



**HACKTERIA.ORG**  
Open Source Biological Art

# HackteriaLab 2014 Yogyakarta

## Appendix 1: Press and Media

Hackteria | Open Source Biological Art

a collaborative project by

**LIFEPATCH - citizen initiative in art, science and technology (Indonesia)**

**International Hackteria Society (Switzerland)**

January 2014

## Media and Press Overview

### Press

**Art, Activism Mix at Jakarta's Unruly Biennale, November 12, 2013, Wall Street Journal**

<http://blogs.wsj.com/scene/2013/11/12/art-activism-mix-at-jakartas-unruly-biennale/>

...These urban “hacks” may be the perfect introduction to this year’s biennale theme: the Indonesian concept of “Siasat.” Derived from Arabic, the word is often defined as “tactics,” but has broader implications of strategy, improvisation and creative problem-solving, especially with limited resources. The idea overlaps with *jugaad* in India, *shanzhai* in China and “maker” culture world-wide, but with a distinctive Javanese flavor.

... Though community-based projects have recently become fashionable in the international art world, Moelyono, a veteran activist from East Java, has been teaching art workshops to villagers, children and workers across the archipelago since the early 1980s. Documentation of these workshops, mounted on several walls and tables, offer a deliberately incomplete archive of these activities. A younger group of artists, designers and eco-activists from Yogyakarta teamed up for “Dining Space Project,” coordinated by a collective called Lifepatch. The piece showcases alternative modes of gardening, glass recycling, utensil-making and even alcohol-distilling within a wooden frame, which holds large glass jugs that transmit the sound of fermentation through mini-speakers. At the opening, samples of its home-brewed tamarind wine quickly ran out. When asked if the group’s ethos was “D.I.Y.,” a barefoot Krishna Waworuntu, who organizes “Permablitz” edible-gardening events in Yogyakarta, said with a laugh, “We prefer ‘D.W.O.’ – do it with others.”



**Dazed & Confused: BIOART NOW: August 2013, Stephen Fortune**

<http://www.dazeddigital.com/artsandculture/article/16465/1/bioart-now-%E2%80%93-part-1>

.... On the global stage biohacking collective Hackteria has led the way on demystifying bioart and providing people with easy practical ways to engage with it. Formed in 2009 and featuring chapters in Europe, India and Indonesia the Hackteria Wikipedia has become the de-facto resource for all budding biohackers. The interplay between biohacking and bioart is particularly fluid among Hackteria affiliated practitioners. “Hackteria is not, generally speaking, about finished products or finished works. The bioart just happens, but is not the primary goal” said Hackteria co-founder Marc Dusseiller. Some of that ‘incidental bioart’ has been quite sublime. ....“

....The Hackteria flavour of bioart and biotech education is particularly visible in Indonesia, where sister organisation Lifepatch complements the bioart residencies hosted by media-art lab the House of Natural Fiber (HONF), helping underfunded school students with such ingenious hacks as converting a webcam into a functioning microscope. At HONF in 2010, Julian Abraham and others initiated a project aimed at creating a safe form of fermentation based on tropical fruit, after the Indonesian government raised prohibitively high duties on alcohol. After leaving HONF, Abraham continued the theme, creating sound-based bioart pieces under the name Kapitän Biopunk. He provided workshops in homebrewing alcohol to accompany his Fermentation Madness, a sound-art piece that converts the processes of fermentation into an interactive soundscape. ....“

**DAZED** DIGITAL All Fashion Music **Art+Culture** Photography

### BIOART NOW - PART 1

Jalia Essaïdi creates bullet-stopping skin by genetically hacking human flesh. But is it art?

ART+ CULTURE | JACKO | EARNED | [Twitter](#) | [Like](#) | [357](#)

4 months ago Text Stephen Fortune



**Zu Besuch bei den Biohackern , Schweiz am Sonntag, Nr. 18, 5. Mai 2013 , Raffael Schuppisser**

<http://hackteria.org/?p=2291>

„... Bakterien kultivieren und mit Gentechnik experimentieren: Das geht auch im Heimlabor, nennt sich Amateur-Biologen bauen selber Laborinstrumente und träumen von leuchtenden Pflanzen. Einige auch vom grossen Geld.

