waag society

institute for art, science and technology

Picture by Bas Uterwijk

The age of biology

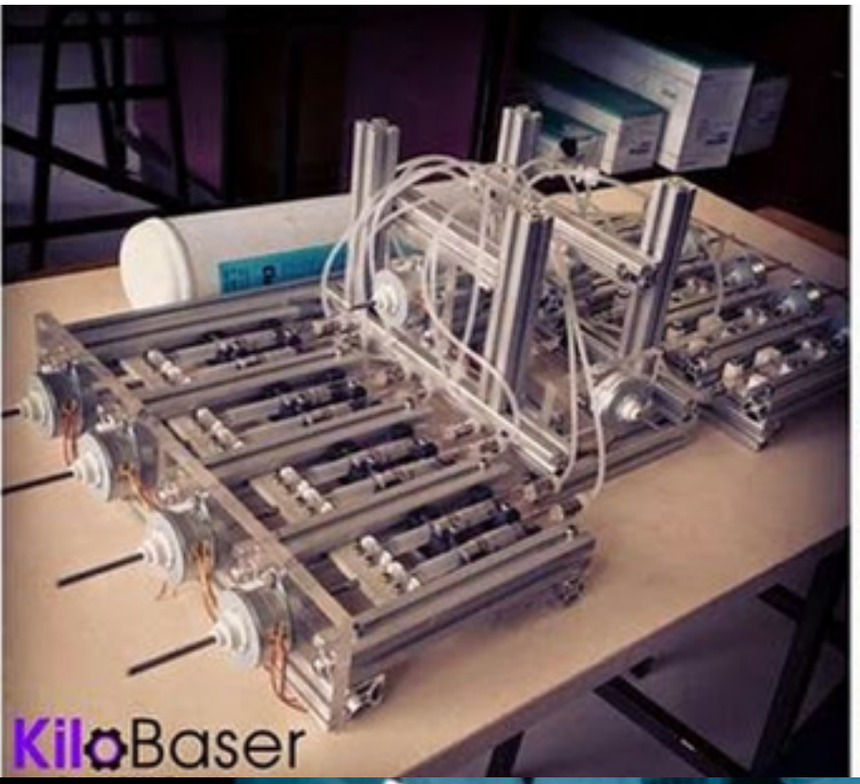
Thomas Schoch - CC-BY-SA 2.5

Public Domain

ParentingPatch - CC-BY-SA 3.0

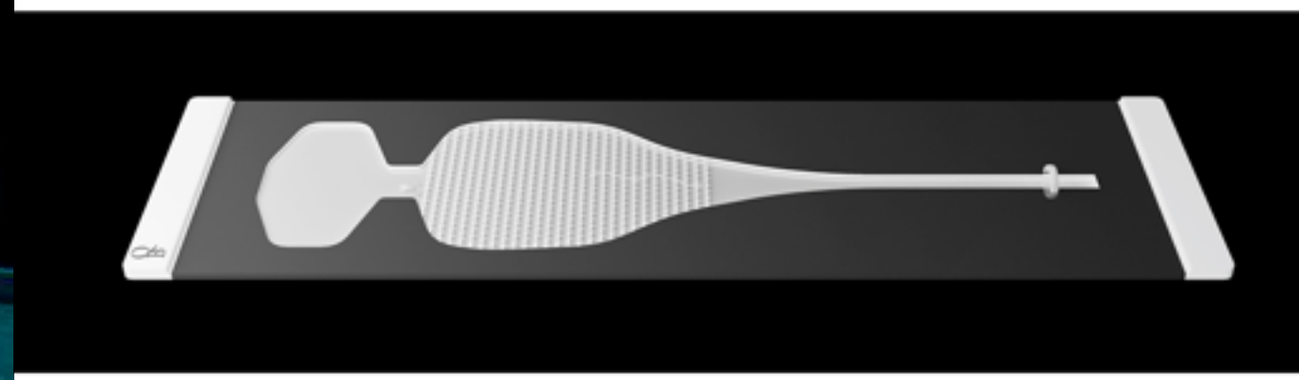
n-o-n-a-m-e CC-BY-SA-NC 3.0

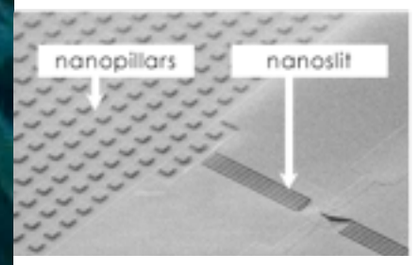
Bio engineering

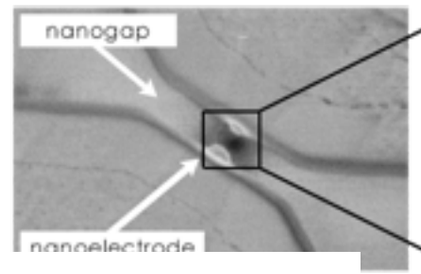


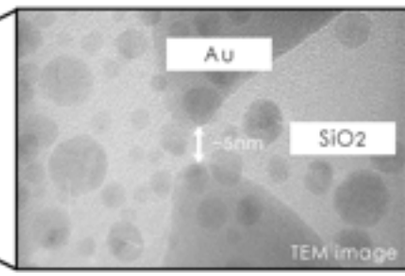
Organovo

Tokyo University









Quantum Biosystems

A bit of history

BioHack Academy Partner labs

Garagem Fablab Sao Paulo

DIYBio Barcelona

FabLab Roma

Carbon Lab Tehran

BioHack Academy 3 Partner Labs

- University of New Mexico, USA
- University of Southern Denmark
- BioClub Tokyo, Japan

