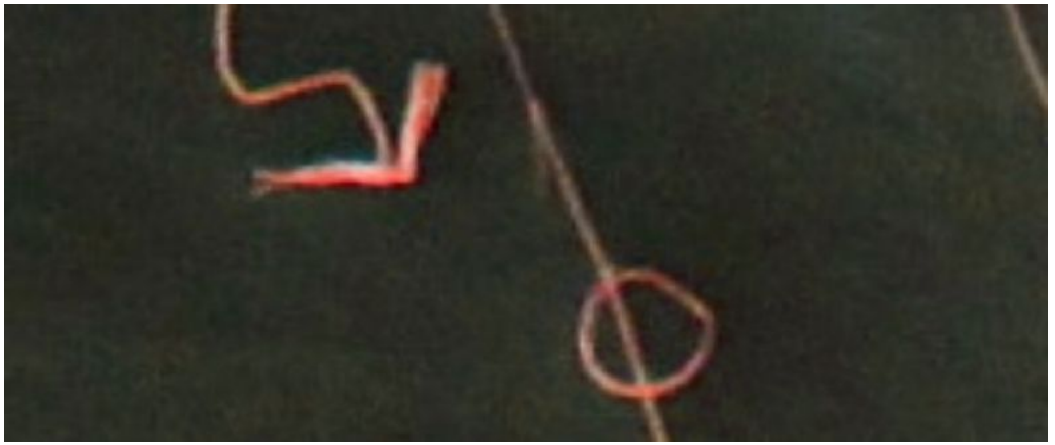
Schweizerische Gesellschaft für Mechatronische Kunst

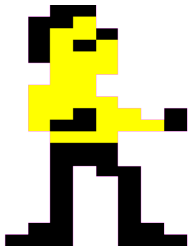
SGMK

diy 自作 業

Krachmacher bauen mit der Schweizerischen Gesellschaft für Mechatronische Kunst

HACKTERIA





n|w Fachhochschule Nordwestschweiz

Acknowledements

Markus Haselbach, Urs Gaudenz, Tobias Hoffmann und alle Mechatroniker

Yashas Shetty, CEMA, Bangalore, Andy Gracie, Gijon, hackteria
Špela Petrič, Andrej Meglič

René Bauer, GameDesign, ZHdK

Dock18, Mario Purkathofer

Stefan Doepner, Bostjan Leškovsek, Kapelica Gallery, Ljubljana

HONF, House of Natural Fiber, Yogyakarta

Gabor Csucs, Martin Willeke, Marcus Textor, ETH Zürich

Förderungen durch: Migros Kulturprozent, BAK, Stadt Zürich, FHNW

Teaching

I hear and I forget
I see and I remember
I do and I understand

Confucius

Fields of Activity

dusjagr labs – transdisciplinary Scholar and Artist

http://www.dusseiller.ch/labs/

- SGMK | MechArtLab, diy* festival
  - http://www.mechatronicart.ch/
- Hackteria | Open Source Biological Art
  - http://hackteria.org
- PlayAround 2010 - Taipei | DIWO Culture
  - http://2010.playaround.cc
- Dock18 | Raum für Medienkultur
  - http://www.dock18.ch/
- FHNW, HLS | wetPONG - Hybrid Games, Micro- and Nanotechnology and Life Sciences
  - http://wetpong.net
- ZHdK | SlowGames
- ETH Zürich | Traditional Materials

Teaching what...

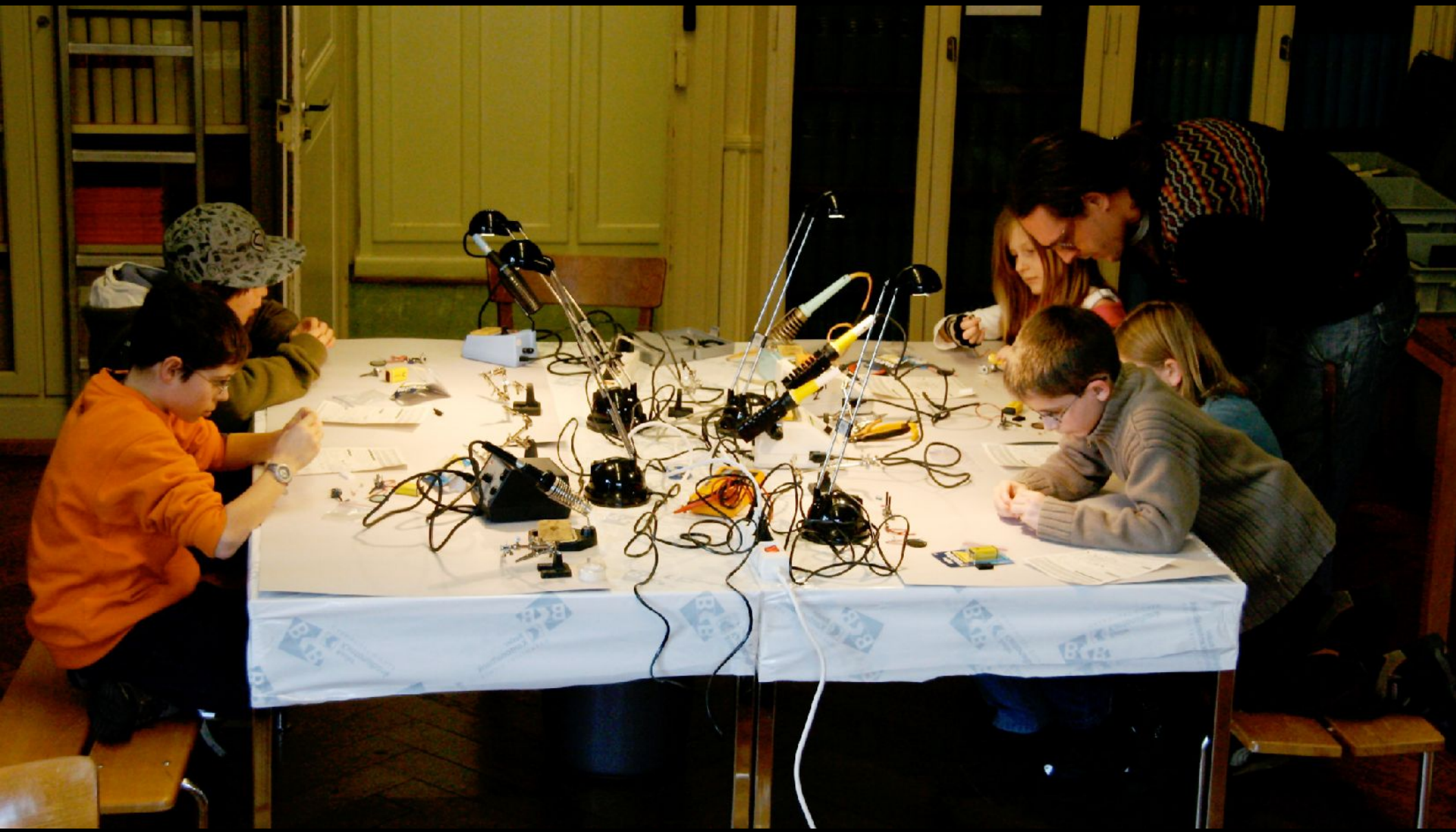
How can I teach creativity? Is there an intuitive understanding of Nanosystems?
Whats the benefit of transdisciplinary projects? How can scientists learn to talk?