DER ERSTE VERSUCH des Experiments ist fehlgeschlagen. Marc, Tuuli und Urs hatten verschiedene Fische gekauft, in Salzwasser eingelegt und einige Tage liegen gelassen. Nun sollten sich eigentlich die biolumineszierenden Bakterien auf dem Fisch vermehren, sodass man ihr Leuchten im Dunkeln erkennt. Die Bakterien sollten dann in einer Nährlösung aus Salzwasser, Pepton und Agar kultivieren. Doch nun muss erst einmal neuer Fisch her. Experimentieren im Heimlabor braucht Geduld. Marc, Urs und Tuuli sind Biohacker und damit Teil einer Bewegung, die die Welt ähnlich verändern könnte, wie in den 70er-Jahren die Computer-Tüftler mit der Entwicklung des PC in der Garage. Das zumindest glauben euphorische Journalisten und Technik-enthusiastische Wissenschaftler. So meinte etwa der Physiker und Freidenker Freeman Dyson 2007 in einem Essay, «dass die domestizierte Biotechnologie unser Leben in den nächsten 50 Jahren mindestens so stark prägen werde, wie die Domestizierung des Computers in den letzten 50 Jahren». - ...»

.....

Ich will, dass Wissen und Technik der ganzen Welt zugänglich ist.»

MARC DUSSEILLER, BIOHACKER

.....

**Duwet Wine Berbasis Media Art , Koran Tempo, 5 November 2012, Teks oleh Pito Agustin Rudiana**

[http://lifepatch.org/Duwet\\_Wine\\_Berbasis\\_Media\\_Art](http://lifepatch.org/Duwet_Wine_Berbasis_Media_Art)

Seni tidak hanya memanfaatkan indra mata dan telinga, tapi juga melibatkan lidah dan penciuman.

Ingin minum wine tapi duit cekak bukan soal bagi Agus Tri Budiarto alias Timbil, 41 tahun. Dia bersama Andreas Siagian alias Ucoc, 29 tahun, dan Nur Akbar Arofathullah, 25 tahun, bisa menyulap aneka buah menjadi minuman beralkohol aneka rasa. Fruit wine, begitulah mereka menyebutnya. Sebab, minuman itu berasal dari aneka buah tapi rasanya laksana anggur. Buah yang digunakan pun buah-buahan lokal, seperti salak, sawo, jambiang alias duwet (juwet) bahkan jahe. Siapa pun bisa membuat minuman ini. Tiga orang ini tergabung dalam Lifepatch, yang baru berdiri pada 26 Maret lalu, yakni sebuah organisasi independen berbasis komunitas yang bekerja dalam aplikasi kreatif dan tepat guna di bidang seni, sains dan teknologi. "Kami membagikan ilmu yang kami peroleh kepada masyarakat melalui berbagai workshop," kata Timbil dalam [[Presentasi Lifepatch di IVAA | presentasi Lifepatch di Rumah IVAA di Jalan Ireda, Yogyakarta, Jumat petang lalu]].

Menurut Timbil, sudah ada 11 macam buah yang mereka jadikan fruit wine. Sebelas macam buah itu telah menghasilkan 35 macam ragi. Itulah aplikasi kreatif di bidang sains yang telah mereka hasilkan. Proses pembuatannya menggunakan teknologi fermentasi dengan menggunakan ragi. Jenis ragi yang digunakan pun merupakan hasil isolasi buah nangka yang telah digarap dalam laboratorium bersama antara Lifepatch dan Komunitas Laboratorium Mikrobiologi Universitas Gadjah Mada.

Dalam presentasi yang menggunakan audio-visual pada petang lalu itu, mereka menjelaskan bagaimana buah-buahan itu dikupas dan dipotong kecil-kecil. Potongan buah itu direbus hingga menghasilkan sari. Hasil tersebut didinginkan dengan temperatur dibawah 40 derajat Celcius. Sari buah itu lalu ditampung dalam botol kosong yang diberi ragi, yang akan mengubah kandungan gula menjadi alkohol dan CO2.



Freidenker Freeman Dyson 2007 in einem Essay, «dass die domestizierte Biotechnologie unser Leben in den nächsten 50 Jahren mindestens so stark prägen werde, wie die Domestizierung des Computers in den letzten 50 Jahren». - ...»

**JAWA TENGAH & YOGYAKARTA** KORAN@TEMPO 5 NOVEMBER 2012 B4





## Interviews

**The Art of Open and Free Science, MCD #68, 2012, Editor Alessandro Delfanti, Interview Sara Tocchetti**

<http://www.digitalmcd.com/mcd-68-la-culture-libre-the-open/>

**Could you explain what is Open Source Biological Art and how it relates to DIY biology?**

Whether it is a wiki or a workshop or both doesn't really matter, what is essential is to enable people to collaborate and share knowledge and instructions. Open Source Biological Art enables people to perform complex scientific protocols without the support of an official institution. We believe that it is important to enable more people to feel confident in working with living systems in order for creative and new ideas to emerge. When applied to science and art, it can create a new type of public participation and understanding of both domains.

**What is your view on the future of citizen science?**

My hope is that if more people are making things with their hands and have this direct and everyday experience with scientific protocols, we can demystify science and open the whole decision making process to more people and opinions. I think this is the future society, where I want to live, a place where tinkerers and lay people find new and unexpected uses and functions of technologies and scientific knowledge, where they hack it and adapt it to their dreams and lives and don't wait for some big corporation or government to decide what is good or safe for them.

