

# Exploring the Intersection of Textiles and Digital Technologies from an Interaction Design Perspective

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# My love affair with textiles

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- ❑ knitting since I was 5, had my own (mini)sewing machine at 7;
- ❑ made clothes for my whole family (including the dog) in the 80s; transforming old clothes;
- ❑ tried macramé, tie-dyeing, arms knitting, wire-knitting;
- ❑ learned Limerick lace making 2 years ago;
- ❑ have been fascinated by the opportunities offered by laser cutting, 3D printing, Arduino, machine-knitting, etc.

# My day job

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- ❑ I teach Interaction Design at the university of Limerick; lead and supervise projects;
- ❑ I was involved in a large scale EU project that built a kit to enable museum professionals to design their own interactive installations ([meSch-project.eu](http://meSch-project.eu)) between 2013-2017
- ❑ I work with local communities, supporting public consultations and civic initiatives;
- ❑ I have a vested interest in wearables.

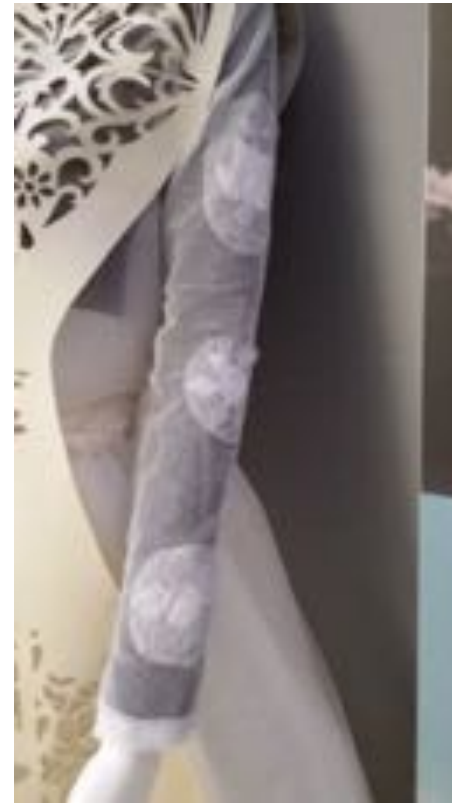
# Enlaced - by Suzanna Melinn

Installation for  
the 'Amazing  
Lace'  
exhibition,  
launched on 10  
Dec 2014



