

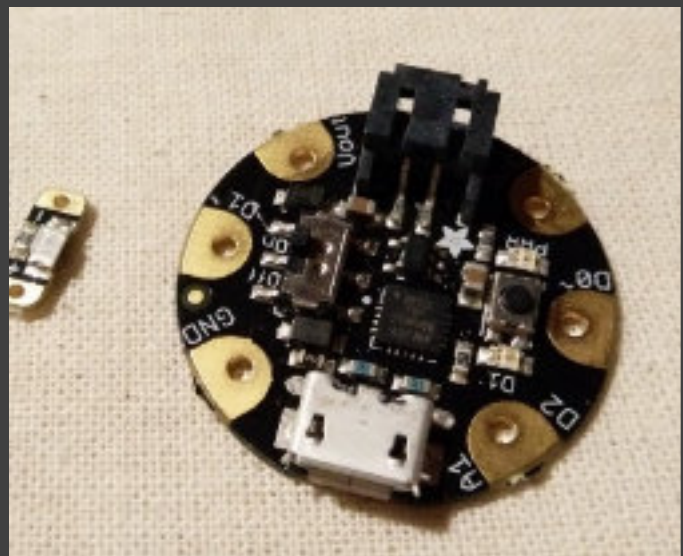
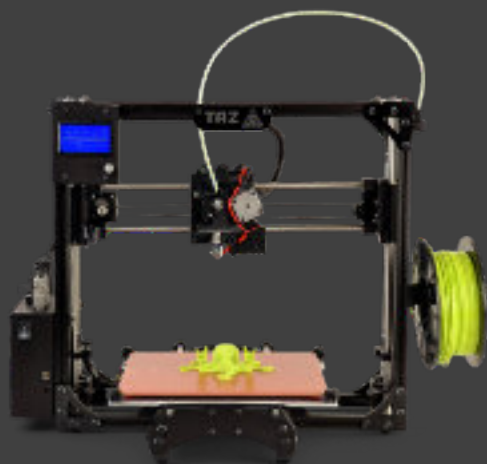
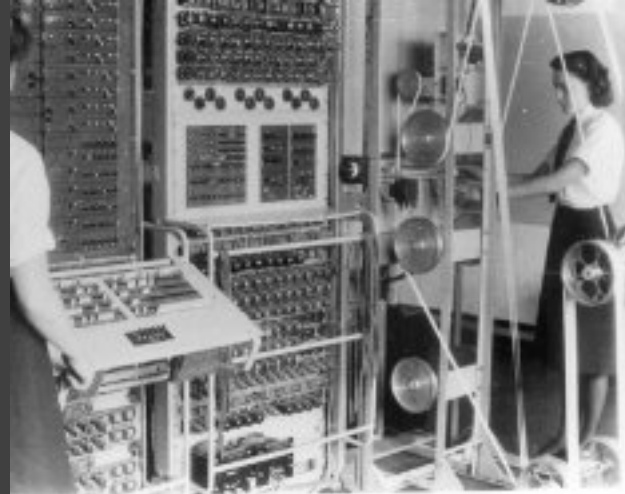
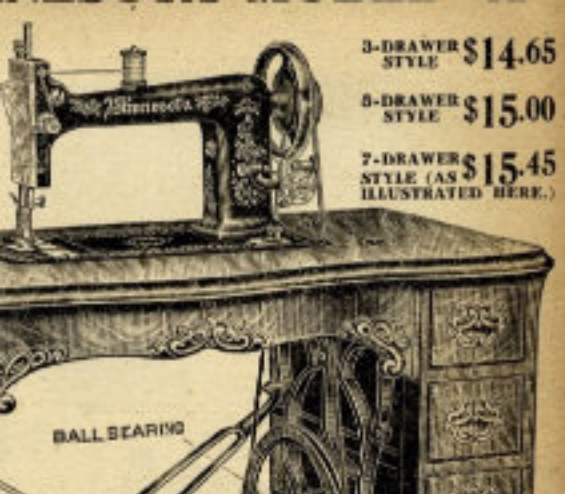


FAB LAB SIEGEN

isch  School of Media  
and Information



**Oliver Stickel**  
Uni Siegen



  **BITS**  
**ATOMS**



# The Maker Movement

JOIN THE Revolution!

## MANIFESTO

Mark Hatch

### Radicalize!



Tools  
of Industrial  
Revolution



are at the  
CHEAPEST

if we could bring  
more folks...



WE CAN  
CHANGE THE  
WORLD!



MAKERS  
ARE CHANGING...

Make is Fundamental.



Share

Give away small pieces  
of yourself.



Learn

Tool up



Participate

SUPPORT

embrace  
Change



Make  
something  
For Christmas!





# I am a Maker

I learn by  
making things.

I explore, customize, and  
combine things.

I take risks and learn  
from failed attempts.

I understand that  
things can get messy  
when you're tinkering.

I keep trying even  
when I get stuck.

I take my work seriously  
without taking myself  
seriously.

I make  
connections  
from one topic

I think,  
I feel  
and I make  
with my hands.

I share my  
creations and  
processes with  
other people.

I am comfortable not  
knowing.

I observe and draw  
inspiration from  
things around me.

I find and build communities where  
everyone is welcome.

I pause to document and reflect on my  
process.

