FUSION

_masterclass:

02

_date:

21/04 -22/04

_TITLE:

Fashion &
Assistive Tech
Through Digital Fabrication

_PARTICIPANTS:

8 fully funded designer-makers; local participants

FASHION & ASSISTIVE TECH THROUGH DIGITAL FABRICATION
CUSTOMIZED ONLINE LEARNING EXPERIENCE DESIGNED FOR FUSION

Fab Lab Barcelona has developed an Immersive Learning Experience, in "Fashion & Assistive Tech through Digital fabrication". This Immersive Learning Experience will take place online and is considered as an immersive capsule where participants will be able to get introduced to projects and trends as well as ideate on solutions through digital fabrication and new materials for sustainable and circular design applications.

INTELECTUAL PROPERTY RIGHTS

The intellectual property rights related to the methodology and contents of the programs that may derive from the "Fashion and Assistive Tech through Digital Fabrication" Immersive Learning Experience will be from Fab Lab Barcelona. Any dissemination or publication in the media about the project by FUSION , will have to make explicit mention of both Fab Lab Barcelona and their authors.

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_DESCRIPTION: **_EXPERTS/ORGANISERS:** _TIMETABLE:

Fab Lab Barcelona proposes the best Faculty and Mentors selection from its global network as the team in charge of this project.

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ANASTASIA PISTOFIDOU

Fab Textiles Co-founder / Fabricademy Co-founder Anastasia Pistofidou is an architect who has worked with Digital Fabrication technologies in 2009. She has been in the core team of IAAC Fab Lab Barcelona as a tutor, advanced manufacturing office manager, coordinator and researcher. In 2013, she established a personal applied research line, Fab Textiles, that combines digital techniques and crafts orientated towards soft fabrication.

Anastasia has been organizing and teaching in workshops, lectures and tutoring at Fab Lab Barcelona, IAAC in embedded interaction/2016, Skin2/2016, digital fabrication tutor 2013-15, IAAC Global Summer School 2011-13 as well as Comas University of Business and Design, Tel Aviv 2016, Hong Kong Polytechnic University 2016, School of Fashion Design, Veritas University, Costa Rica 2015-16, Pontificia Universidad Católica de Chile, Santiago 2015, Universidad Pontificia Bolivariana, Medellin 2014, and Fab Lab Lima Peru, 2013.Anastasia is also the founder of fabtextiles. org, an applied research line at Fab Lab BCN on textiles, soft architectures and innovative materials. She is also a founding member of FirstV1sion.com, where she collaborated in the development of a wearable T-Shirt for sports, that integrates a camera with an HD transmission system. Her artistic public interventions are through a multidisciplinary collective, Chinos International CC: an activist group of programmers, interaction designers, anthropologists and artists.

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ADRIANA CABRERA

Adriana Cabrera is a senior consultant in innovation and Product development at matrix GmbH & Co., as well as a researcher for FabLab Kamp- Lintfort, Germany, at the Rhine-Waal University of Applied Sciences. She is a global lecturer in the soft robotics field in the Fabricademy, Textile & Technology Academy.

Adriana has collaborated in the FabLab community for many years by actively offering activities in the fields of fabrication for health care, smart textiles, and research materials in digital manufacturing, shown in the Fabmaterials library. She has also participated in the exploration of prototyping in isolated environments with the MIT Design and Computation Group during the opening of FabLab Austral in the Chilean South Antarctic.

Originally from Colombia, she works in diverse areas of design and tangible interaction. Having a background in industrial design, she complemented her studies with an MFA in Media Art and Design at Bauhaus University Weimar and later with an MA in Surface and Textile Design at the Weißensee Academy of Art Berlin, focusing on materials research. She is implementing sustainable experimentation by exploring new bio-inspired designs, including the impacts of today's prototyping.

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SANTI FUENTEMILLA

Future Learning Unit Coordinator / Fab Academy Guru.

Born in 1981 in Sabadell, Spain, Santi Fuentemilla graduated with a Master of Architecture from the University La Salle Universitat Ramon Llull, Spain, as a specialist in Architectural Design and Construction. In 2012, he graduated from the Fab Academy Diploma at FabLab BCN, a digital fabrication and rapid prototyping course directed by Neil Gershenfeld at MIT's centre for Bits and Atoms (CBA). Currently, he is undertaking his PhD in Digital Fabrication Processes at the EGA UPC
(Universitat Politècnica de Catalunya).

As a professional, Santi has worked in various architectural firms carrying out projects at an international level in the last 10 years. He is currently design director at OPR (Other People's Rooms) in Barcelona, a multidisciplinary studio based on architectural concept design for enhanced user experiences. Since 2013, he has been part of the FabLab BCN team, participating in a diversity of educational and professional ventures. Santi is the co-creator and current coordinator of the POPUPLAB project (Mobile FabLab) aimed at disseminating the concept of digital manufacturing in our society: "Digital Fabrication Everywhere".

Santi was also a remote guru of the 2013 edition of the Fab Academy Sao Paulo and has since followed that up with his current role as co-instructor of FabLab BCN's Fab Academy.

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MARION REAL

Systemic and Sustainable Design Researcher / SISCODE Project.