On Teaching
to Kids, Geeks and Artists

Workshops for Artists, Kids and Geeks

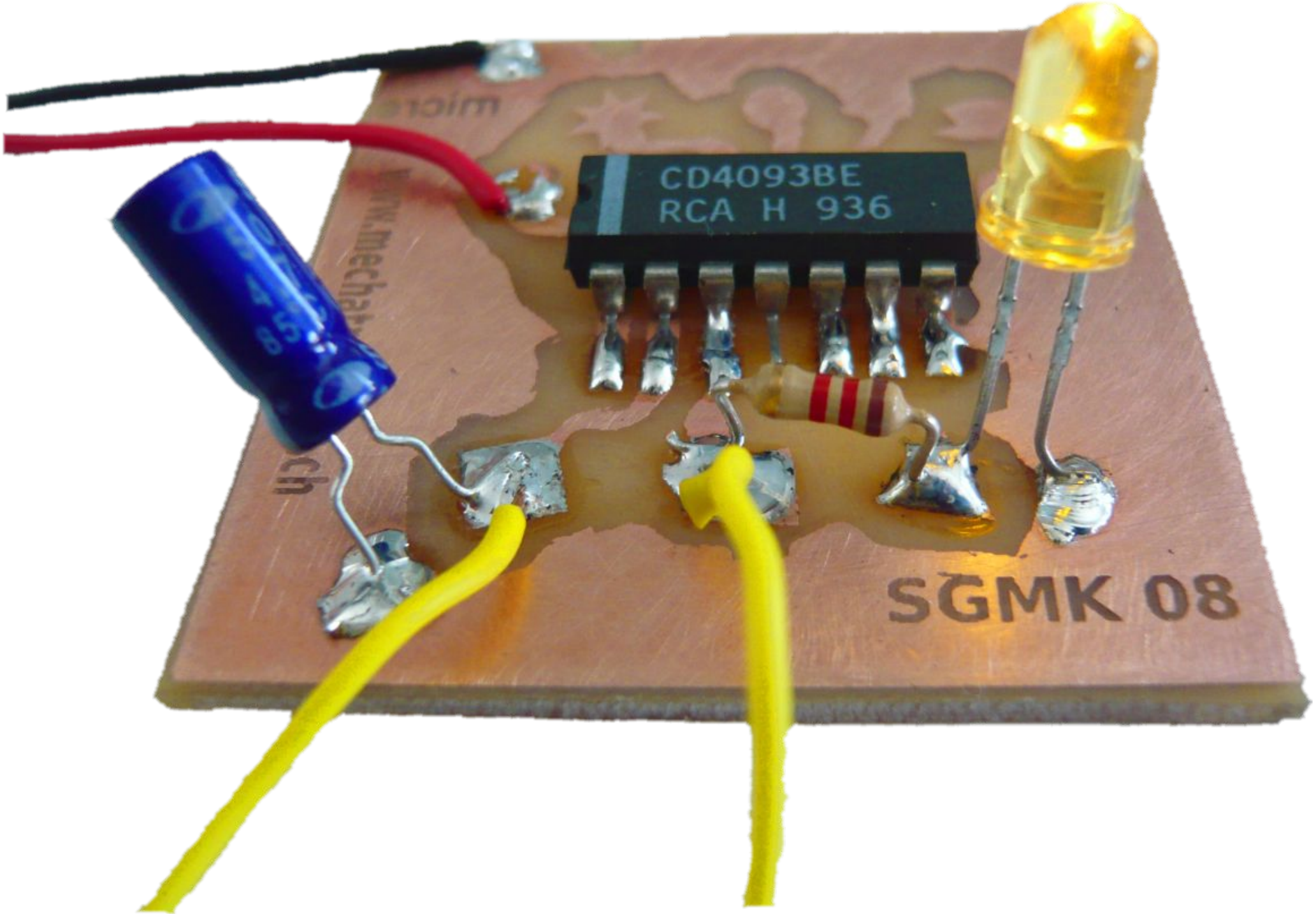
SMAS Swiss Mechatronic Art Society
SSAM Société Suisse d'Art Méchatronique
SGMK Schweizerische Gesellschaft für Mechatronische Kunst
www.mechatronicart.ch


Skematic
BS2



MechArtLab

SGMK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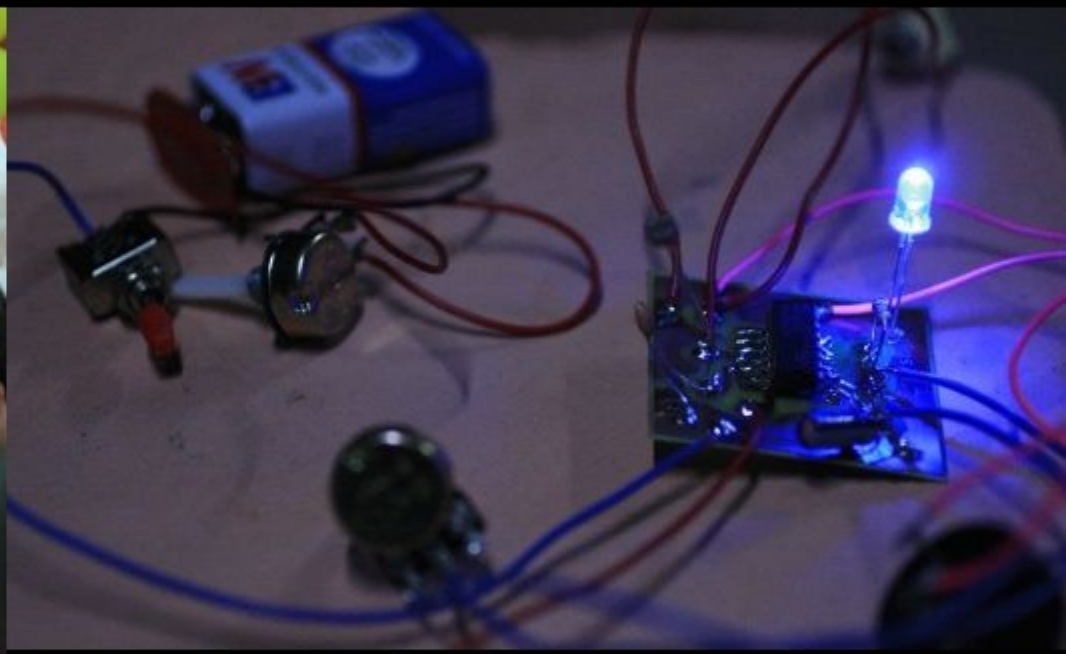
diy makeaway

Krachmacher bauen mit der Schweizerischen Gesellschaft für Mechatronische Kunst



diy डीआईवाय

Krachmacher bauen mit der Schweizerischen Gesellschaft für Mechatronische Kunst

What is
Open Source Biological Art?

HACKTERIA.ORG

Open Source Biological Art

Collaborators
Marc Dusseiller (Switzerland)
Yashas Shetty (CEMA, Bangalore)
Andy Gracie (Spain)
and more....

http://hackteria.org

hackteria is a community based platform and information portal for the open sharing of knowledge, instructions, critical reflections and theoretical articles about open source art project dealing with biology | lifescience | biotechnology

Background: Interactivos?'09

HACKTERIA.ORG

Open Source Biological Art

Marc Dusseiller
Scientist / Lecturer / Artist

BioInterfaces (ETH)
Micro/Nanotechnology (FHNW)
Tissue engineering

Cultural facilitator (dock18, diy*)
DIY electronics (SGMK)
Experimental music

www.dusseiller.ch/labs
www.mechatronicart.ch

Yashas Shetty
Artist / Scholar / Musician

Media Art (CEMA)
Art|Sci (NCBS)

