

Do-It-Yourself:

Exploring the potential of Fab Labs (Fabrication Laboratories)

DG JRC Workshop, CDMA - Atrium
Rue du Champ de Mars 21, 1050 Brussels
8 April 2016, 9h00-14h00



Clockwise from top left: #1 Smart Citizen Lab participants; #2 Bioreactor; #4 Biobatteries (all by Waag Society);
#3 Smart Citizen Kit (by Smart Citizen team; Fab Lab Barcelona | IAAC and MID)

Introduction

The call by the European Commission President Juncker for **citizen dialogue and citizen engagement in policy-making and policy relevant science** requires deepening the existing interfaces between science and society.

The JRC is currently working on such interfaces with the goal of exploring the potential of **knowledge co-production** in emerging unconventional settings, ranging from **public and bottom-up innovation** to **open and citizen science** or **Do-It-Yourself / Do-It-Together (DIY/DIT) science and technology**.

A trend is growing in which citizens are producing knowledge in creative and unexpected ways. They are doing it online and offline, in their homes, neighbourhoods, libraries, schools, but also in new spaces such as Fab Labs, Hackerspaces or Media Labs. These **Makerspaces** serve as community-oriented hands-on spaces offering tools and learning environments for wider publics to experiment and develop their own projects, objects or prototypes.

Started in the MIT in 2001, **Fab Labs (Fabrication Laboratories)** stand out as the most established example in this context, with a current network of approximately 270 Fab Labs in Europe.

Although such a trend is challenging accredited status of established fields of knowledge, there is an enormous added value of new thinking and new practices. These Makerspaces are promising hubs/platforms for connecting untapped resources and ideas from civil society, government, research, education, business and industry.

Workshop

In a half-day workshop, the DG JRC will host a joint reflection with invited speakers on the potential of such spaces for science and technology by other means, based on its current initiatives. Presentations will be complemented by projects' demos, where attendees will be invited to engage in hands-on experiments on environmental and bio-oriented bottom-up innovations with origin in a Fab Lab space. The workshop will be followed by a lunchtime lecture web streamed via JRC's Connected page.

Speakers

DG JRC is closely collaborating with the Global Young Academy on challenges and topics that have European and global policy relevance. As a Global Young Academy Member, **I. Gadjanski** is particularly active in promoting Fab Labs for STEAM (science, technology, engineering, arts and mathematics) education.

FabLabAmsterdam is run by Waag Society, where **F. Kresin** and **P. van Boheemen** have a vast experience in exploring emerging technologies for healthcare, education, culture, society, government and business. A new H2020 project "Making Sense" on DIY environmental sensors has recently started joining DG JRC with the Waag Society and more partners from academia, civil society and Fab Labs.

New modes of policy and knowledge co-production are also at the core of other activities in DG JRC (**S. Nascimento DDG.02**, **P. Rosa** and **A. Guimarães Pereira DDG.01**), ranging from the development of the EU Policy Lab as a space inside the European Commission applying experimental / "Lab" approaches into policy-making and implementation, up to a focus on public engagement and experiential modes of involving extended communities in projects and workshops carried out in the area of science and technology studies.

Programme

9h00 - 9h30	Welcome coffee
9h30 - 9h40	Introduction (X. Troussard JRC DDG.02)
9h40 - 11h00	Key presentations: I. Gadjanski (Global Young Academy & Fab Initiative) F. Kresin (Waag Society & Fab Lab Amsterdam) S. Nascimento (JRC DDG.02) P. Rosa and A. Guimarães Pereira (JRC DDG.01) Q&A
11h00 - 11h15	Coffee break
11h15 - 12h30	Project demos/hands-on experiments by P. van Boheemen (Waag Society & Fab Lab Amsterdam) on DIY sensing and Biohacking
12h30 - 12h35	Conclusions (X. Troussard JRC DDG.02)
13h00 - 14h00	Lunchtime lecture: I. Gadjanski (Global Young Academy & Fab Initiative)