# Limerick lace makers featured

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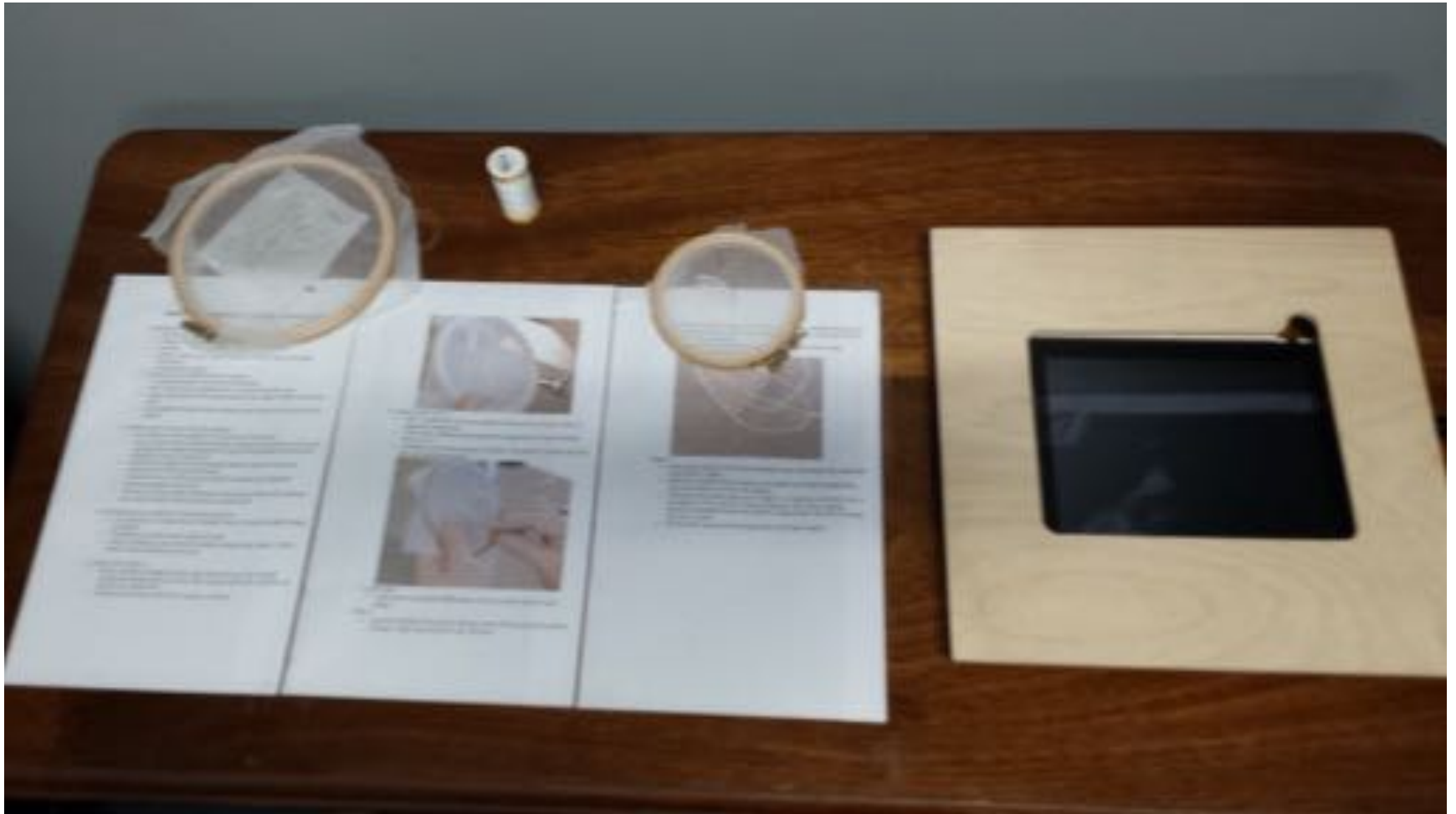
**Lace pieces contributed by various communities mounted on the sleeves (+NFC)**

# Wearing lace and listening to stories

Inviting visitors to pick up, hold or wear lace pieces (or inspired by lace)



# How to make Limerick lace



**Encouraging visitors to make lace**

# Future explorations

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- ❑ Augmenting lace with digital technology
- ❑ Creating digital tools to support lace makers

More info:

[Limericklace.ie](http://Limericklace.ie)





# ATTIRE

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- ❑ 2015 – Year of Irish Design
- ❑ ATTIRE = Advanced Technology and Textile Inventive Research Events
- ❑ Co-design involving technologists, fashion designers, dressmakers and ‘wearers’
- ❑ Several concepts developed in 2 sessions

The chosen concept:

- ❑ *synchronized formal wear for a trendy and fashion-forward teen couple*

# ATTIRE



**The process**

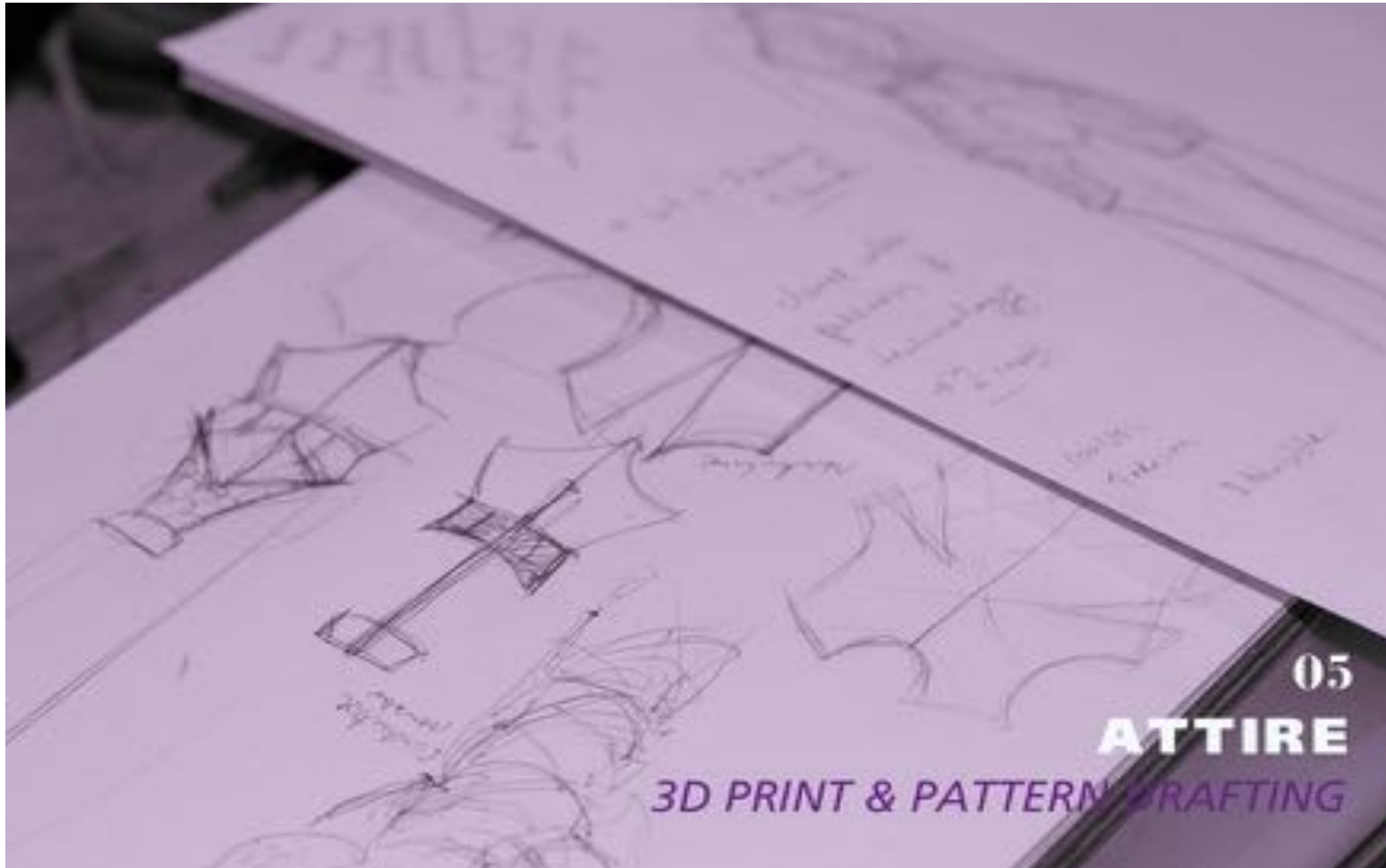
# ATTIRE



04  
**ATTIRE**  
A DAY OF SWATCHING

**Swatching**

# ATTIRE



**Pattern drafting; 3D printing**

# ATTIRE

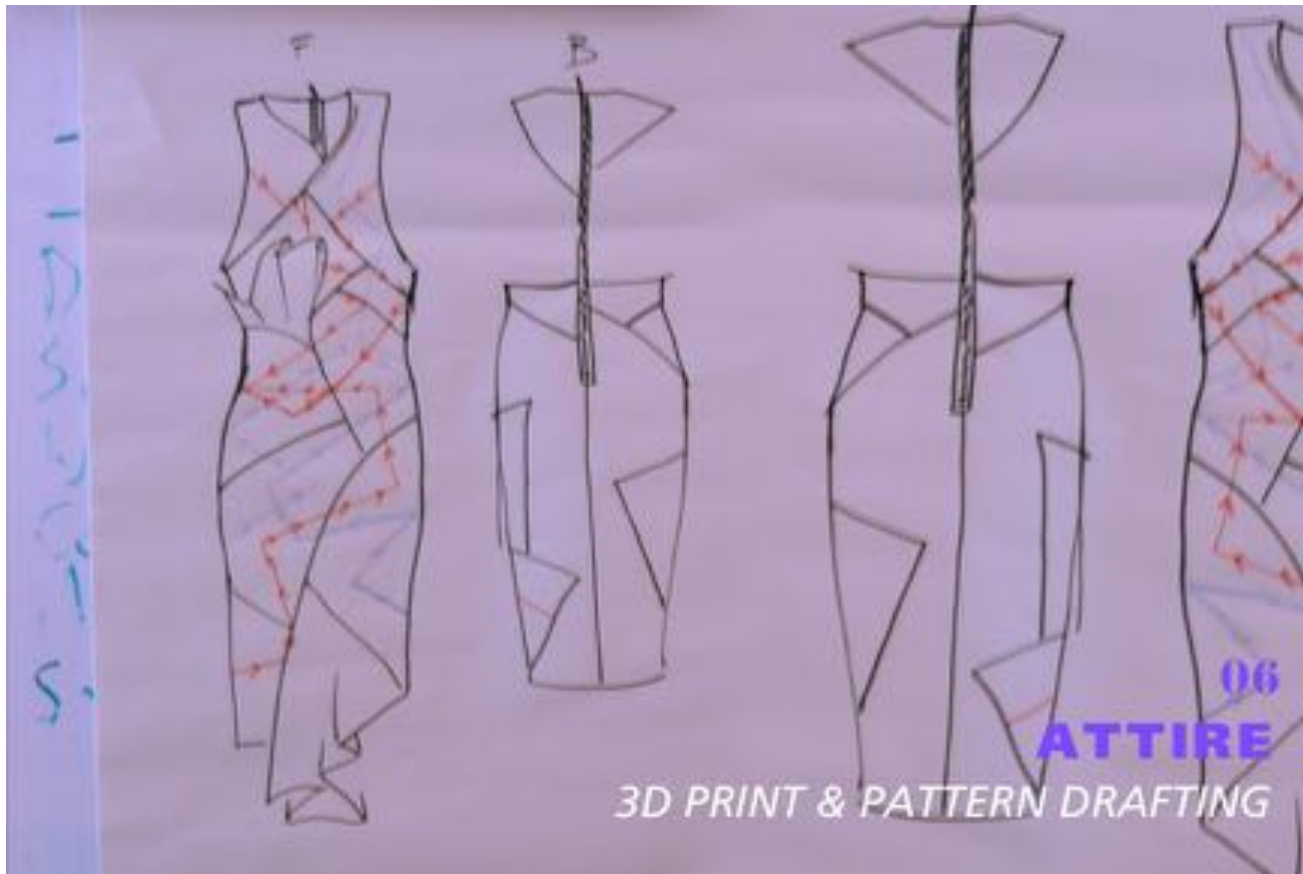


06

**ATTIRE**

3D PRINT & PATTERN DRAFTING

# ATTIRE



**A dress for her**

# ATTIRE



**A jacket for him**

# ATTIRE

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**Thicker material /  
with cut outs.**

**Trasparent, sheer,  
texture material**

**What about a  
coat for her?**





# ATTIRE



The 'wearer' demanded leds in his shoes

# ATTIRE



**Trying out various techniques and parts**

# ATTIRE- my take

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- ❑ Lurking, giving advice about potential interactions and technologies, but mainly..
- ❑ Trying to understand how people learn about something totally outside their comfort zone
- ❑ Shared understanding, common language
- ❑ Knowing how it is done
- ❑ But no skills transfer – responsibilities well defined
- ❑ Participants- experts in their own roles

More at [attire.ie](http://attire.ie)

# Making Laboratories (Trento, May 2016)

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- two day seminar focusing on the topic of Workshopology
- Format 1: Making literacies
- Format 2: Make Teach Validate
- Format 3: Cultural preservation
- Format 4: Family friendly makerspaces