Programmer
Data sonification
Tissue engineering
Synthetic biology
Experimental music

www.thedepartment.in
www.cema.srishti.edu.in

Andy Gracie
Artist

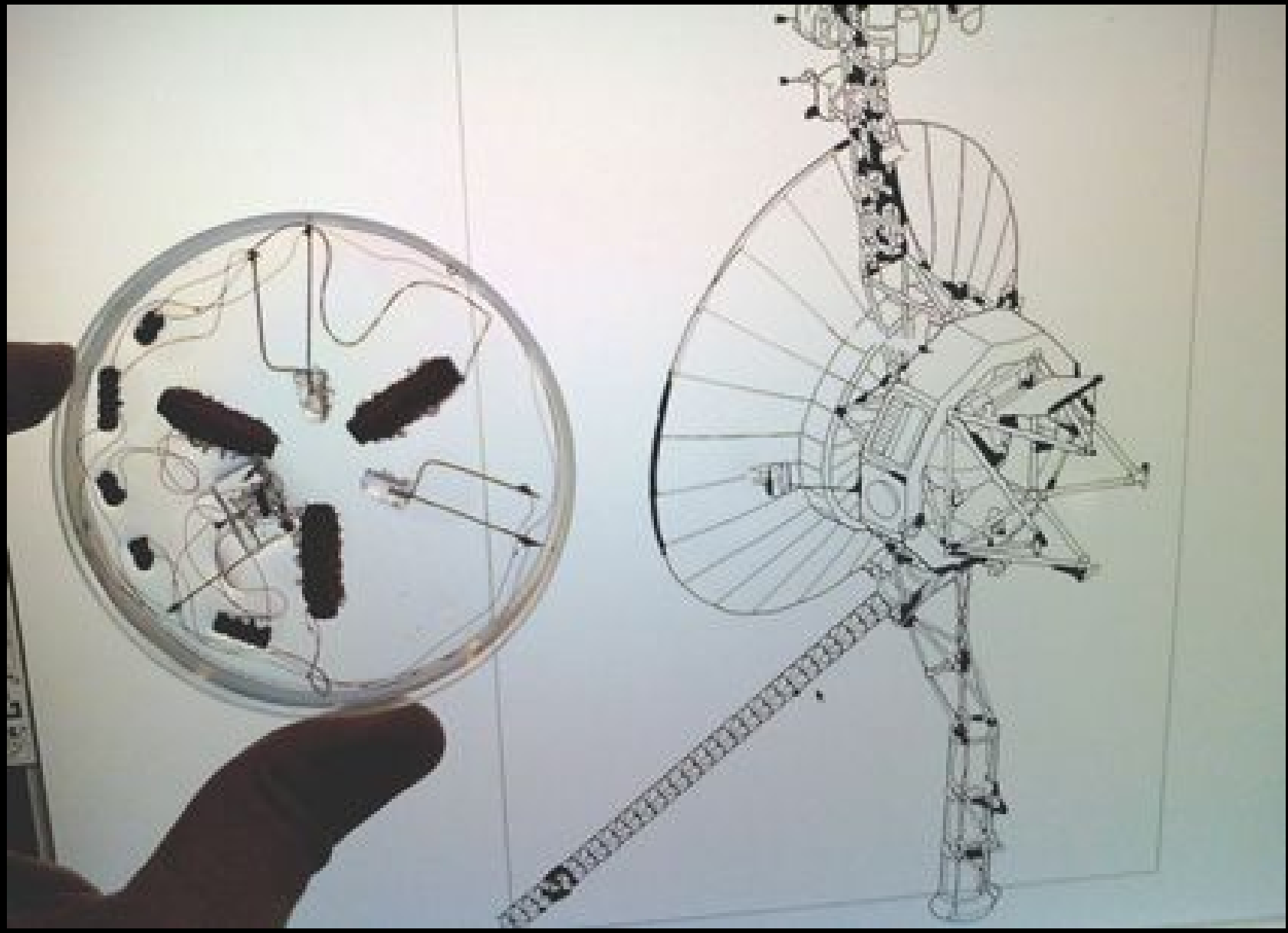
Art|Sci

Installations
Robotics
Biology
Artificial life
Hybrid symbiosis

www.hostprods.net

Deep Data Prototype

Andy Gracie et al



Experiments in Bioelectronix

Andy Gracie, Marc Dusseiller et al

What is a hack?

Originally:
„A quick job that produces what is needed, but not well.“

1950s:
Amateur radio enthusiasts defined the term hacking as creatively tinkering to improve performance.

Today:
"A clever solution to a problem."

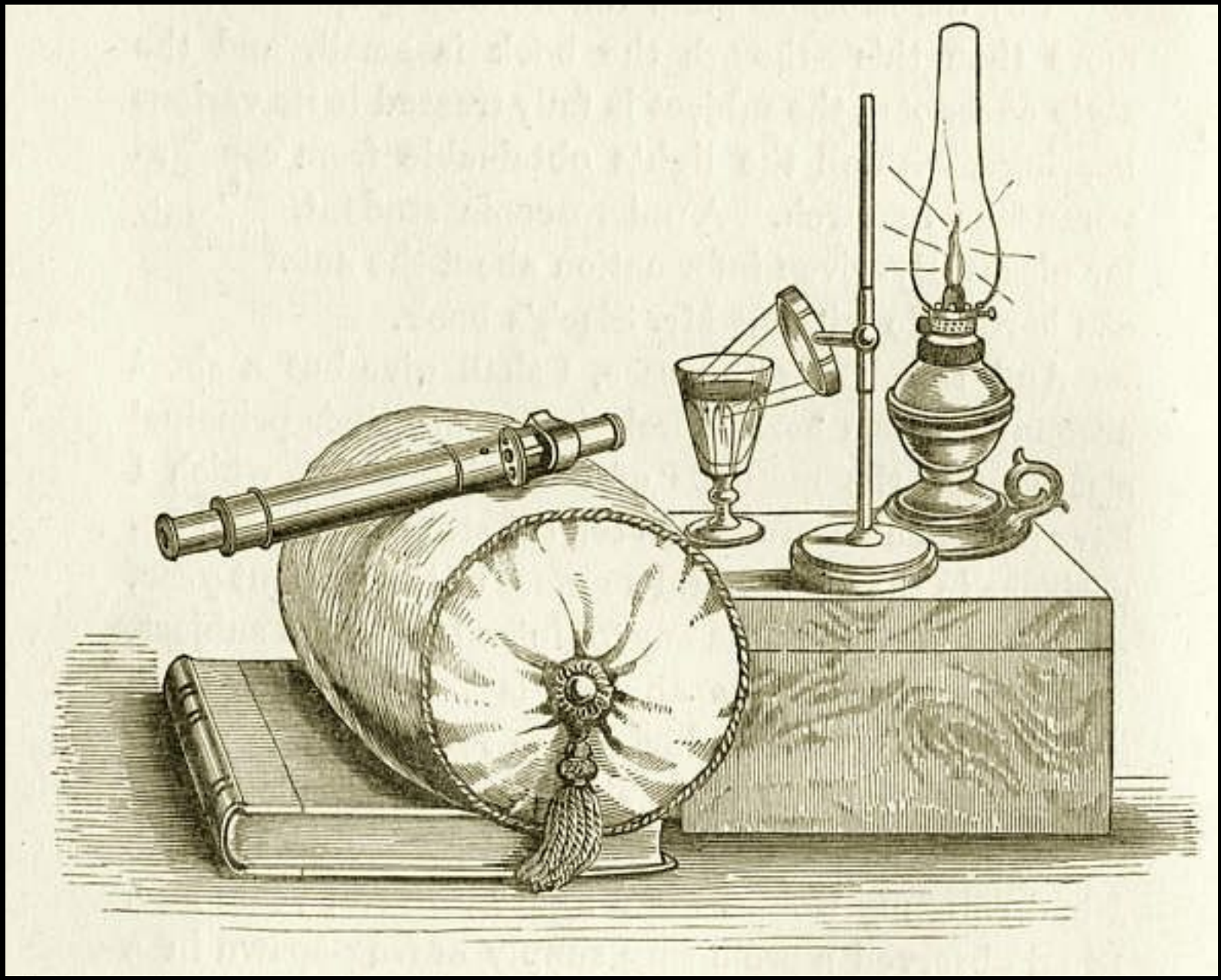
„An appropriate application of ingenuity.“