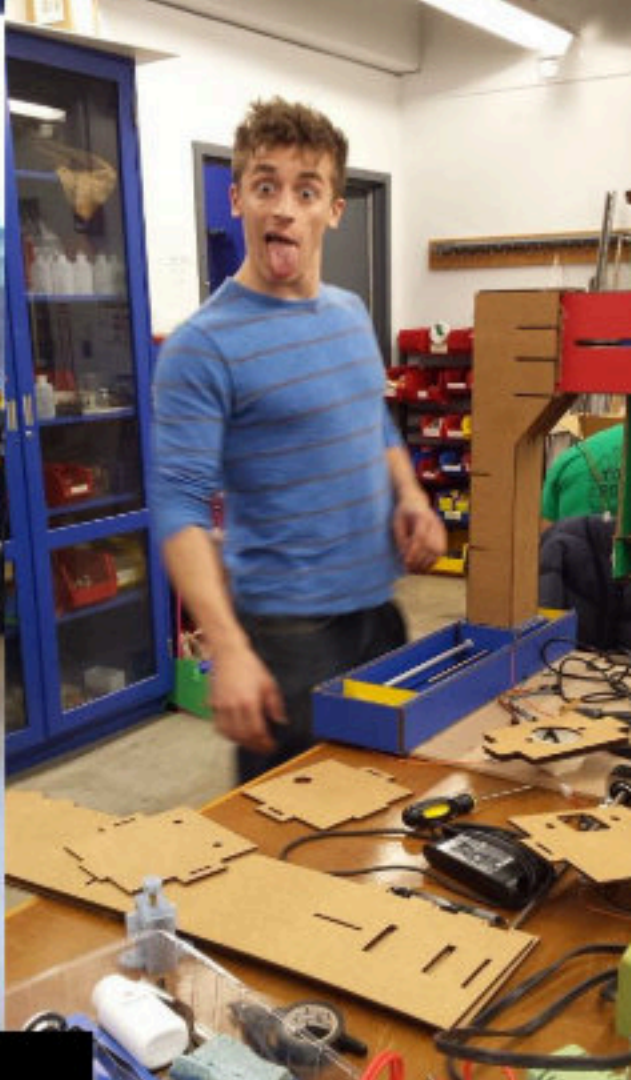
I keep imagining, wondering, and asking  
questions.

I create not  
just consume.











# FAB LABS

*Openness • Similar Equipment / Infrastructure •  
Global Cooperation • Responsibility &  
Participation • Balanced economic activities*

