



biohack academy
waag society

BioHack Academy 2: BioFactory

September 15th – November 17th, 2015



Call for Partners Labs - deadline May 8th, 2015

BioHack Academy is a unique international 10-week program during which participants build and use their own biolabs. It was held for the first time in the Spring of 2015 in collaboration with partners in South-America, USA and Europe. We are now seeking new partner labs for the second and improved series.

Participants learn how grow their own fuel, food, filaments, farmaceuticals, fragrances, fungi and much more funky bio stuff. Whether it's a new type of bio ink, bio polymer or bio fuel, we'll show you how to grow it and share the results with others. By the end of the course your Fablab, Maker/Hackspace or whatever machine shop will be turned into a biolab.

The BioHack Academy is an exciting learning-by-making experience. You wil confront your participants with prototypes of equipment and challenge them to hack and change it. Once build, the equipment will be used immediately in the biotechnological experiments.

Weekly assignments will get the participants started. All students are required to keep track of their progress on the BioHack Academy GitHub. The results will be discussed in local assignment meetings, for immediate feedback and peer-based learning. Two weeks in advance of the Academy students will receive a recommended materials list and access to the tutor's design, allowing for enough time to purchase the components or to seek alternatives.

What does the 10-week program look like?

10 classes in 2,5 months:

- Weekly live-streamed two hour lectures from Amsterdam
- Weekly partnerlab conference calls
- In your lab: at least two days a week equipment construction and bio experiment workshops and weekly assignment meeting

The lectures will give insight in what kind of tool we are building and it's usefulness in the lab.

The participants may choose to replicate the design, improve it or build their own device from scratch.

Check out the Syllabus:
biohackacademy.github.io/



Partner lab coordinators bootcamp

June 8 – 12, 2015

In June, all partner lab coordinators are invited to join a one-week bootcamp. We will review the Academy curriculum, test the tools, equipment and protocols and perhaps most importantly get to know each other. You will also receive all the electrical components for the machines and samples of the biological strains.

What Biomaterials will be grown?

For starters, you may choose a product from our collection, such as violacein (purple dye), cellulose (biopolymer), ethanol fuel (yeast fermentation), spirulina algae (super food), lactic acid (yoghurt), penicillin (antibiotic), kombucha (drink), acetic acid (vinegar), citric acid (aspergillus) and mycelium (filaments).

How to register as a partner lab?

Partner labs need to register before May 8th, 2015 by filling out the online form at waag.org/call.

Requirements for partner labs

- A local coordinator that is knowledgeable of digital fabrication and biotechnology or has taken part in the coordinator bootcamp;
- Workshop room that can host at least 10 people and has a video screen with camera and internet connection;
- Digital fabrication lab, including a laser cutter (at least 45 x 45 cm) and 3D printer (at least 20 x 20 cm);
- Basic kitchen infrastructure, including sink, freezer, fridge, stove, pressure cooker and scale.

Bootcamp schedule

Day Description

- 1 Curriculum co-creation
We will evaluate the structure of the curriculum and pedagogy. Together we co-create an improved version.
- 2 Hacking tools
Get to know, test and use the hardware, software and wetware tools.
- 3 Building equipment
Fabricated and assemble the Academy designs.
- 4 Bio theory
Learn the basic theory that will be taught in the Academy.
- 5 Bio practice
Try out the Biohack Academy experiments and take a sample of the strains.





Practical information

Becoming a partner lab

What will Waag Society provide?

- Samples of the following strains:
 - SCOBY for cellulose production;
 - 3 pigmented bacteria: J Lividum, M Roseum, M Leutus;
 - Yeast;
 - Lactobacillus;
 - Algae: *Spirulina maxima* and *D. Salina*;
 - Glowing bacteria: *P Phosphoreum*;
- All the tuition materials, assembly guides and weekly workshop briefings.
- Local participants are connected through the global knowledge sharing platform on which they document their work.
- 3 weeks in advance of the Academy the partner lab will receive the recommended material list for the equipment and chemicals.
- Each lecture will be live streamed on Tuesday evening between 19:00h and 21:00h CET. A recording will be made available afterwards.
- The work of the local participants will be reviewed by the Graduation Committee.
- A certificate of the "BioHack Academy" for each local participant.
- Support by the BioHack Academy team in preparation of the course, such as in sourcing materials, as well.

Cost

Each partner lab needs a single license, which costs 2,500 Euro. Participating in the partnerlab bootcamp costs 1,000 euro, including the component kit. Based on our previous experience it is estimated that the standard set of chemicals needed to run the experiments cost about 500 euro.

Income

The fee for participants is 1,000 euro, excluding about 500 euro material costs for constructing the equipment. It is recommended to have 10 to 15 local participants.

Registration

We have an online form available where you can register: waag.org/call. We will contact you as soon as possible.