Hacker's Jargon

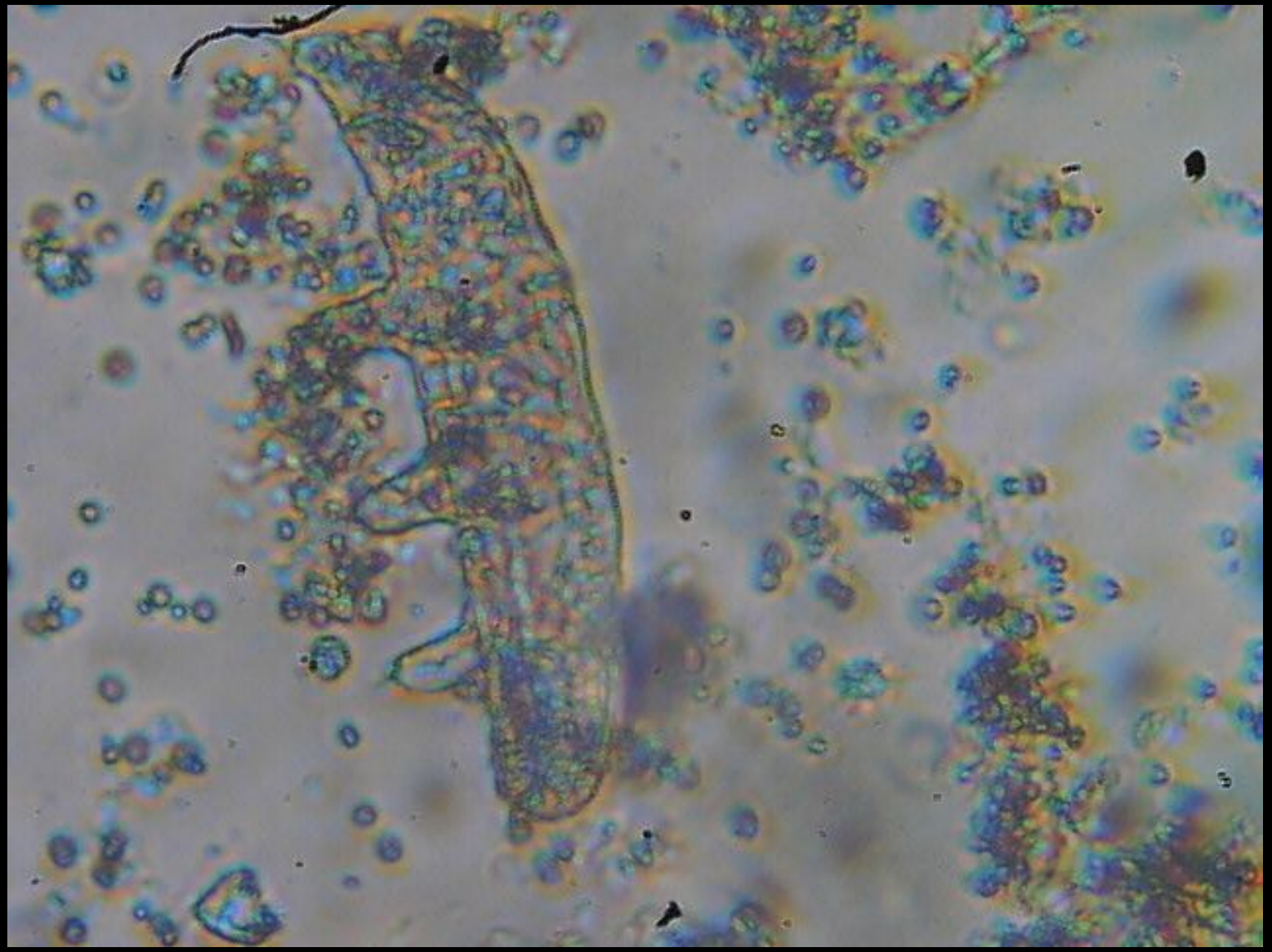
DIY Microscopy – hacked Webcam

Repositioning of the lens turns a
cheap webcam into a microscope

Microscopy – Victorian Scientist



Observations...



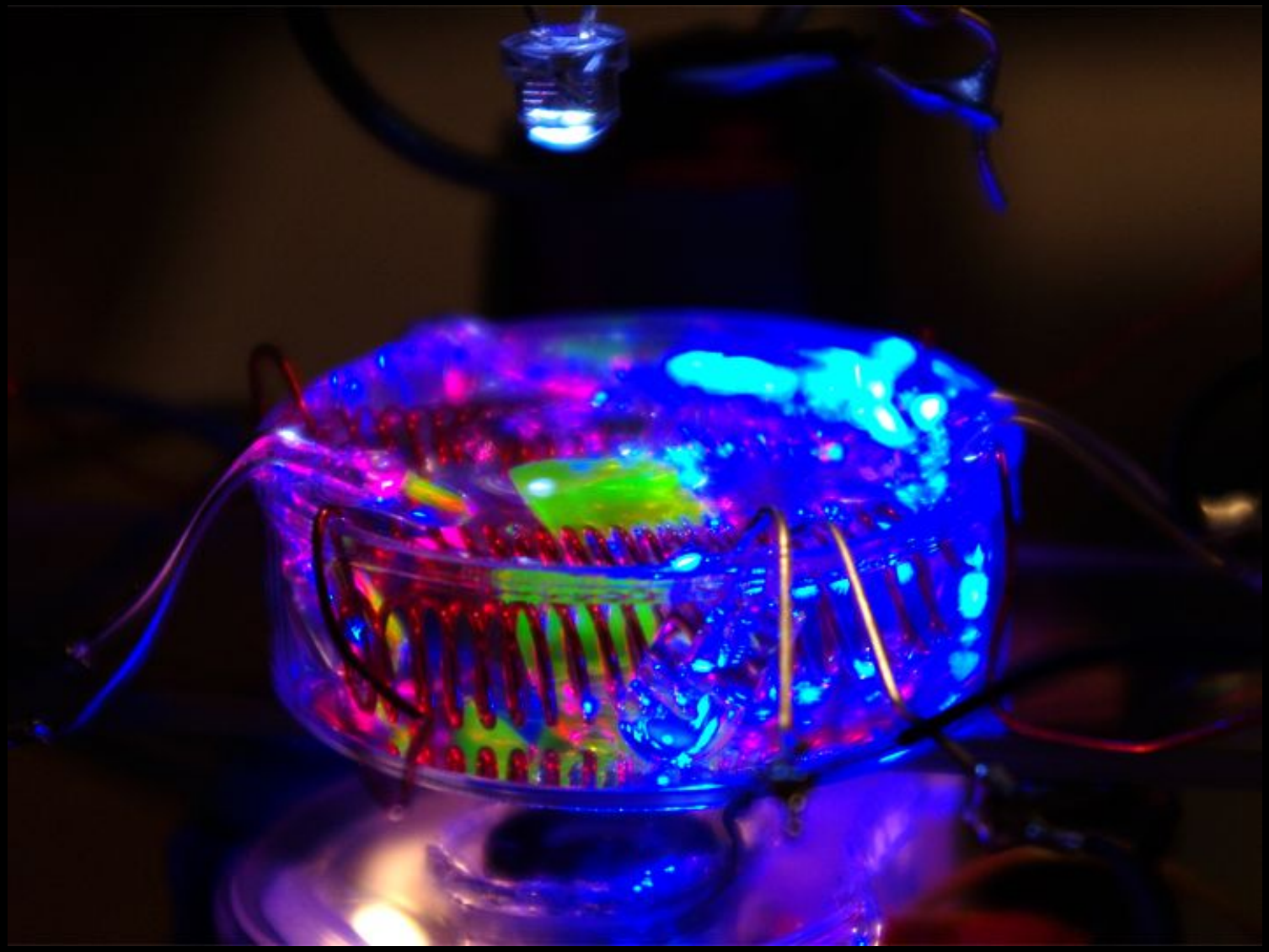
Waterbear, *Tardigrada, sadly its dead...*

House of Natural Fiber – Yogyakarta

Haemocytometer – PS3 Eye Hacks

Collaboration with House of Natural Fiber and UGM, Yogyakarta

Bioelectronix for Artists



Workshop with Andy Gracie

Getting on Plant's Nerves...