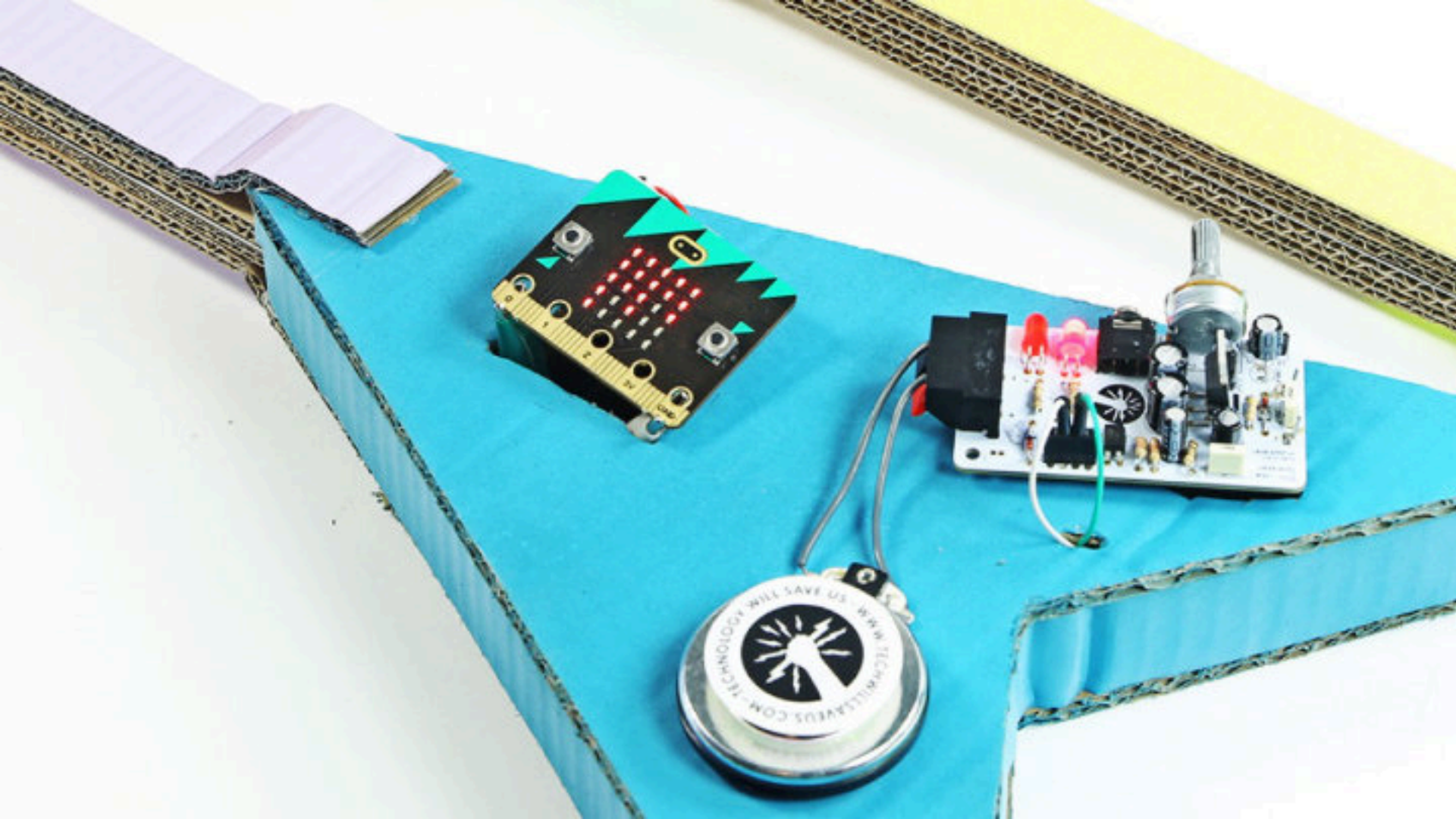
→ FAB CHARTER ←