Bio materials

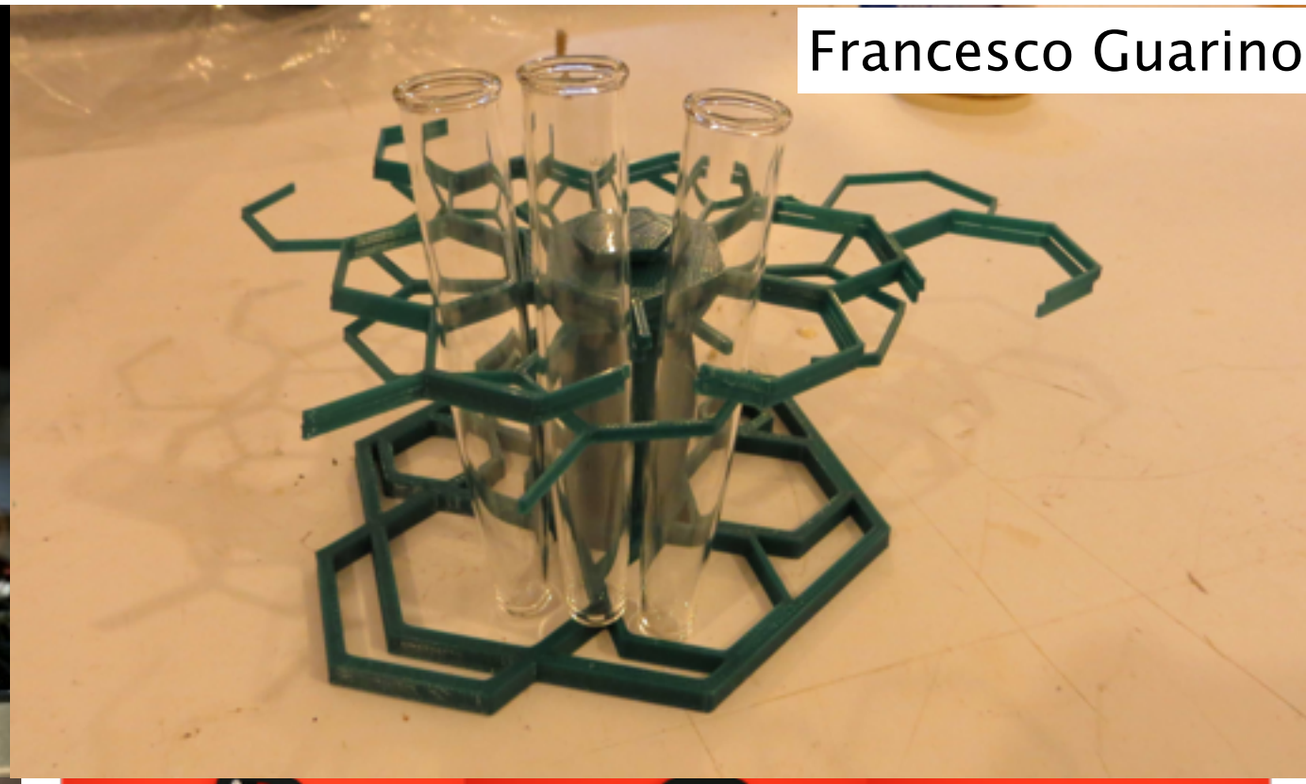
Waag Society - CC-BY-SA 4.0

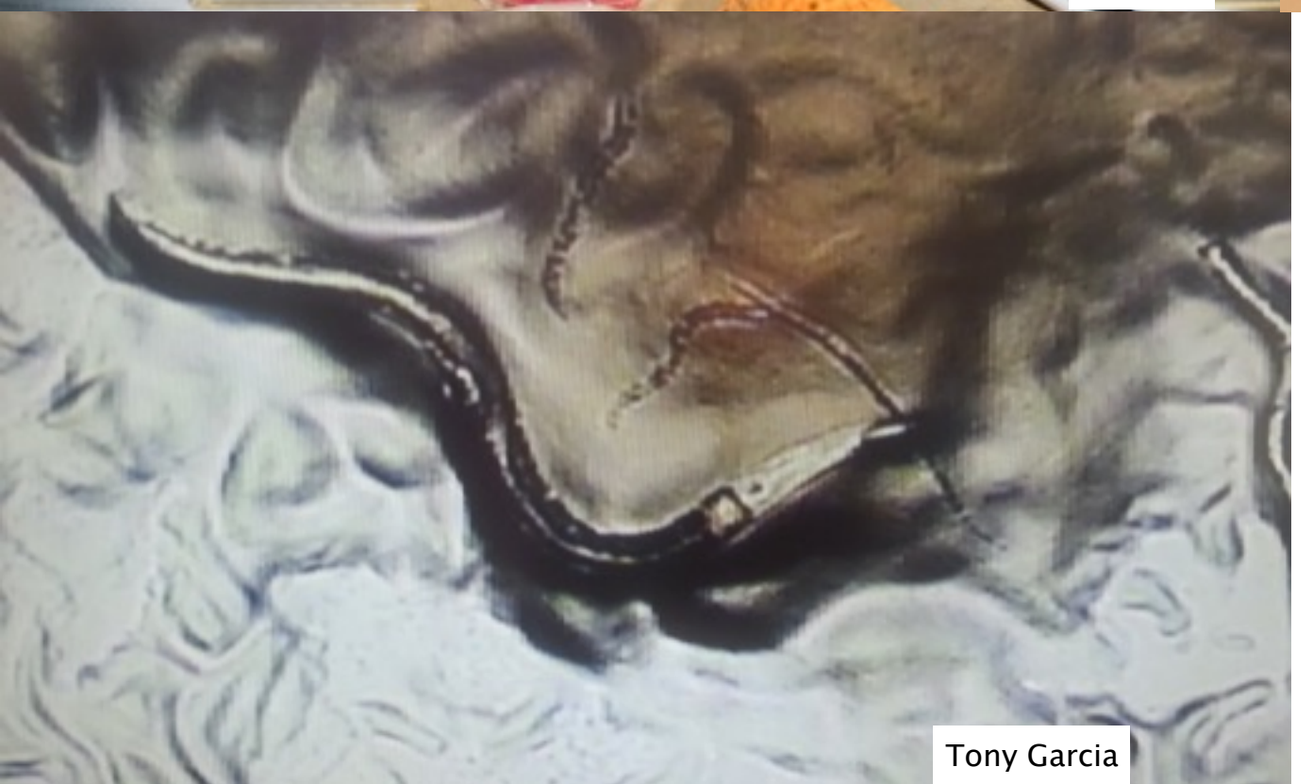