Workshop with Špela Petrič and Andrej Meglič

CEMA – Bangalore

Srishti School for Art, Design and Technology

iGEA

International Genetically Engineered Art Competition

Hackteria & CEMA @ IGEM

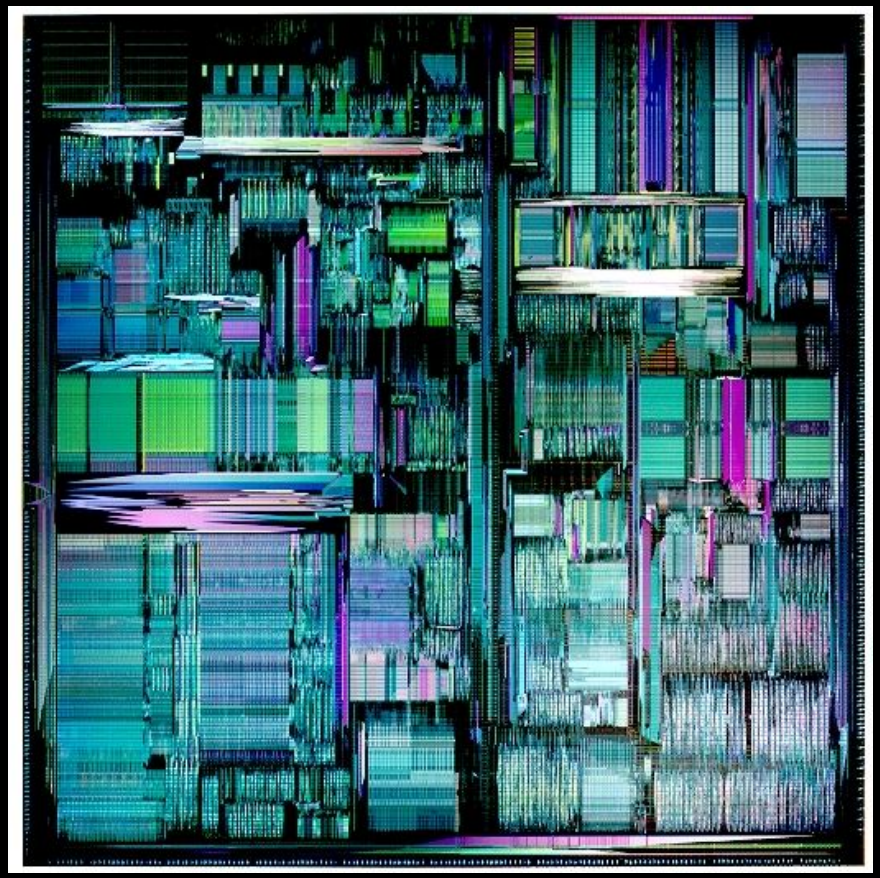
International Genetically Engineered Machines Competition

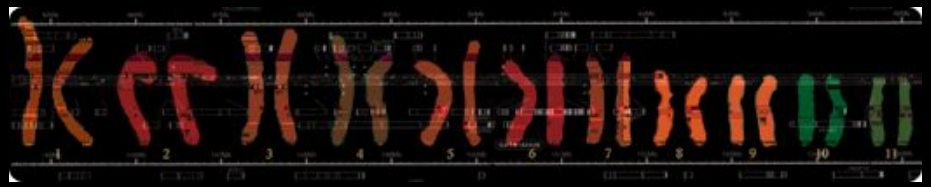
Yashas Shetty, CEMA – Bangalore

Why should artists/designers/outsiders get involved with Synth-Bio(in particular) and Sci-Tech(in General)

"There is the obvious reasons that all outsiders bring in unique perspectives to any form of thinking-the artist/hacker has the courage to ask "stupid questions" which may not turn out to be stupid at all. the other is that the hacker/artist/designer may also come from spaces in which the technology is as important as the different contexts that it exists in -cultural/social/political which because a scientist(at least the way in which most of them are trained) may not be aware of or not be interested in."