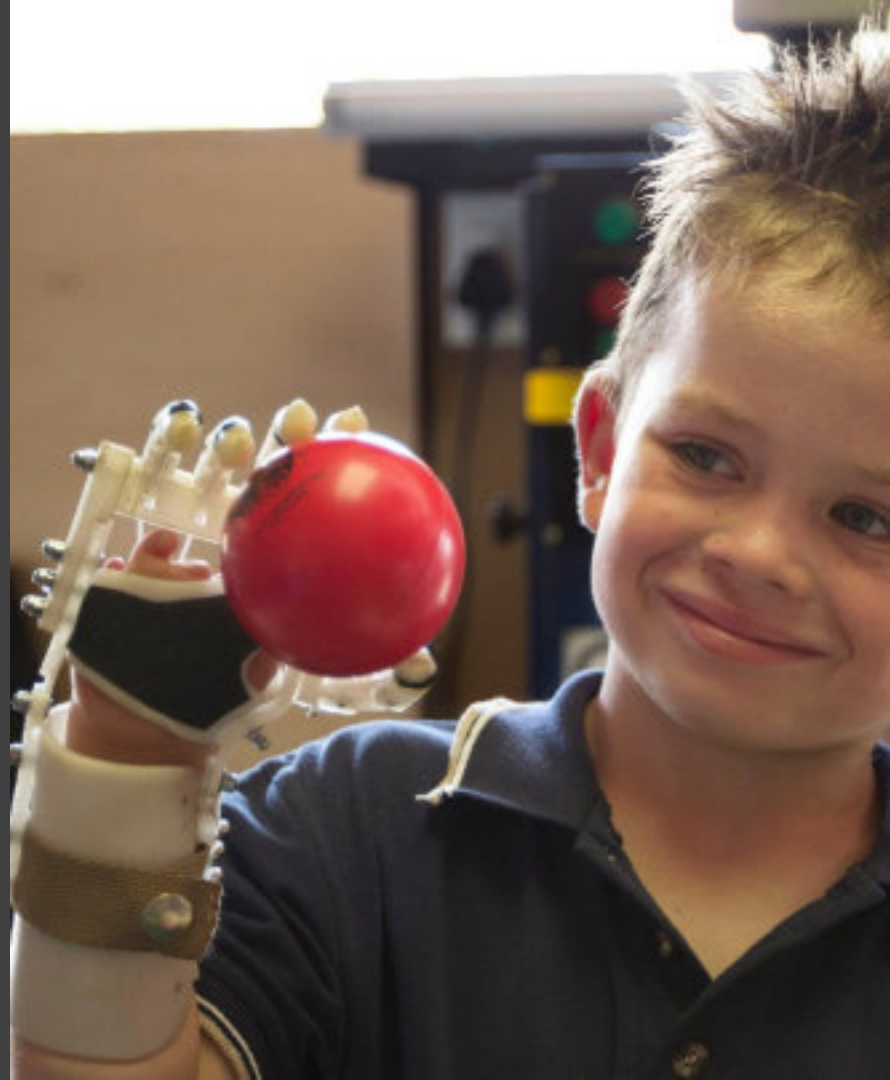
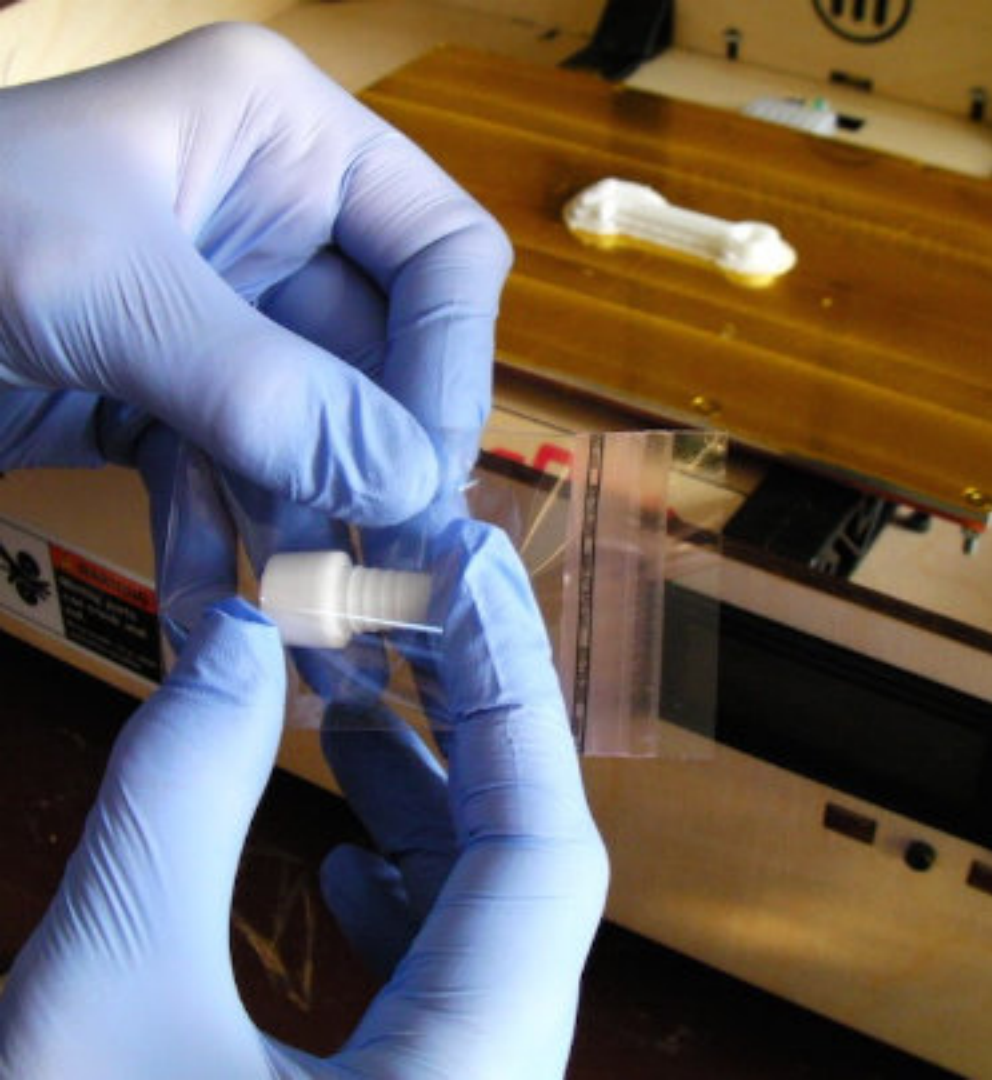