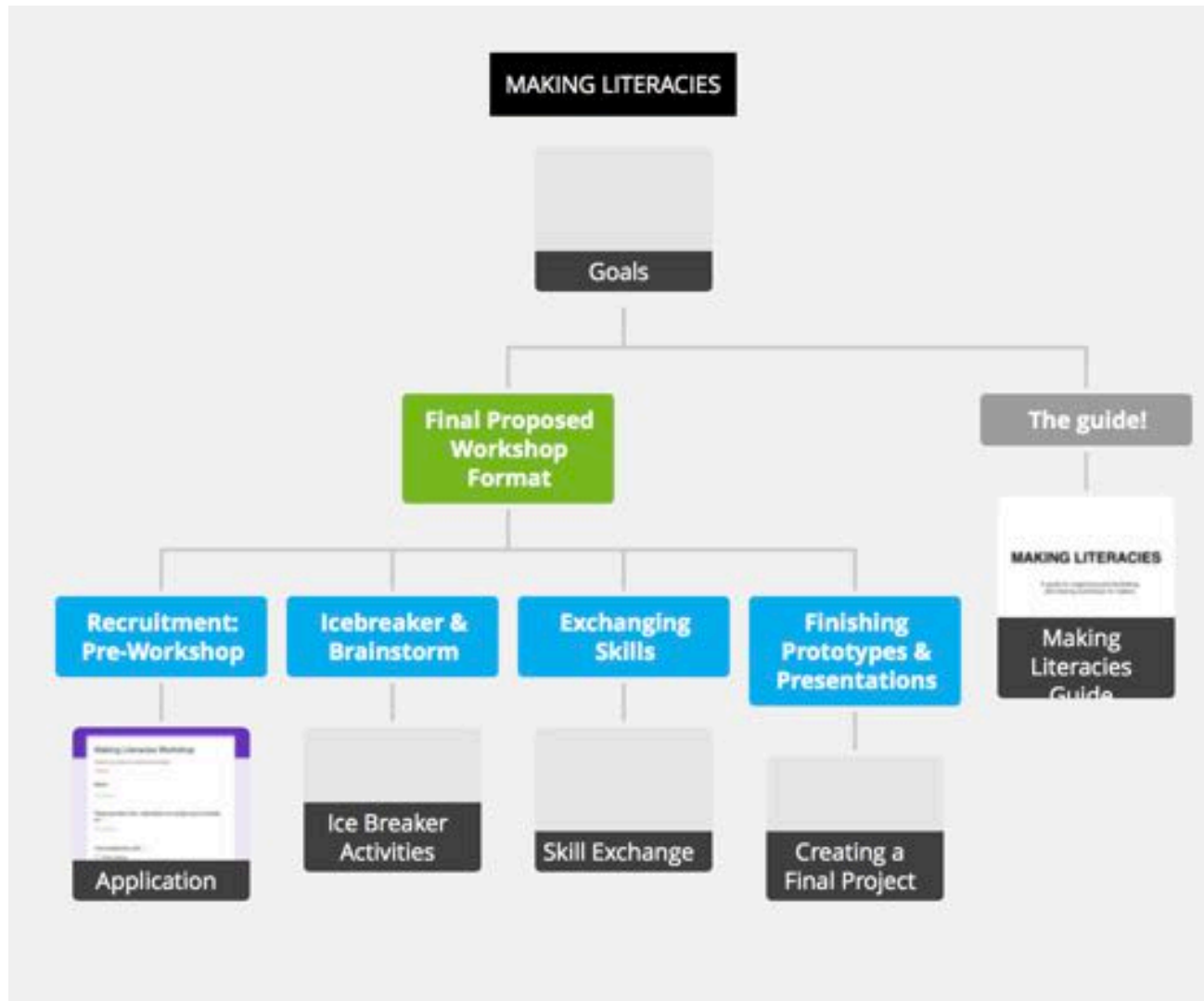
[workshopology.github.io](http://workshopology.github.io)

# Making literacies

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- ❑ Starting from the ATTIRE experience
- ❑ How can you 'make' someone into a maker?  
How do you transfer basic making 'literacy'?
- ❑ Apprenticeship with focus on skills transfer
- ❑ Barter of skills
  
- ❑ The group- very enthused about the result
- ❑ Still to be tried out!

