Biomaker Challenge

Four months to build biological instrumentation with up to £1000 support.
Join our mixer event: 9 April 2018
Application deadline: 11 May 2018

biomaker.org

ELECTRONICS : 3D PRINT : SENSORS : INSTRUMENTATION : BIOLOGY

Overview

Biomaker Challenge is a four-month programme challenging interdisciplinary teams to build low-cost sensors and instruments for biology. From colorimeters to microfluidics and beyond, we're looking for frugal, open source and DIY approaches to biological experiments.

Participants will receive a Biomaker Toolkit and a discretionary budget for additional sensors, components, consumables and 3D-printing worth up to £1000. All teams will exhibit their device at a Biomaker Fayre in Cambridge in late October.

Eligibility

Applicants and teams

- Primary applicants should be students or staff at the University of Cambridge, John Innes Centre or the Earlham Institute.
- External team members are welcome.
- Teams can be any size, including individuals if all other eligibility criteria are met.
- Interdisciplinarity within the team is a judging priority.
- Teams which span Norwich and Cambridge are highly encouraged and will receive two Biomaker Toolkits and ability to use their discretionary funding for travel between the two sites.

Proposals

- All proposals must lead to a publicly documented (via *biomaker.org* and *hackster.io*) and open hardware design and prototype which demonstrates interdisciplinary thinking.
- Except for Cambridge-Norwich team travel, the discretionary budget can only be spent on hardware, materials, consumables and biological reagents.

Judging Criteria

Judges will evaluate the proposals, giving higher priority to proposals that:

- Promote and demonstrate interdisciplinary working and exchange, with members of the team being highly likely to learn from each other.
- Have a clearly articulated use case in biology. Work with synthetic biology, cell-free expression systems and plant biology are especially prioritised.
- Involve interesting ideas for low-cost sensors and instrumentation.
- Are realistic given the timing, costing and team proposed.
- Forge innovative partnerships with Cambridge or Norwich-based external partners.
- Have identified matched funding for their projects.

Application Process via

BIOMAKER.ORG
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- Complete application by **11 May 2018** via *www.biomaker.org*
- Successful applicants will be informed by 31 May 2018 and the challenge will officially commence on 1 June 2018

Application Form

- The full application should be no more than 3 pages, excluding any figures, photos and diagrams which should be inserted at the end of the document and referenced in the text.
- There are no word limits on any section apart from the 150-word summary.
- Please submit by email to ***biomaker@hermes.cam.ac.uk*** in an editable format such as .odt or .docx

What can teams expect from the Biomaker Challenge?

- The Challenge Coordinator will be able to offer assistance and support in making the connections necessary for you to complete your project.
- The Biomaker Meetups will be an opportunity to interact and help share skills and ideas.
- We have set up a *Hackster.io* platform and discussion forum for all documentation and dialogue.
- Advice will be available on openly licensing your output and the best way to make it shareable and useful to others.
- Prizes will be awarded at the Biomaker Fayre in a variety of categories.

What does the Biomaker Challenge expect from teams?

- Your hardware should be accessible and reusable. This means that you need to think about open licensing, standard file formats and good documentation.
- All projects should be documented on Hackster at the end of the Challenge on 27 Oct 2018.
- All teams are encouraged to attend other meetings such Science Makers, Biomakespace Meetups and others from the Synthetic Biology SRI.
- All teams will exhibit at the Biomaker Fayre in Cambridge on 27 Oct 2018.

Events/Interdisciplinarity

The Biomaker Challenge requires interdisciplinary working. We are offering several opportunities to meet potential collaborators from different disciplines and exchange ideas, knowledge and skills. More info at *www.biomaker.org/events*

- We encourage participants to communicate on the Hackster discussion platform throughout the challenge.

- **19 APRIL**: Pre-Challenge Mixer, Norwich
- **11 , 25 JUNE/9, 30 JULY**: Recommended training events, Cambridge
- **27 OCTOBER:** Biomaker Fayre, Cambridge

Contact

Please contact *biomaker@hermes.cam.ac.uk* with any enquiries.

The Biomaker Challenge is organised by:
OpenPlant (*www.openplant.org*) and the **Synthetic Biology SRI** (*www.synbio.cam.ac.uk*)

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