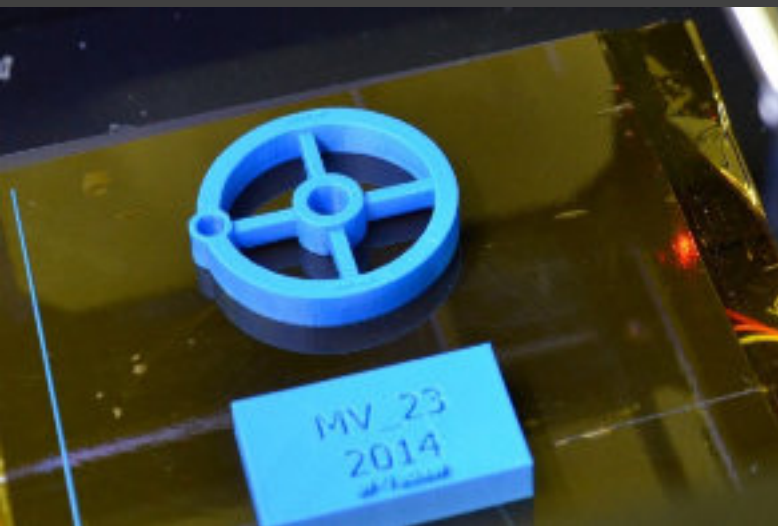


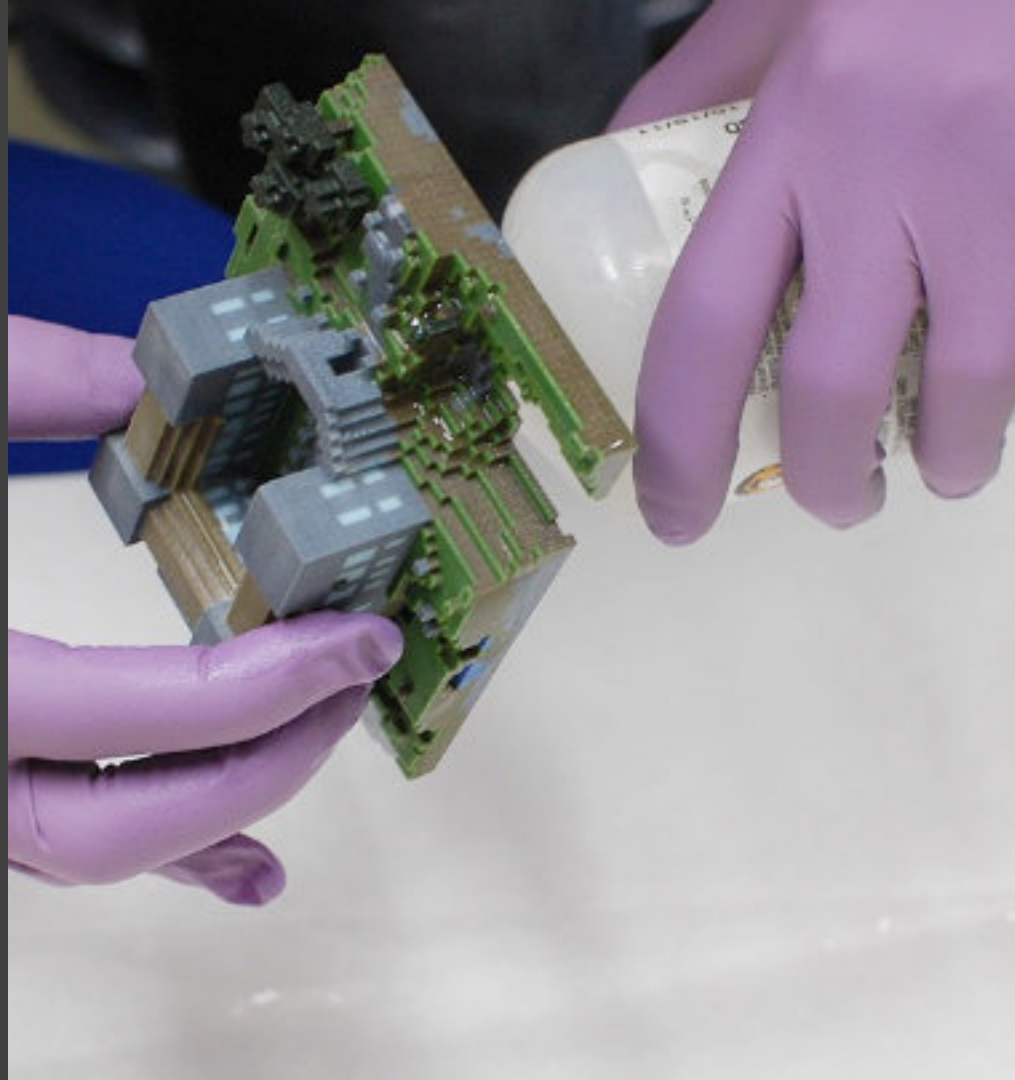




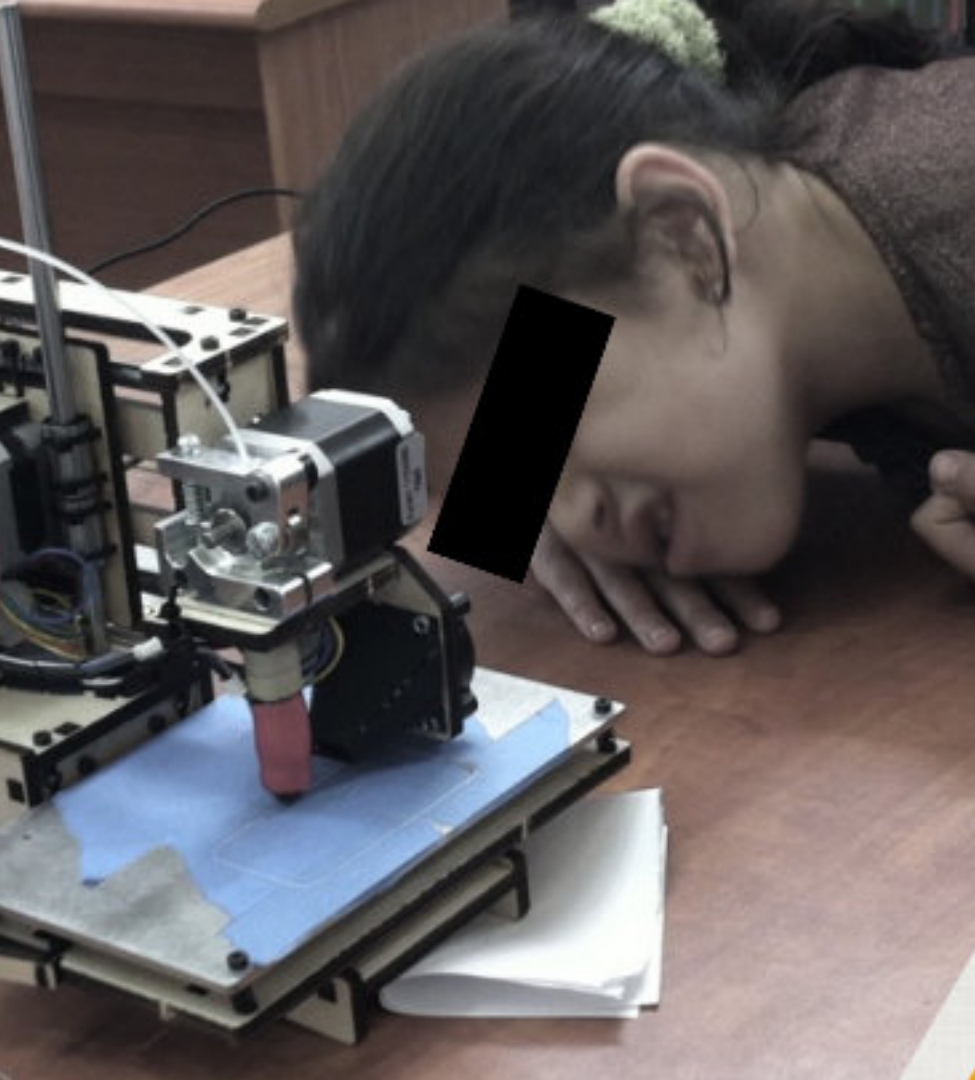


**IN SIEGEN...?**









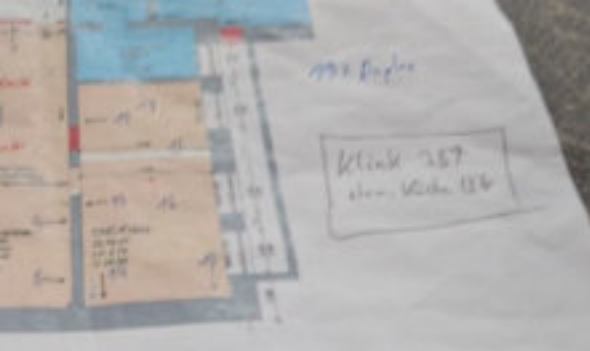
### LERNGRUPPE

Mathe

Geschichte

Geografie

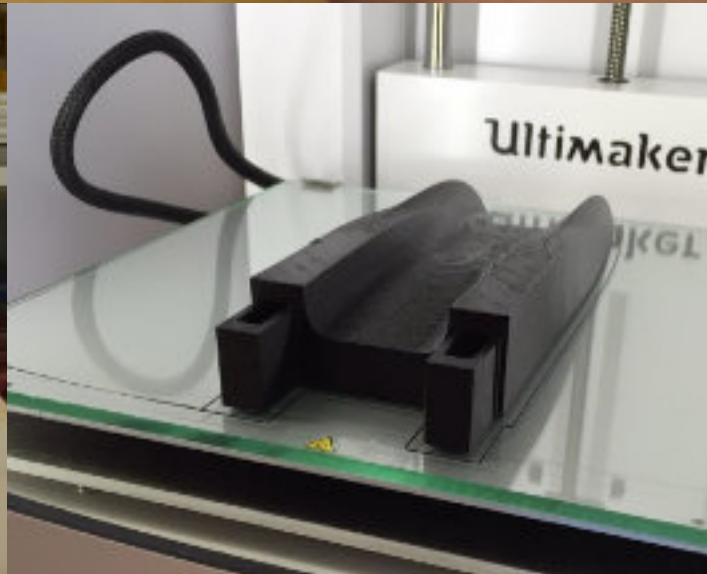






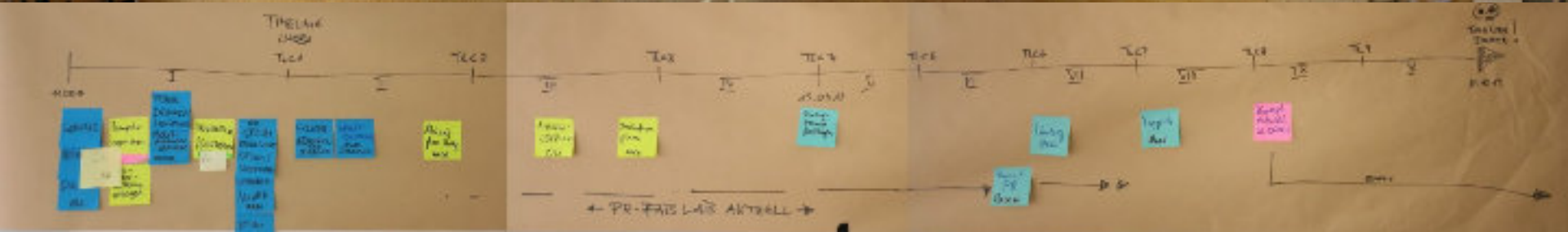