Waag Society - CC-BY-SA 4.0

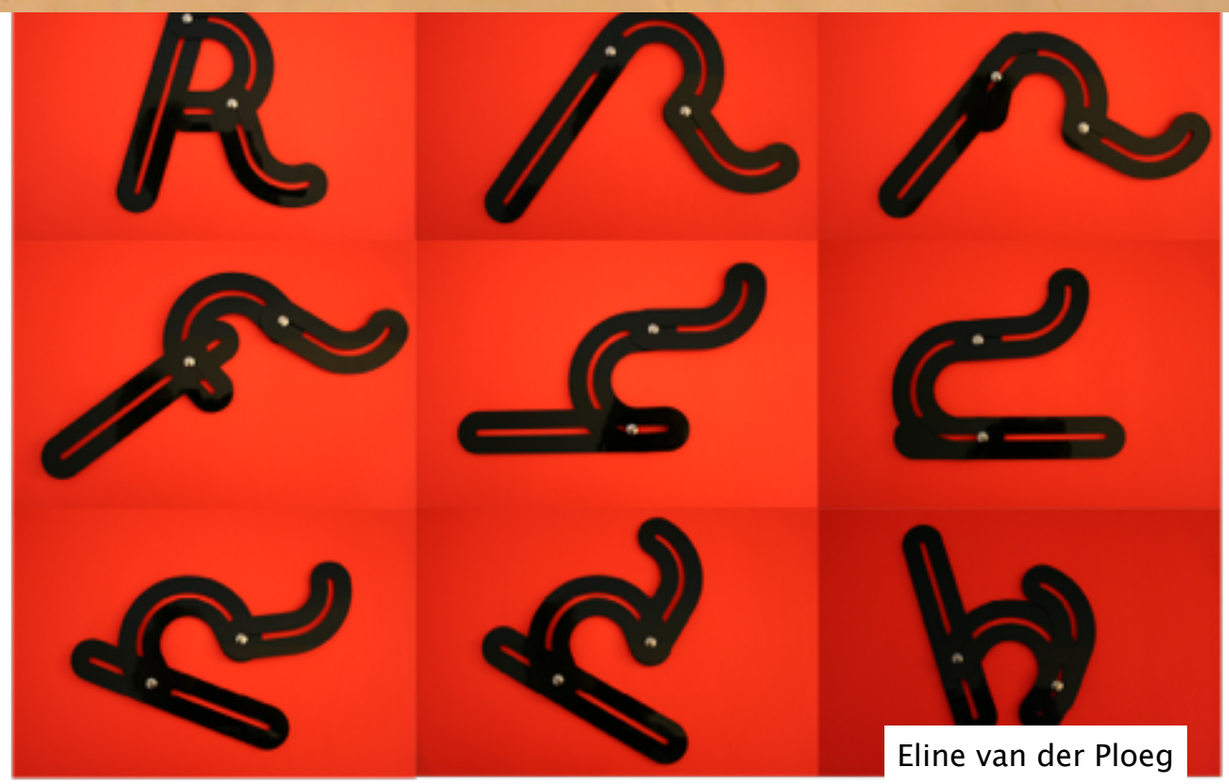
Waag Society - CC-BY-SA 4.0

Future Everything - CC-BY-SA 3.0

Project ideas







Inspiration

Biropettes

Ivorish

HackTheBrain.nl

Build your lab

Use it

Share it

The goal of this Academy

Skills you will learn:

- Microbiology
- Molecular biology
- Biotechnological reactor design
- Biorefinery
- Spectral analytics
- Bio informatics
- Analog electronics
- AVR microprocessor programming
- 3D drawing and parametric design
- 2D computer aided design
- 3D printing
- (Micro)fluid dynamics
- Thermodynamics
- Mechanics
- Open design licensing
- Chemical and biological safety

Tools you will learn to use:

- All the tools you will build yourself
- Lasercutter
- 3D printer
- Arduino processing language
- OpenSCAD & FreeCAD 3D modeling
- Sketchup 3D modeling
- Fritzing electronic circuit design
- Inkscape 2D design
- Markdown language
- Github

The Team

- Xiamyra Daal
- Lucas Evers
- Christian Schulz
- Luke Boorman
- Roland Dierendonck
- Erwin Hoogerwoord

Schedule: Classes

1	Introduction	Feb 23
2	Microbiology	March 1
3	Physiology & Electronics	March 8
4	Biomaterials & Optics	March 15
5	Genetics	March 22
6	YOUR PROJECTS	March 29
7	Bioethics & Seperation techniques	April 5
8	Guest Speaker	April 12
9	Bioinformatics & Spectrometry	April 19
10	YOUR PROJECTS	April 26

Schedule: Devices

1	Sterile Hood	Feb 23
2	Magnetic Stirrer	March 1
3	Incubator	March 8
4	Microscopes	March 15
5	Thermocycler & Gelbox	March 22
6	YOUR PROJECTS	March 29
7	Centrifuge	April 5
8	Pumps	April 12
9	Spectrometer	April 19
10	YOUR PROJECTS	April 26

Schedule: Practicals

1	Digital Fabrication Device construction	Feb 29 March 1
2	Cultivating microbes	March 7 March 8
3	Antibiotics Arduino	March 14 March 15
4	Microscopy Camera	March 21 March 22
5	DNA fingerprinting	March 29
6	YOUR PROJECTS	April 4
7	Centrifugation	April 11
8	Growing certificates	April 18
9	Spectrometry PyMol	April 25 April 26
10	Final presentation	April 26

“Open Labs” in between

Example schedule: Microbes

1	Isolation / Cultivation	Feb 29 March 1
2	Liquid culture	March 7 March 8
3	Screening	March 14 March 15
4	Analytics	March 21 March 22
5	DNA	March 29
6		
7	Down stream processing	April 11
8	Reactor setup	April 18
9	Analytics	April 25 April 26
10	Graduation	April 26

Weekly Project Meetings

Project meetings to discuss:

1. Develop your own project
2. Set up your own documentation site on Github;
3. Publishing progress;
4. Collaborations with peers;