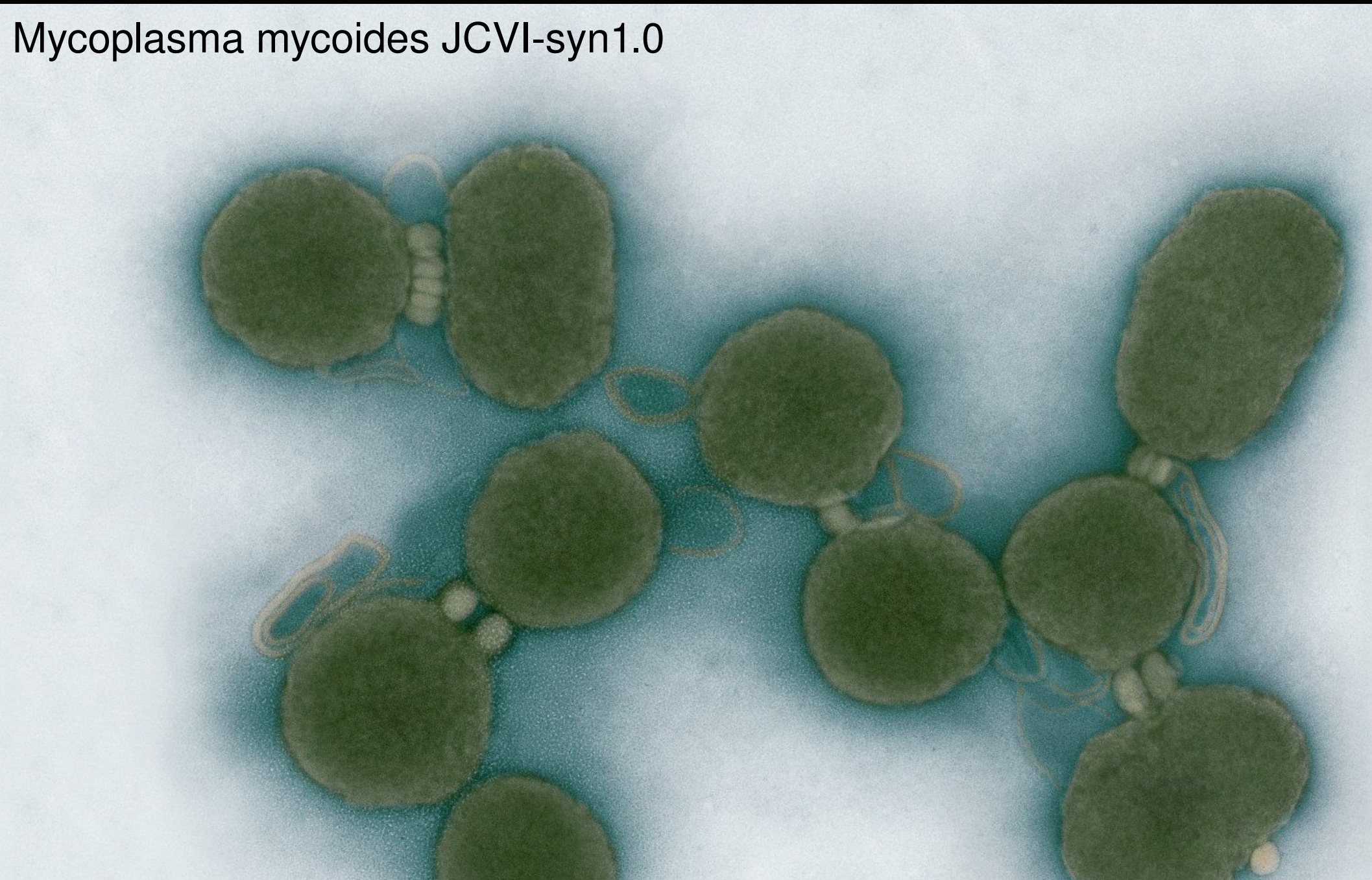
From Computers to Genes





Synthetic Biology

Mycoplasma mycoides JCVI-syn1.0



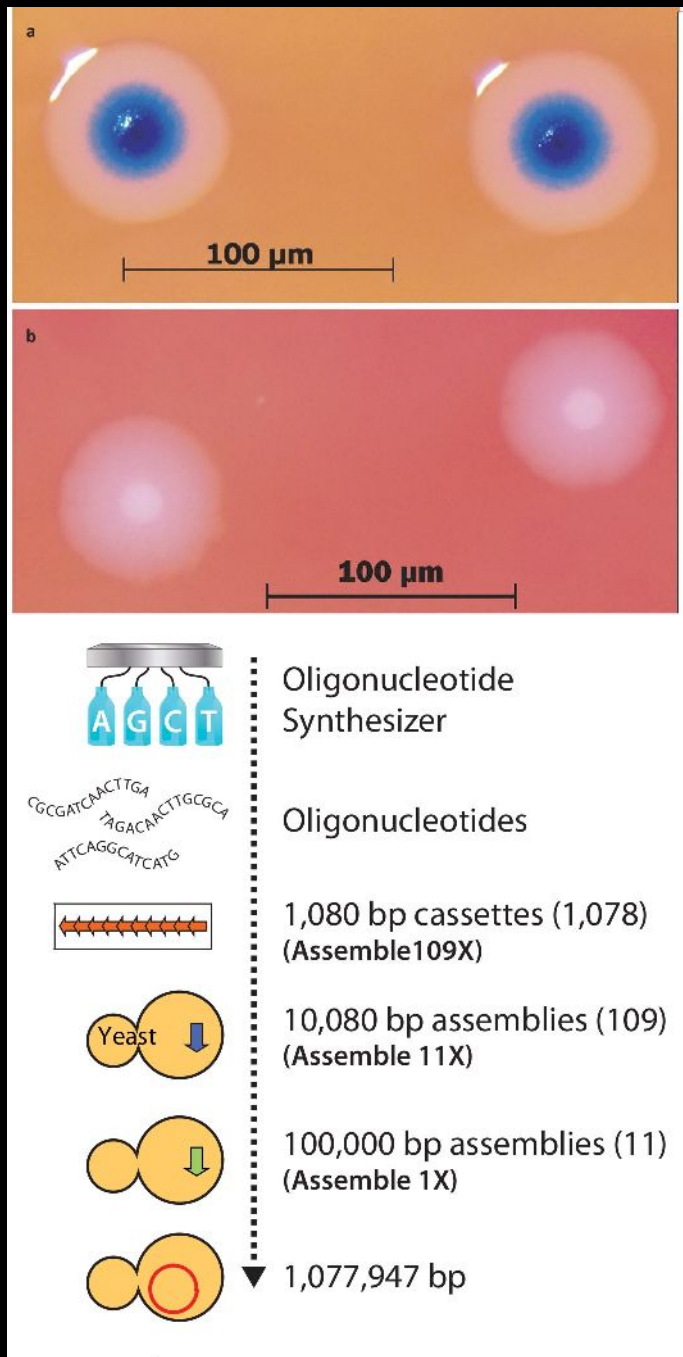
Synthetic Biology

What is Synthetic Biology

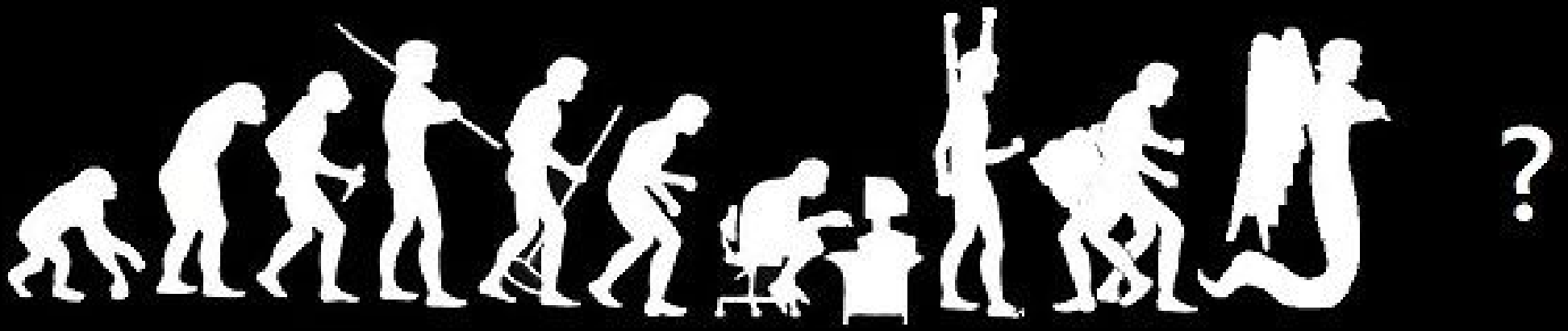
- the design and construction of new biological parts, devices, and systems
- the re-design of existing, natural biological systems for useful purposes

What is a Synthetic Cell?

- Self-replicating organism defined by synthetic chromosomes
- Process:
  - Design
  - Synthesis
  - Assembly
  - Transplantation
- Terminology
  - Hardware, Software, Bootable Systems



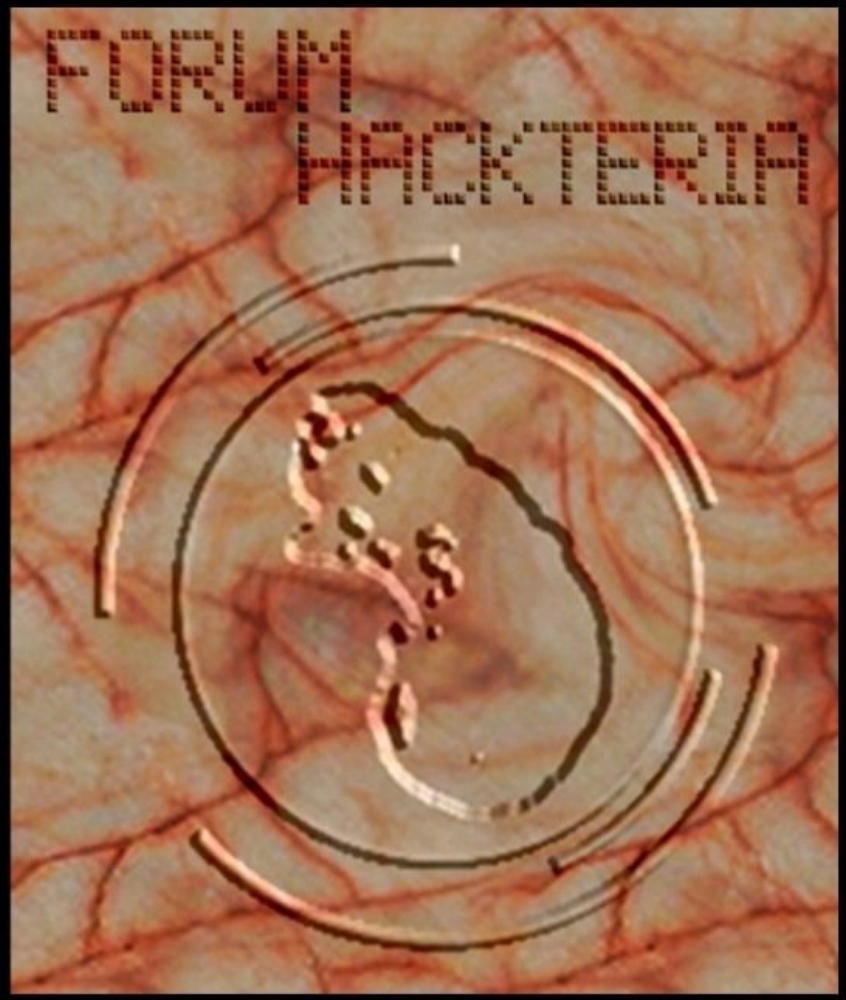
What's next?



