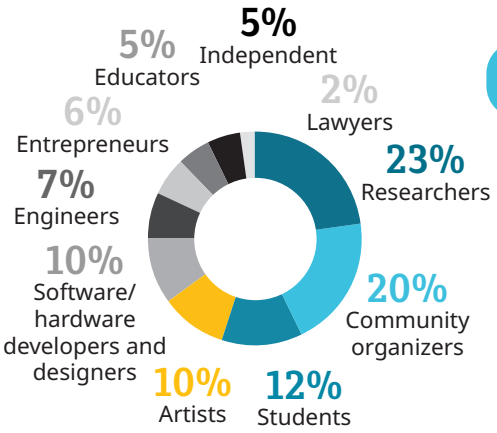
- STANDARD SETTING
- INFRASTRUCTURE DEVELOPMENT
- KNOWLEDGE GENERATION
- DIVERSITY, EQUITY, AND INCLUSION

## COMMUNITY STRUCTURE

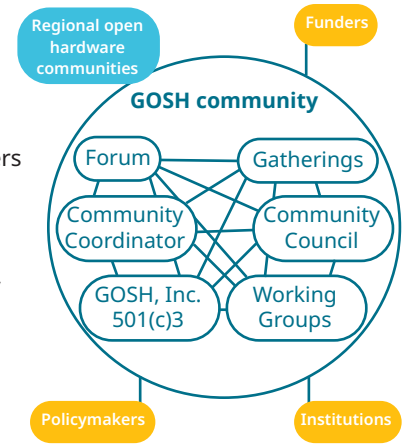
**Community Management**

Community management is provided by a full-time **Community Coordinator**. This position has existed for six months, prior to that the community was self-organized. Since then, 20 to 30 **community members** have helped with projects.

**Members**




**Community Configuration**



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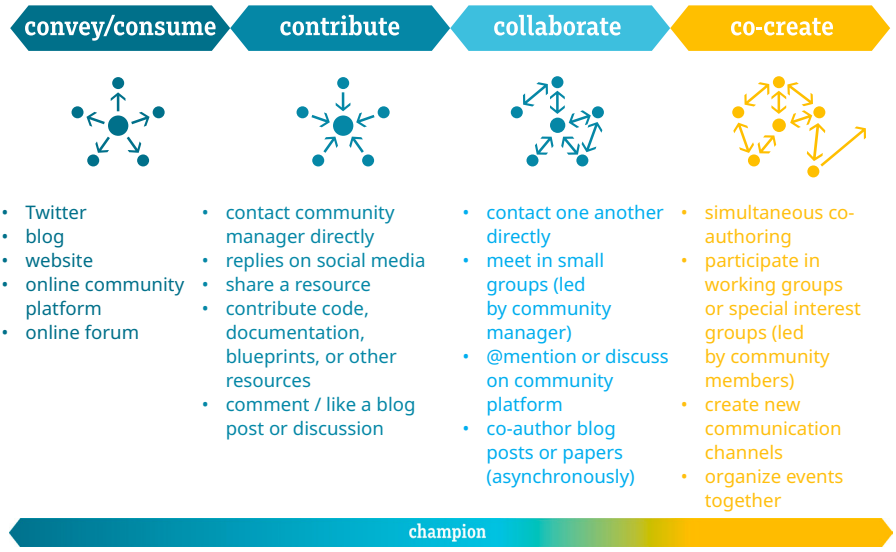
## PROGRAMMING

Members of the GOSH community are active in many different areas. Some host a series of writing workshops to produce *in situ* policy briefs, some work together to document distributed manufacturing processes for open hardware, and the GOSH governance working group carried out the first-ever GOSH election to seat a community council. The community shares projects, conversations, and ideas with one another on the GOSH forum. There are also ongoing open hours for community members to join that are held monthly.




## THE COMMUNITY PARTICIPATION MODEL

The CSCCE Community Participation Model describes four modes of member engagement that can occur within a community – CONVEY/CONSUME, CONTRIBUTE, COLLABORATE, and CO-CREATE – and one that can occur both inside and outside of it: CHAMPION. All modes may be present at once, with some members interacting in multiple modes – or a community may have member engagement that falls into only some of the modes described. The model enables the mapping of community member behaviors to programming and other infrastructural support that the community manager, convening organization, or funder may provide to the community.

For more information, see the CSCCE community participation model.


## COMMUNITY CHAMPIONS

This community does not currently have a formal champions program. Members act as informal champions in the following ways:

CHAMPIONS take on additional activities to support or advance the community. They are sometimes described as emergent leaders.

### MAINTAIN

- code review / pair programming / maintainer roles
- reviewing applications (e.g., for fellowships)
- serve on code of conduct committee

### GROW

- represent the community at external events

### EVOLVE

- serve on a steering committee or other advisory role

## COMMUNITY TOOLBOX

**Communications**

Email
Blog
Twitter
Zoom
Slack
GitHub

**Productivity**

Google Drive
GitHub

**Community platform**

GitHub
Slack
Discourse

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## OUTPUTS & EVALUATION

**Success looks like not only making OScH ubiquitous by 2025, but also increasing pathways for equitable and accessible participation in OScH. Driven by aspects of the open science, open-source and open movement, as well as by the GOSH manifesto and the GOSH roadmap, success looks like a global community of scientists, activists, organizers, lawyers, and anyone else interested in OScH driving the movement to adopt OScH forward.**

### Successes over the last year

GOSH has seen a resurgence of its events (although virtual) and workshops, and the forum has remained a consistent space for conversation and project generation between community members.

- **Growth** - launched new program or project
- **Growth** - added new members
- **Engagement** - increased activity of members
- **Activities** - created community outputs together
- **Activities** - an in-person or virtual event
- **Funding** - solidified existing funding stream
- **Value** - members expressed recognition of the community's value

### Evaluation and Reporting

- Reports for leadership
- Collecting community feedback

### Opportunities

GOSH looks to produce a series of policy briefs advocating for OScH and to host residency programs for OScH practitioners across the globe.

- **Growth** - new working groups
- **Growth** - launch new program or project
- **Growth** - add new members
- **Engagement** - increase member activity
- **Activities** - create community outputs together
- **Activities** - host conference(s) / workshops
- **Value** - external recognition

### Challenges

The COVID-19 pandemic has impacted activity in the community due to the inability to host our in-person global gatherings, and there is a need to think more about evaluation.

- Low activity from community members
- Evaluation
- Too few staff or volunteers
- Instability in industry

## FUNDING


### Funding Streams

- 100% funding from the Alfred P. Sloan Foundation

*Members can apply for* **travel stipends** *to attend community events and* **small grants for pilot projects** *through GOSH.*

## ABOUT THIS PROFILE

This profile is part of a research project conducted by the Center for Scientific Collaboration and Community Engagement (CSCCE) in collaboration with the Science and Technology Innovation Program at the Wilson Center. You can find out more about the project, and view more community profiles, on the CSCCE website.

Information for this profile was submitted by Brianna Johns, Community Coordinator.

**Last updated:** 3 August 2021

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