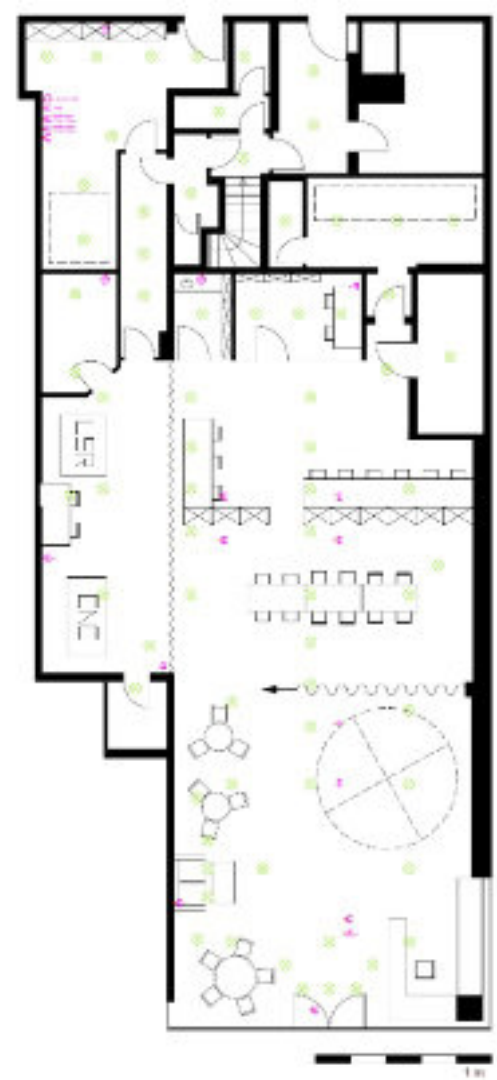
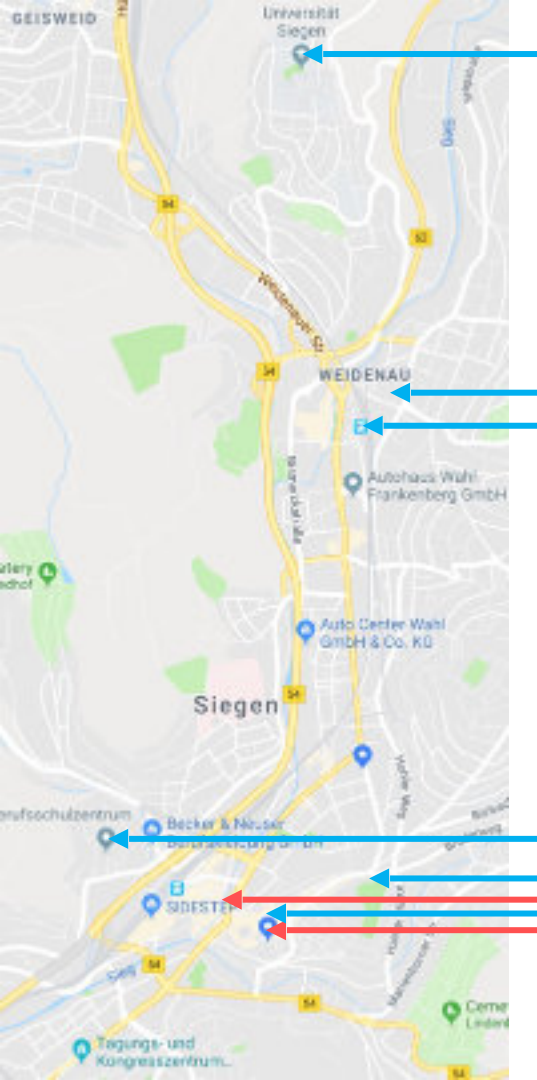












# OPEN LAB

- *Lab open for everyone*
- *Friday 14:00-20:00*
- *More events & info:*  
[www.fablab-siegen.de](http://www.fablab-siegen.de)  
[facebook.com/fablabsiegen](https://facebook.com/fablabsiegen)  
[twitter.com/fablabsiegen](https://twitter.com/fablabsiegen)