Speakers Bios



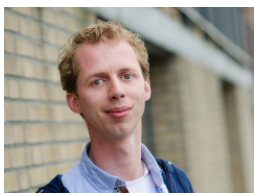
Ivana Gadjanski

PhD in Neuroscience, Georg-August University, Goettingen, Germany. Fulbright Visiting Scholar at Columbia University, USA, Lab for Stem Cells and Tissue Engineering. Senior researcher and assistant professor at Belgrade Metropolitan University and Center for Bioengineering (BIOIRC). Founder of Fab initiative, a non-profit that supports entrepreneurship in the STEAM field in Serbia and the Western Balkans. Established Serbia's first Educational Fab Lab Petnica, a workshop for rapid prototyping and a 3D bioprinting facility at BIOIRC. TED Global Fellow, Member of the Global Young Academy. Published and award-winning poet.



Frank Kresin

Research Director at Waag Society, Amsterdam, Netherlands. Background as filmmaker and a Master's degree in Artificial Intelligence from the University of Amsterdam. Former programme manager at the Dutch Digital University Consortium, and filmmaker functional designer at the University of Amsterdam. Board member for ISOC NL and The Mobile City, and currently in the steering committees of Erfgoed & Locatie (Heritage & Location) and CineGrid Amsterdam. Works in themes like Creative Care, Future Internet, Open design and Open Data. Co-founder of CineGrid Amsterdam, Apps for Amsterdam, Nederland Open Data, Kies op Maat and Geheugen van Almere. Lecturer and writer on transdisciplinary research in the creative industry.



Pieter van Boheemen

Master degree in biotechnology of the Delft University of Technology. Director of the Fab Lab Amsterdam, Open Wetlab and Open Design Lab, with focus on projects, research and workshops intertwining biotechnology, open innovation and arts. Founder of the international BioHack Academy and the Dutch DIY bio community. Cofounder of the molecular diagnostics company Amplino. Former ICT entrepreneur and co-founder of online retail shops. Former consultant in science based regional innovation, and IT security consultant at Accenture. Main interests in ecological, social and cultural innovation through the intertwining of open source hardware / software / wetware.

Susana Nascimento



Policy Analyst at the Joint Research Centre's Foresight and Behavioural Insights Unit and member of the EU Policy Lab. Former researcher at CETCOPRA / Centre d'Etude des Techniques des Connaissances et des Pratiques, CIES-IUL / Center for Research and Studies in Sociology, Vitruvius Fab Lab, and IPSC-JRC / Institute for the Protection and Security of the Citizen. PhD in Philosophy from Université Paris 1 Panthéon-Sorbonne and a PhD in Sociology from ISCTE-IUL / University Institute of Lisbon under joint tutorship. Main expertise in science and technology studies, with recent focus on future oriented technology, transdisciplinarity, codesign for policy innovation, open science and technology, citizen engagement and maker cultures.

Ângela Guimarães Pereira



Scientific officer at the Joint Research Centre's Econometrics and Applied Statistics Unit. PhD in Environmental and Social systems from the New University of Lisbon (Portugal). Extensive experience for the past two decades in projects focusing on environmental and societal issues, future oriented activities and integration of information technologies with public engagement. Coordinator of several training courses on public engagement, science communication for public engagement, and knowledge assessment methodologies. Current work on knowledge assessment and ethics of ICT, critically investigating their governance and correspondence with current innovation narratives; post-normal science and quality assurance; citizen science and DIY science.

Paulo Rosa



Scientific/Technical Support Officer at the Joint Research Centre, working on Science and Technology related issues, in particular in strengthening the competence on knowledge assessment in the governance of techno-science. Ph.D. in Digital Media and a Master degree in Environmental Management Systems both from the New University of Lisbon. Strong hands-on experience in the design and development of innovative information and communication technologies focused on science communication, environmental education and public engagement; the design and implementation of virtual citizen participatory methods; and the development of online interactive applications to extended governance initiatives in areas of risk governance and sustainability.

References

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Gadjanski I (2015) [Lecture at Joint Conference “Scientific Support for Policy Making in Sustainable Development: Joining forces”](#), 16-17 November 2015, Stockholm, Sweden.

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