Art|Sci IGEM team, Bangalore, 2010

Hackteria Lab @ Dock18, Zürich

DOCK18
RAUM FÜR MEDIENKULTUREN



Hackteria Lab

6. - 9. April 2010 - day programm
Intensive constructivist and collaborative workshop on BioHacking, DIY Microscopy, Microorganisms, Nano-Bio-Technology, BioElectronix and more...

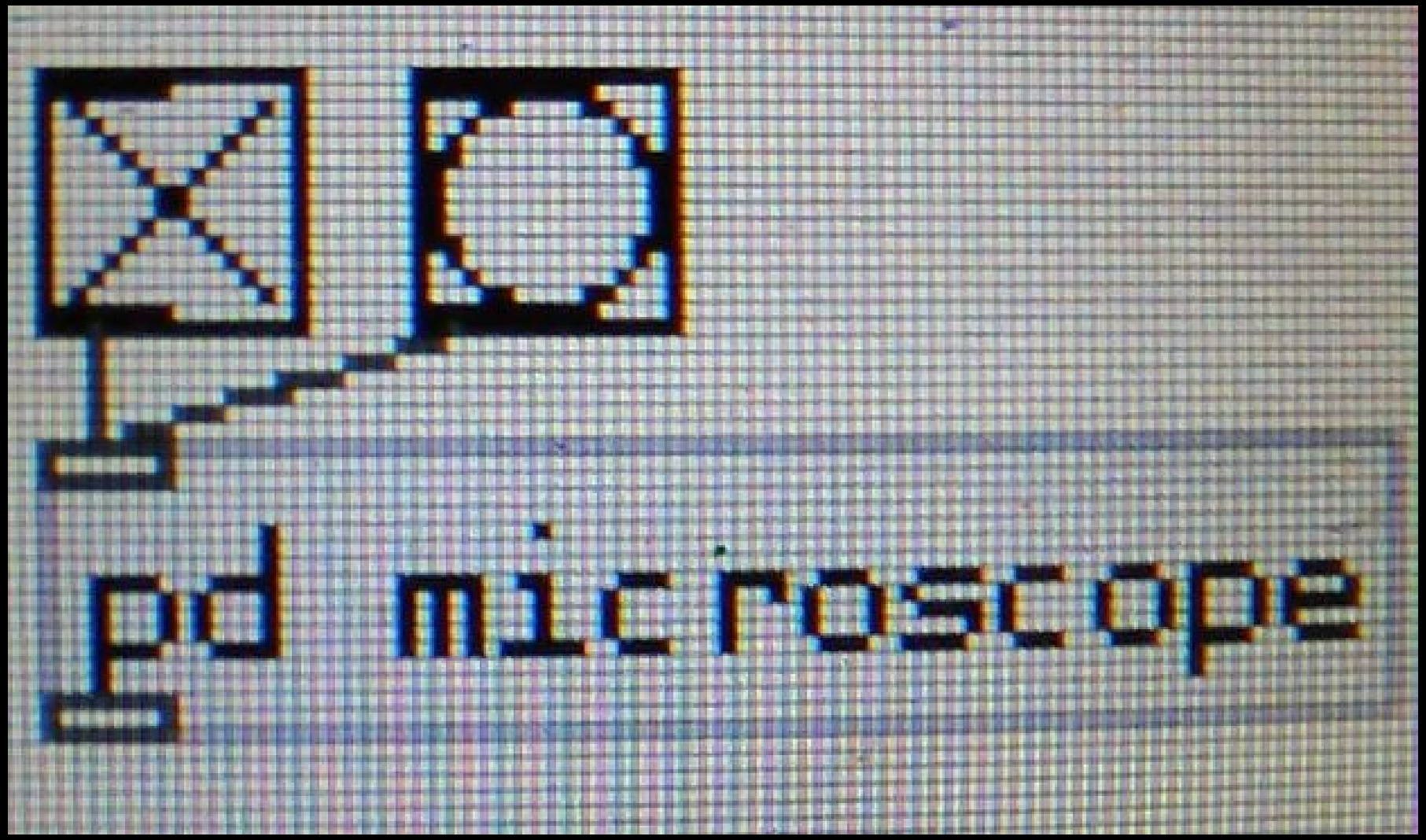
9. April 2010 - evening
HACKTERIA SHOW
LIVE http://tv.dock18.ch

10 & 11 April 2010 - day programm
Public workshop for artists, geeks and families: How to build your own microscope from a webcam.

More hackteria projects...

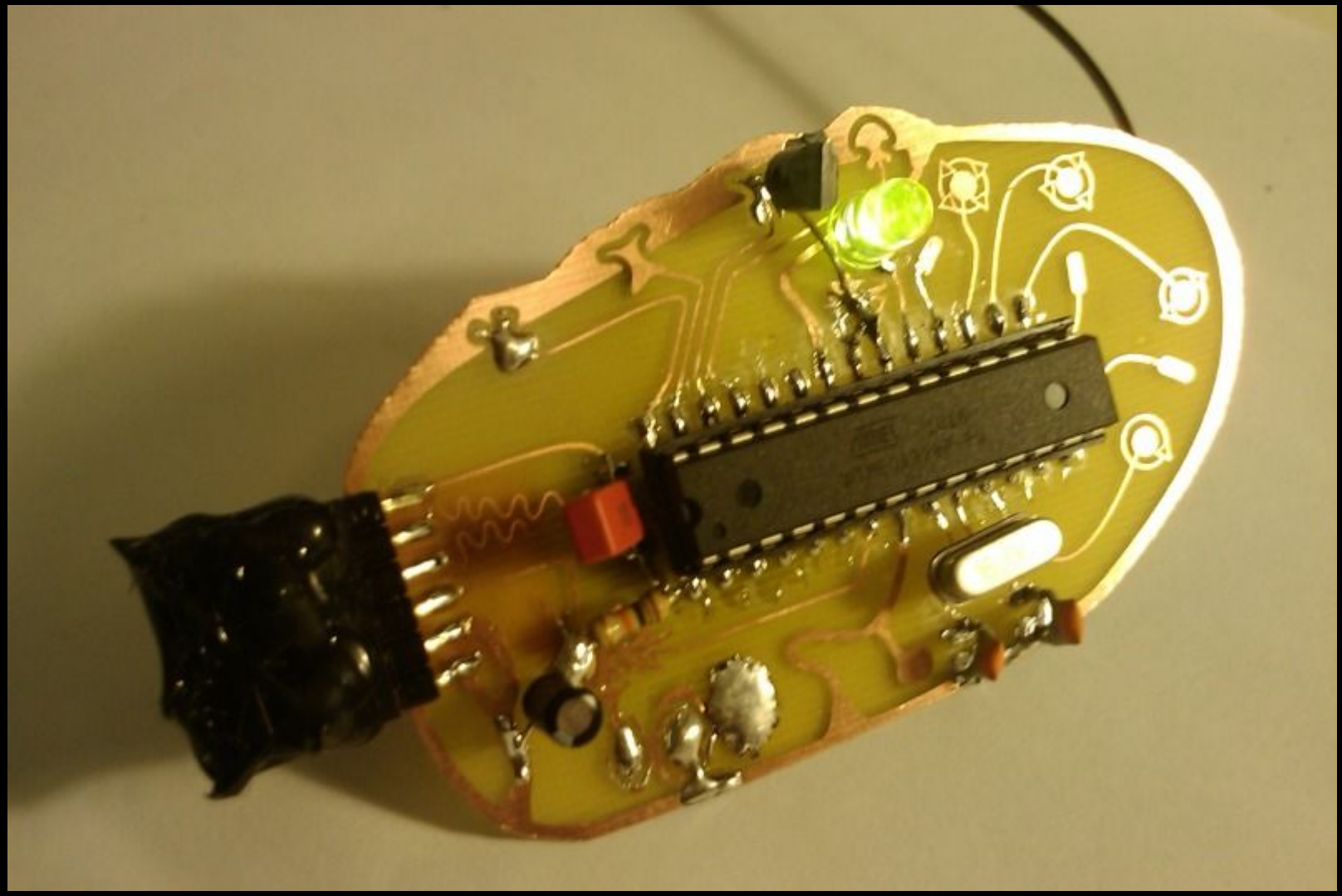
Collaboration with DIYbio, HONF, CEMA, biopresence