# Making literacies





# TEXTILE ACADEMY BOOTCAMP

A new fashion and technology academy

**20TH  
24TH** FEB

MONDAY TO FRIDAY  
12:00 - 20:00 CET

40h certified course  
all materials provided

Contact: [info@textile-academy.org](mailto:info@textile-academy.org)

Professional: 600€ / Student: 450 €

FabAcademy alumni: 350 €

Online attendance : 150 €

- Circular fashion- Open source future-hacking the fashion industry
- 3D modeling- Computational couture- Parametric design.
- Digital fabrication- Laser cutting- CNC milling- 3D printing- scanning
- E-Textiles- wearables- Open hardware.
- Biofabrics- Biocomposites Bacteria and Natural dyes.
- Digital human and future scenarios Collaborations with artists- Online lectures.

Iaac

FAB LAB  
BARCELONA

FABTEX

weaving society

2015

Academy

Tuesday, Wednesday, Thursday 11:30 - 12:00

We propose to meet on Tuesday, Wednesday and Thursday morning through google hangouts at 11:30 for coordinating the future of the Textile Academy with the nodes that they are interested in joining.

[Fabricademy Brainstorming Summary](#)

## Training Program

[Index of All lectures and Hands-on activities](#)

### Day 1 - Mon, 20 Feb 2017

FABRICADIMY A new textile academy

- 11:00-12:45 Presentation: [Fab Textiles](#)
- 11:45-13:30 Presentation: [Textile lab Wang](#)
- 13:30-14:00 [FABRICADIMY A new textile academy](#)
- 15:00-16:00 Lecture: [Zoe Romann, Hacking the Fashion Industry](#)
- 16:00-20:00 [Hands-on: Laser-cutting techniques](#)

### Day 2 - Tue, 21 Feb 2017

New Materials & Processes. Grow your own clothes!

- 12:00-13:00 Lecture: [Biodyes](#)
- 13:00-14:00 Lecture: [Bioculture & Bioplastics](#)
- 15:00-15:30 Exercise announcement
- 15:30-20:00 [Hands-on: Textile dyeing with bacteria and natural dyes](#)
- 15:30-20:00 [Hands-on: Bioplastics and Bioculture](#)

### Day 3 - Wed, 22 Feb 2017

Computational Couture

- 12:00-13:00 Lecture: [Amber Sixten](#)
- 13:00-15:30 Lecture: [Computational couture](#)
- 16:30-18:00 Lecture: [3D Scanning and Printing, Neil Gershenfeld](#)
- 19:00-20:00 [Hands-on: Computational couture](#)

### Day 4 - Thu, 23 Feb 2017

Electronics & Crafting soft sensors

- 12:00-14:00 Lecture: [PROUDNO & Tangible interfaces](#)
- 15:00-16:00 Lecture: [Varvara Galajeva and Mar Caset](#)
- 15:00-16:00 Lecture: [Lisa Stark Crafting with Attiny](#)
- 16:30-20:00 [Hands-on: Tangible Interfaces](#)

### Day 5 - Fri, 24 Feb 2017

Jam Day lessons we learned

- 12:00-14:00 Brainstorming on the Fabricademy
- 15:00-16:30 Presenting the proposals with online nodes
- 16:00-19:00 HANDS ON
- 19:00-20:00 Reviews





# Textile Academy Bootcamp

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- intensive 40h course that took place at IaaC Fab Lab Barcelona with 25 participants from US, Canada, France, Germany, Argentina, Italy, Holland, Chile, Sweden, Greece, England, India and with 20 more participants in the fashion of distributed online education, joining remotely from Wellington, Santiago de Chile, Amsterdam, Seoul, Kamp Linfort, Leon, Madrid, Lima, Limerick.

# The Fabricademy

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- ❑ A new fashion and technology academy, part of the Academy of almost Anything
- ❑ Supposed to start in September 2017 in several locations
- ❑ If interested, go to <http://textile-academy.org> and subscribe to the mailing list.

# My Future Plans

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- ❑ **Future Textiles Lab – collaboratory involving the Interaction Design Centre and the Limerick School of Art and Design**
- ❑ **FabLab Limerick– possible future node of Fabricademy**
- ❑ **Introducing soft circuits to Coder Dojo (8-15yo)**
- ❑ **Preparing an e-textile swatchbook for Interactive Media master students**

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**Thank you!**

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**Coniecto.org**