**Hackerspaces are becoming centers of liberal arts in Asia: Interview with D. Kera, Tech in Asia, Jan 2014**

<http://www.techinasia.com/hackerspaces-center-liberal-arts-asia-nus-prof/>

**What is so unique about the hackerspace movement that makes them relevant to society?**

They let science amateurs like me understand and get involved in the process of designing, tinkering and playing with various ideas and technologies. I'm also excited about their potential to support research in the developing countries, such as Indonesia or Nepal.

The hackerspaces attract some of the most interesting people you can meet in a city; the pragmatic visionaries who are not afraid to take on any challenge, but jealously protect their autonomy and freedom. They actually preserve the original mission of the universities, which is academic freedom. Most people think it is about the freedom to do research, but it is more than that. We need a space or an institution which will enable citizens to develop skills necessary for taking an active part in the public life of their communities.

The so called "artes liberales", or liberal arts, refers to knowledge that sets you free. It doesn't mean humanities as people misinterpret today. I dare to say that nowadays the liberal arts mean not only law and rhetoric, but also knowledge of science protocols, programming and hardware hacking.

Hackerspaces are the best place to gain such knowledge and skills on your own terms. Then you can make informed decisions on stuff like Genetically Modified Organisms (GMOs), or be able to set up ad hoc, secure and independent networks during acts of civil disobedience.



**Hackteria Interview with Andy, Špela and Yashas, by R. Debatty, We Make Money Not Art, Sep 2011**

<http://we-make-money-not-art.com/archives/2011/09/hackteria.php>

I'm also curious about ethics in relationship to the animal kingdom the "Discourse" page of the website refers to. Which kind of discussions about ethical issues arise during the workshops?

In the course of our workshops we generally and thoughtlessly kill many thousands of organisms. It's all too easy to just rinse of a slide, or wipe it on your trousers, without realising that you are also destroying a host of microorganisms at the same time. We generally let people do this for a little while until they have become familiar with the organisms under the microscope. Once they understand the animals they are working with we can have a much more meaningful discussion about the ethics of how we treat them, and we often see a more careful approach after that.

Obviously, ethical considerations on the micro scale are different to those of the macro scale, but we aim to engage people in a thought process about it while they are working. We will often have a discussion at the end of the workshop where the usual wide range of viewpoints and standpoints get aired. The only change in peoples' minds is probably a slightly deeper awareness that microorganisms might just have rights too.

One of our goals is to reevaluate the relationships between the observer and the observed that have been handed down to us from traditional research institutes. Artists in our workshops who come from alternate, diverse contexts and cultures suggest an alternative paradigm - perhaps a more performative one.

**Video Documentations**

*Documentation on Hackteria | Open Source Biological Art, 2010, Migros Kulturprozenz*

<https://vimeo.com/18052500>

*Documentation of HackteriaLab 2013 – Bangalore, Julian „Togar“ Abraham*

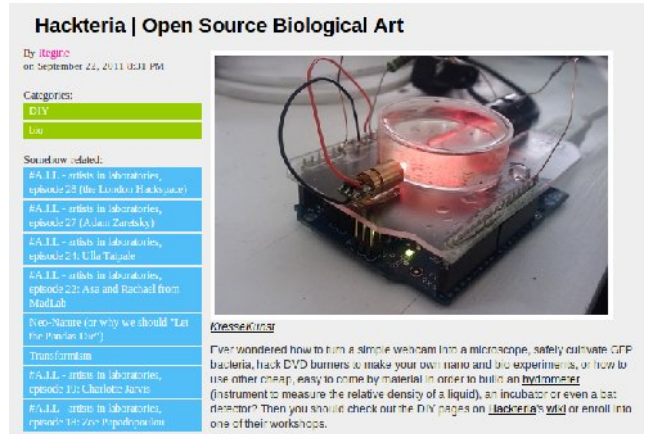
<https://vimeo.com/61235658>

*DIY - BioHacking beim CYNETART-Festival 2013, ARTE Creativ, Dec 2013, by K. Groß*

<http://creative.arte.tv/de/cynetart2013-biohacking>

Ob Animationen aus Hefedruckern, hausgemachte DNA-Extraktion, Agar-Siedlungen für Bakterien oder cisgen-manipuliertes Gebäck im POP-UP Labor konnten die vielfältigen Möglichkeiten des DIY-BioHackings ausprobiert werden. BioHacker aus verschiedenen Teilen Europas kamen nach Dresden, um ihre künstlerischen und gesellschaftskritischen Projekte zu präsentieren und Workshops während des CYNETART-Festivals 2013 anzubieten.