Marion Real is a systemic design researcher that explores social representation transformation that occurs during transitions toward circular economies and cosmopolitan localism. She is now working on the SISCODE project at Fab Lab Barcelona to support RRI and co-design approaches in different fablabs, living labs and cultural places.

An effort will be done to link Fabcity, local urban agriculture projects and visualizations tools.
Marion is a former fellow at the Centre for Circular Design in London, which has strong collaborations with ESTIA in the South-West of France where she realized her PhD and worked on different EU projects like the RETRACE project. She is part of the Chaire BALI project dedicated to emphasize disruptive material and processes for circular fashion.

SANTI FUENTEMILLA

Fab Academy Faculty / MAA Faculty / MAEB Faculty

Eduardo Chamorro is an architect and researcher who works to discover how technology can transform architecture and its processes to improve people's lives. He holds a Master Degree of Architecture from CEU San Pablo University (Spain), a Fab Academy diploma on Digital Fabrication offered by the Fab Lab Network and a Master Degree in Advanced Architecture from IAAC (Spain), with a specialization in digital fabrication, materiality and new design methodologies. He holds a Spanish architectural licence. In addition, he has worked as Fab Lab Seoul director and researcher in several architecture studios, computational design and fabrication professor at CEU University, advisor as fabrication expert for different architecture collectives and he is a usual collaborator in Fab Lab Madrid.

He is always seeking to achieve an innovative architecture that attempts to solve and adapt to social needs. He is currently a Phd candidate at Swinburne University (Melbourne,Australia).

As digital fabrication expert, he is faculty in the Master in Advanced Ecological Buildings,OTF Printing in Architecture, Master in Design for Emergent Futures at IAAC FabLab Barcelona. For him, working in a multi-scalar environment must be the priority in an architect nowadays.

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JOSEP MARTÍ

Laboratory Assistant

Josep Martí is an Industrial Engineer from Barcelona passionate about new technologies and digital fabrication. He holds a Master degree in Industrial Engineering specialized in Automatics from the Universitat Politècnica de Catalunya (UPC) and in 2019 he graduated from FabAcademy, the How to Make (Almost) Anything course from the FabLab Network directed by Neil Gershenfeld, director of the Center for Bits and Atoms at MIT.

With professional experience in data analytics and education before enrolling to FabAcademy, now he is part of the FabLab Barcelona Team as the FabLab Manager assistant and giving support to all the students at IAAC, teaching digital fabrication to students from FabAcademy, FabriAcademy and MDEF Master course.

He describes himself as a Maker, super interested in digital fabrication, rapid prototyping, design, coding and education and is always trying to learn and build new things.

DAY 1:
INSPIRATIONAL TALK & HANDS ON WORKSHOP

`10AM GMT`
`START`
`TIME`

`10 min` **WELCOME AND INTRODUCTION**

Speaker: Anastasia Pistofidou
- Introduction and intention of the activity
- Expected outcome
- Agenda
- Roles
- Rules: mute and video on all the time.

`80 min` **INSPIRING TALK**

Guest Speaker: Anastasia Pistofidou
Content: Open Source Practices from FabTextiles and Fabricademy on the future of Textile and Fashion

`90 min` **HANDS ON WORKSHOP**

Faculty: Anastasia Pistofidou
Content: During this workshop participants will be introduced to learning by doing material design practices. They will learn and have the possibility to experiment on different biomaterial recipes and applications.

DAY 2:
'SOFT ROBOTICS' & ASSISTIVE TECHNOLOGIES

`10AM GMT`
`START`
`TIME`

`1 hour` **INSPIRING TALK: ON SOFT ROBOTS & ASSISTIVE TECH**

Guest Lecturer: Adriana Cabrera
Content: Participants will be introduced to the topic and the state of art of assistive technologies and soft robotics.

`1 hour` **WORKSHOP ON SOFT ROBOTICS**

Faculties: Anastasia Pistofidou and Adriana Cabrera
Content: Participants will be introduced to rapid prototyping of soft robotics and inflatable structures through a Hands-on session

`1 hour` **IDEATION SESSION**

Faculty: Anastasia Pistofidou, Marion Real, Edu Chamorro
Content: Three faculty will guide participants through a process of ideation   and design of a solution for EU´s elderly population. The participants   will be divided into groups and will work around the basics.(Organization,management, infrastructure, philosophy and ecosystem).
Each group will generate one idea to be prototyped.
At the end of the session the participants will exchange their ideas and explore possible future collaborations.

materials required

Each participant will be required to have the following materials and equipment to participate in the workshops.

WORKSHOP 1:

materials:
- biomaterials
- 100gr gelatine powder
- 100ml glycerin
- 1 food coloring
- 1 embroidery hoop (diameter 20-30cm)
- 1 synthetic waterproof fabric

Equipment:
A small pot, a spoon and access to a kitchen

WORKSHOP 2:

materials:
- 1 roll of heat transfer vinyl like this
- 1 baking paper roll
- scissors
- pencil
- ruler
- 0.5m of silicone tubing 5-8mm diameter
- 1 heat shrink tube of 8mm to 1cm

(according to the tube of silicone above for 8mm diameter of tube you need 1cm of heat shrink tube)

Equipment:
An Iron

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see you there