EDITORIAL

Journal of Open Hardware: From 2017 to the Present and Beyond

Shannon Dosemagen* and Jenny Molloy†

In this editorial, current Journal of Open Hardware Editors reflect on the beginning of the journal and on future goals.

We, Jenny and Shannon, are delighted to be taking on the leadership of the Journal of Open Hardware (JOH) as a new challenge, following the excellent work of founding Editors-in-Chief Tobias Wenzel and Luis Felipe R. Murillo. We applaud them for their commitment to successfully initiating the first community-owned journal for research in aspects of open hardware, gathering an esteemed Editorial Board with colleagues from various countries and disciplines, and thank them for continuing on as Section Editors at JOH. The Editorial Board now represents scientific laboratories, universities, community science projects, and the broader Free and Open Source community in Latin and North America, South and East Asia, West Africa and Western and Eastern Europe.

Establishing a unique forum for open hardware scholarship, 2017–2020

The first three years of the Journal have been marked by many advances in addressing challenges in establishing an Open Access publication that is dedicated to Open Hardware and the creation of bridges between community and scientific projects (Murillo and Wenzel 2017).

The Journal of Open Hardware started in the context of the Gathering for Open Science Hardware (GOSH) at CERN in 2016, but was officially launched at the GOSH meeting in Santiago, Chile in 2017 (Dosemagen, Liboiron and Molloy 2017) in partnership with Ubiquity Press. The GOSH community gave JOH the support to be ambitious in the Journal's mission: "to create a culture of Open Hardware sharing" in the sciences while fostering collaborative ties with the broader academic community researching and developing Open Hardware of many types and an increasingly vibrant mix of small companies, nonprofits and community projects. While the business practices and institutional norms of academic publishing create high barriers to entry for independent Open Access publications, the Journal of Open Hardware has grown over its first three years to provide a unique forum for this developing interdisciplinary field. Critically, authors submitting to JOH are mentored not only in terms of their scholarship but also their documentation practices, to ensure that their work provides maximum value for future scholars and society.

The world has also shifted around JOH over the last three years as Open Hardware has become more established and better known, with many more journals accepting hardware design files. As one of the first journals to develop specific guidance for editors, reviewers and authors on Open Hardware best practices, JOH Editors have been able to provide advice to other academic publishers and journals on documentation and licensing. For example, JOH established a dedicated format for Open Hardware ("Hardware Metapaper") and we actively peer review documentation, which we believe remains unique among journals.

All of these issues and accomplishments are going to be taken into account as we transition to a new phase of the Journal – to its establishment as an important venue for transdisciplinary work on Open Hardware within and beyond academia.

The future of JOH, 2020 and beyond

Our initial goal as Editors in Chief is shaped by the urgency of the time we live in. COVID-19 has led to the largest mobilization of distributed, rapid manufacturing of Open Hardware ever seen and we believe that the Journal will play a vital role in bringing together scholarship that helps us make sense of this, learn from it and apply that learning to future crises. We are therefore looking forward to coordinating the recently announced JOH Special Collection on COVID-19 and Open Hardware.

Beyond the pandemic, we are taking up this position at an exciting time for Open Hardware worldwide. For example, there have been recent legal advances with the

* Open Environmental Data Project, US

† University of Cambridge, GB

Corresponding author: Shannon Dosemagen
(shannon@openenvironmentaldata.org)

publication of CERN OHL v2 and new standards being established such as DINSPEC 3015-2 and the Open Know-How Manifest. We see growing interest in the application of open sensor technologies, increased consideration being given to Open Hardware interoperability, and experimentation with new community structures and business models, to name just a few topics that dominate our own conversations at the moment. JOH offers a unique platform for scholarship covering the whole ecosystem of Open Hardware, with community-based peer review and a commitment to Open Access at a fair publishing fee. We aim to keep those strong foundations in place and build on them by increasing submissions of four article types in the first instance: "Educational Hardware" for the recently established JOH Education Section, "Issues in Open Hardware" covering broad topics beyond the hardware itself, plus Hardware Metapapers and Reviews.

We plan to encourage more hardware developers to share their designs in a revitalized metapaper article format that is already being developed by our Editorial Board. This will capture the hardware-focused information often omitted from narrative and data-focused research papers in a concise way, wrapped around high quality documentation of designs.

Our plans are driven by our joint interest in ensuring technical developments in Open Hardware are not isolated from their social context. We strive for the creation of stronger collaborative ties for the study of technical, ethical, legal, and socioeconomic aspects of Open Hardware. JOH has been a unique venue in the space of Open Hardware for its interdisciplinarity: promoting the study of both social and technical dimensions of open technologies (Murillo and Wenzel 2017). This represents a challenge with respect to the current compartmentalization of academic disciplines and we have to think deeply about the incentives for academics to contribute to a new Open Access journal like JOH instead of their own domain-specific titles. However, we believe there is a niche and a need for fostering a scholarly community that generates a richer and multifaceted understanding of what open technologies are and what we can collectively accomplish with them for the public good. Our goal at JOH is to continue nurturing this scholarly community and providing the interfaces and exchanges it needs with the broader Open Hardware community to succeed in generating understanding, action and positive impact.

With this in mind, we also plan to ensure that JOH represents Open Hardware scholars and practitioners from across the globe so we will be reaching out to strengthen the regional diversity of the Editorial Board and of our authors in the coming months in addition to launching a new International Advisory Board.

We warmly welcome suggestions from those in the Open Hardware community for additional steps we can take and we look forward to ensuring the Journal of Open Hardware offers a useful and impactful venue for global Open Hardware scholarship.

Competing Interests

Jenny Molloy and Shannon Dosemagen are unpaid board members for the Gathering for Open Science, a US-based 501c3 nonprofit which supports the open science hardware community. Jenny Molloy is an unpaid Director of not-for-profit companies Biomakespace Ltd and Beneficial Bio Ltd which develop and distribute open hardware.

References

Dosemagen, S., Liboiron, M. and **Molloy, J.** 2017. Gathering for Open Science Hardware 2016. *Journal of Open Hardware*, 1(1), p.4. DOI: https://doi.org/10.5334/joh.5

Murillo, L.F.R. and **Wenzel, T.** 2017. Welcome to the Journal of Open Hardware. *Journal of Open Hardware*, 1(1), p.1. DOI: https://doi.org/10.5334/joh.3