Im Interview berichtet Marc Dusseiller, studierter Nanowissenschaftler und Mitbegründer des hackteria.org Netzwerkes, er habe das Gefühl, das sich in den letzten 10, 20 Jahren die Biologie, Biotechnologie immer mehr von der Gesellschaft distanziert hat. Doch es gibt eine Szene von kreativen Leuten, von Makern, Hackern, Amateuren und Künstlern, die sich mit Themen der Biologie auseinandersetzen wollen. Das DIY-BioHacking ist in Deutschland nicht so verbreitet wie in anderen Ländern, weil die Gesetzeslage härter ist und auch die Terminologie des DIY-BioHacking ist unscharf, meint Urs Gaudenz, ein Bio-Ingenieur aus dem hackteria.org Netzwerk. „Der Ausdruck Hacker wie er heute in den Medien verwendet wird, ist eher negativ belegt und zumeist wird erst einmal mit Furcht reagiert. Was könnte ich herstellen, welche Art Bioterrorismus verfolge ich?“, erzählt Lucas Schirmer, Molekularbiologe aus



**DIY - BioHacking beim CYNETART-Festival 2013**  
From Katharina Groß. Edited by: [unreadable]

Dresden. Im Grunde geht also darum, Bio-Technologien sicherer und gesellschaftsfähiger zu machen, indem möglichst viele Leute einen Zugang bekommen.

## Further Reading

***Innovation regimes based on collaborative and global tinkering: Synthetic biology and nanotechnology in the hackerspaces*, Technology in Society, October 2013, Denisa Kera**

<http://www.sciencedirect.com/science/article/pii/S0160791X13000638>

Typically nanotechnology and synthetic biology are discussed in terms of novel life forms and materials created in laboratories, or by novel convergences of technologies (ICTs and biological protocols) and science paradigms (engineering and biology) they initiated. Equally inspiring is their ability to generate novel institutions and global communities around emergent sciences, which radicalize the forms of public engagement and ethical deliberation. We are starting to witness alternative (iGEM competitions) and almost underground R&D engagements with Synthetic Biology (DIYbio movement), which inspired the emerging bottom-up involvements in nanotechnologies in projects, such as the NanoSmanoLab in Slovenia. These bottom-up involvements use tinkering and design as models for both research and public engagement. They democratize science and initiate a type of grassroots "science diplomacy", supporting research in developing countries. We will discuss several recent examples, which demonstrate these novel networks ("Gene gun" project by Rüdiger Trojok from the Copenhagen based hackerspace, Labitat.dk, the "Bioluminescence Project" by Patrik D'haeseleer from Biocurious biotech hackerspace in Sunnyvale, CA, and the "Biodesign for the real world" project by members of the Hackteria.org). They all use design prototypes to enable collaborative and global tinkering, in which science and community are brought together in open biology laboratories and DIYbio hackerspaces, such as Hackteria.org or Biocurious. In these projects research protocols encompass broader innovative, social and ethical norms. Hackerspaces represent a unique opportunity for a more inclusive, experimental, and participatory policy that supports both public and global involvements in emergent scientific fields.



Technology in Society

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**Innovation regimes based on collaborative and global tinkering: Synthetic biology and nanotechnology in the hackerspaces**

Denisa Kera

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***Hackteria: An example of neomodern activism*. Leonardo Online 2014 in press, Boris Magrini**

As a platform for knowledge sharing and artistic exploration, Hackteria constitutes a network of artists and researchers that merge the use of biotechnologies with hacking and do-it-yourself strategies. Its process-oriented and performative approaches, opposing to the materialistic imperatives of the art market, lean to the tradition of political art. In the present paper, I am arguing that Hackteria embodies what could be considered a neomodern activism, other recent examples of which are emerging within the new media art field. Instead of rejecting new controversial technologies, they propose a vision of a society that is moved forward by a more democratic use and discussion of these technologies. The activities of Hackteria are examined through the presentation of a bio-lab created in Ljubljana.

The roots of Hackteria: from performative art to tactical media.

The events organized by Hackteria are rooted in a long tradition of media art, as well as process-oriented and performative approaches. Performative art is not equivalent to process-oriented art; as Andreas Broeckmann correctly pointed out, "it only makes sense to speak of process-orientation in cases where the evolving process itself is a main factor of the aesthetic experience of the work." [4] Nonetheless, neither performative nor process-oriented art focus on the creation of a finite product, a distinctive trait of the activities run by Hackteria. Furthermore, the BioTehna project, for example, share both performative, interactive and process-oriented qualities, for it is not the lab as such that is meaningful to the artistic intent of the group but rather the process involved in building and running it.



**More Media**

<http://hackteria.org/?cat=49>

<http://lifepatch.org/Category:Artikel>