# FAB 101

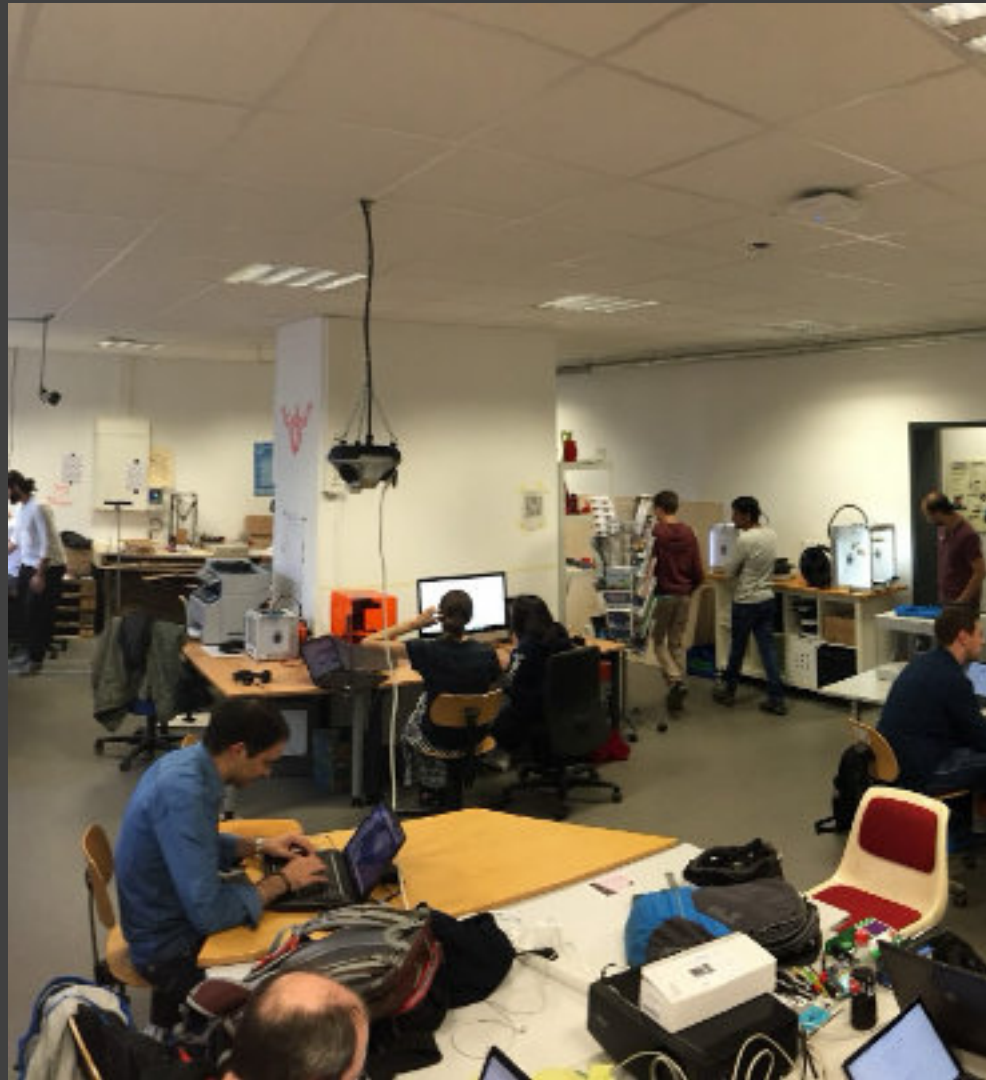
- *3-year BMBF projects on Fab Labs in Academia*
- [www.fab101.de](http://www.fab101.de)

## Integration digitaler Fabrikation in die disziplinäre und interdisziplinäre Hochschullehre



# Teaching

- *Project-oriented, pretty open*
- *We have an open seminar for (ECTS-creditable) student projects. Talk to us!*
- *We offer different lectures / seminars each semester*




# Research

- *FAB101, ZEIT.RAUM, energy, KoZe, GeWiNN, YALLAH, SMAP, REGIONALE, etc.*
- *Research Infrastructure for PD, PAR, etc.*
- *Citizen Science / Research*

About  
Program  
Organizers  
Participate  
Proceedings

3D printing and digital fabrication for education and the common good

Workshop at the International Conference on Communities and Technologies (ICCT 2017)



DESIGN  
MAKE  
SHARE  
LEARN

FAB LAB GIESSEN

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**Fab Labs and Interdisciplinary Academic Teaching:  
A research agenda**

Oliver Stickel  
Stuttgart University  
Stuttgart, Germany  
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Michaela Fink  
Stuttgart University  
Stuttgart, Germany  
michaela.fink@uni-stuttgart.de

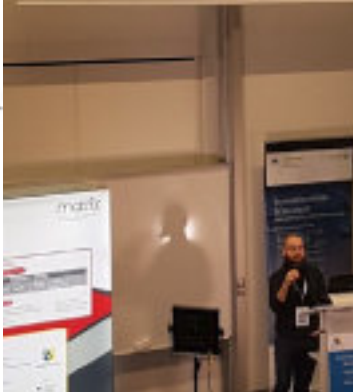
Volker Pipel  
Stuttgart University  
Stuttgart, Germany  
volker.pipel@uni-stuttgart.de

**ABSTRACT**  
This contribution introduces the agenda and main first results of a three-year research project on the integration of Fab Labs into academic education and academic practice.

**Computerclubs und Flüchtlingslager**  
Ein Diskussionsbeitrag zur Forschungs- und Bildungsarbeit aus praxistheoretischer Perspektive

OLIVER STICKEL, KONSTANTIN AAL, MARÉN SCHORCH, DOMINIK HORNING, ALEXANDER BODEN, VOLKER WULF UND VOLKMAR PIPEL<sup>1</sup>

**ABSTRACT: COMPUTER CLUBS AND REFUGEE CAMPS:  
A CONTRIBUTION TO THE DISCUSSION IN RESEARCH AND  
EDUCATION FROM A PRACTICE THEORY PERSPECTIVE**





[fablab-siegen.de/kontakt](http://fablab-siegen.de/kontakt)

[facebook.com/fablabsiegen](https://facebook.com/fablabsiegen)

[twitter.com/fablabsiegen](https://twitter.com/fablabsiegen)

[https://telegram.me/joinchat/](https://telegram.me/joinchat/B0OnzgNvtNHaKFuvSE-l8w)

[B0OnzgNvtNHaKFuvSE-l8w](https://telegram.me/joinchat/B0OnzgNvtNHaKFuvSE-l8w)

[oliver.stickel@uni-siegen.de](mailto:oliver.stickel@uni-siegen.de)