FLOSS for CV and streaming



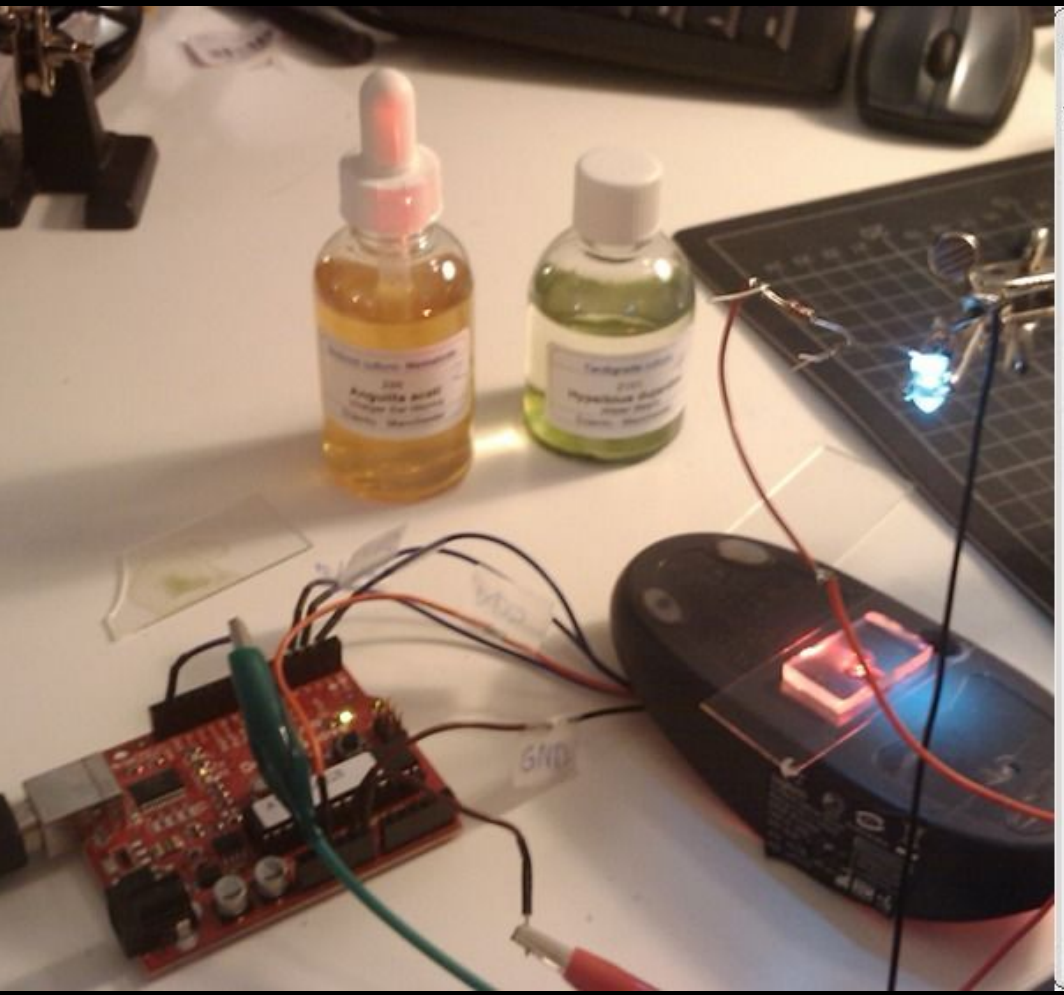
Collaboration with Alejo Duque

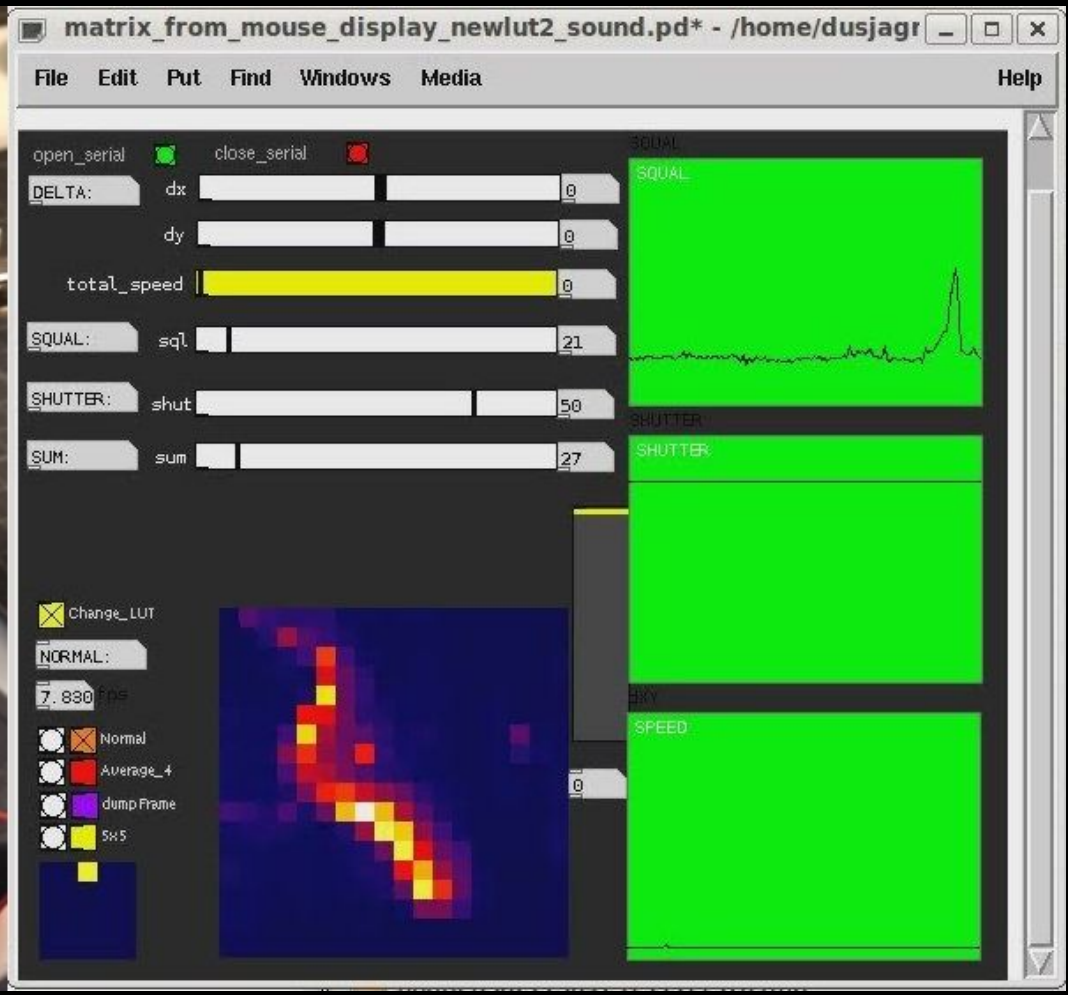
Bioelectronix – DIWO Chip hackteria



A bioinspired Arduino-Clone

Hacked Optical Mouse





Worm is a VJ

DIY Fermentation – Wine Making

Collaboration with House of Natural Fiber and UGM, Yogyakarta

DIY Plant Tissue Culture - Cloning

Collaboration with Georg Tremmel, biopresence

Thanks for listening