Syllabus

- http://biohackacademy.github.io

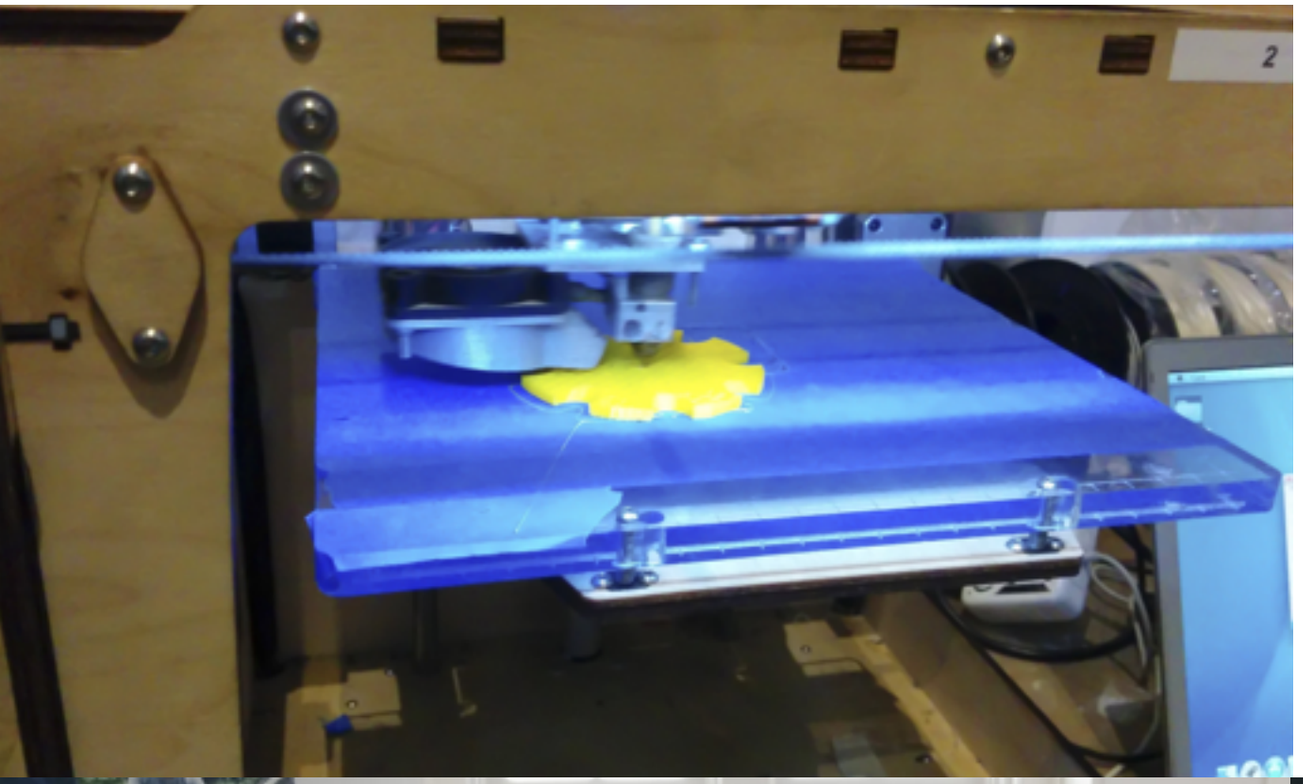
  - Lecture Slides
  - Lecture Videos

  - Device blueprints, circuits and code

  - Practical protocols

  - Preparation

Fun Stuff



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Pieter
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Pieter van Boheemen
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FAVORITES
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Messages 5
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APPS
Games
Belote.com
Belote Multijoueur
Suggest Edits
Pokes
Saved
Photos
Find Friends
PAGES
Fablab Amsterdam 2
Pages Feed
Like Pages
Create Page
Create Ad
GROUPS
Facebook Liberati... 20+
Create Group
New Groups
EVENTS
Create Event
BioHack Academy
Public Group
Joined
Share
Notifications
Discussion
Members
Events
Photos
Files
Search this group
Write Post
Add Photo / Video
Create Poll
Add File
Write something...
RECENT ACTIVITY
Pieter van Boheemen changed the type of group: BioHack Academy to Study Group.
4 hrs
Like
Comment
Seen by 6
Write a comment...
Press Enter to post.
OLDER
Pieter van Boheemen made Xiammy Dee an admin.
7 hrs
Xiammy Dee
ADD MEMBERS
+ Enter name or email address...
MEMBERS
14 Members (6 new)
Message · Invite by Email
DESCRIPTION
Edit
BioHack Academy is a global 10 week course on creative biotechnology by Waag Society
GROUP TYPE
Study Group
TAGS
Add Tags
Add a few descriptive keywords.
GROUP CHATS
No group chats, start one now.
+ Start New Chat

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