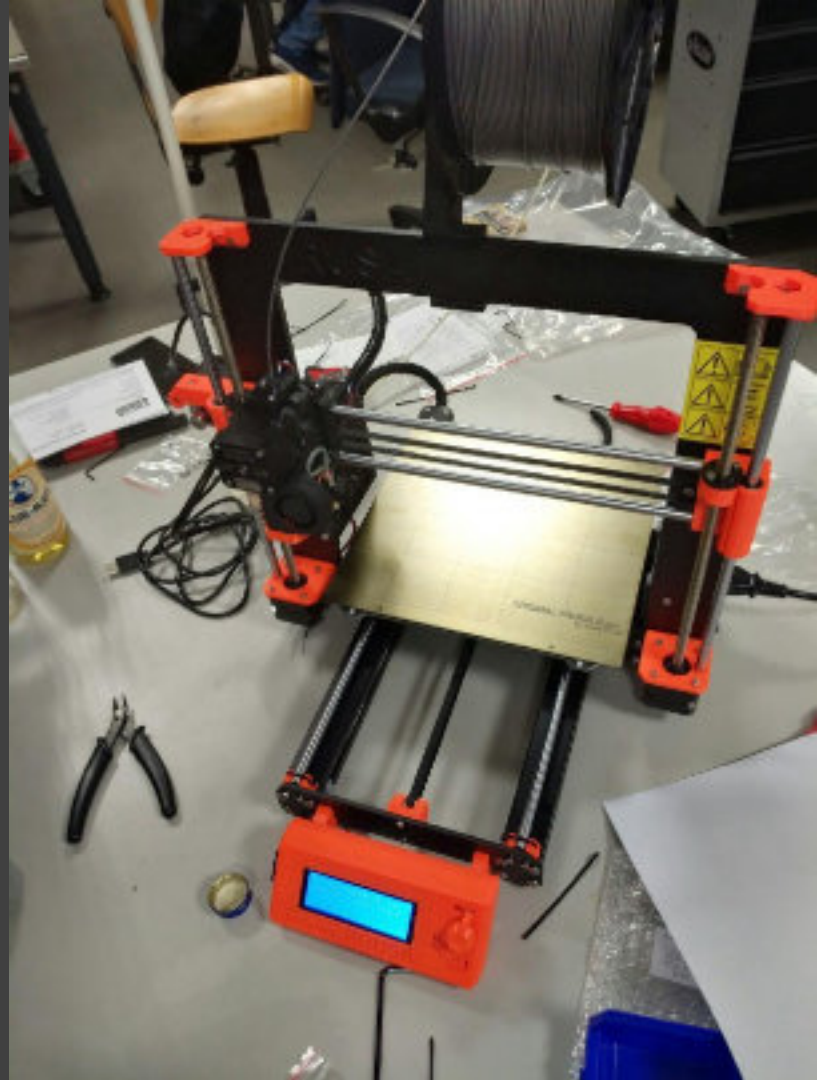


**DEMO:** PrusaControl



# Hands-on!

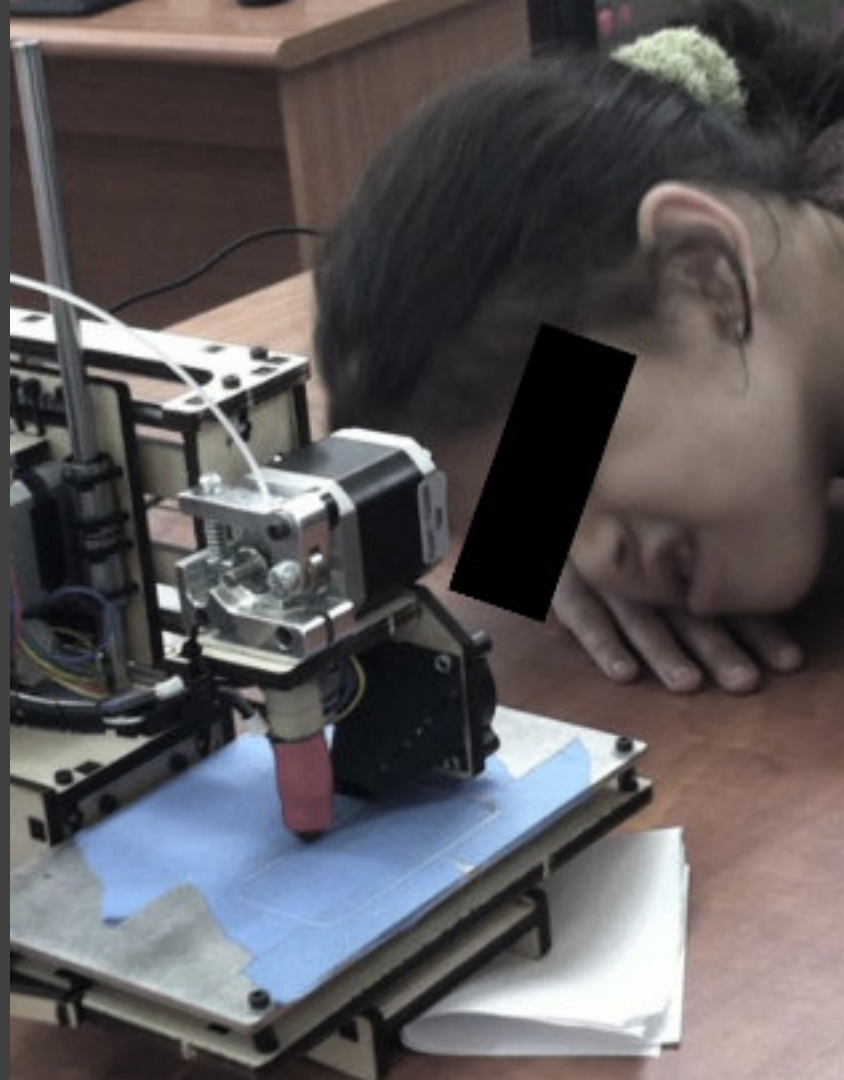
- *2-3 persons per printer*
- *Download & Install*  
*<https://prusacontrol.org/>*
- *Slice stuff! 3D models:*  
*<http://thingiverse.com>*
- *Remember the lessons*  
*on Slicer parameters!*





# Your first print

- *Select a 3d model with less than 15min print time*
- *Prepare yourselves:*
  - *Intro video to Prusa i3:*  
<https://bit.ly/2Hl8iax>
  - *Manuals:*  
[manual.prusa3d.com](http://manual.prusa3d.com)



## NEXT TIME:

- More hands-on 3D printing:  
Other 3d models, printer technologies, materials, ...
- Moving towards your projects.

[fablab-siegen.de/kontakt](http://fablab-siegen.de/kontakt)

[facebook.com/fablabsiegen](https://facebook.com/fablabsiegen)

[twitter.com/fablabsiegen](https://twitter.com/fablabsiegen)



2018-05-30

- Theory & Demos:  
Printer tech & materials
- Hands-on:  
Advanced slicing &  
printing
- Your Projects:  
Basic info & Lab times



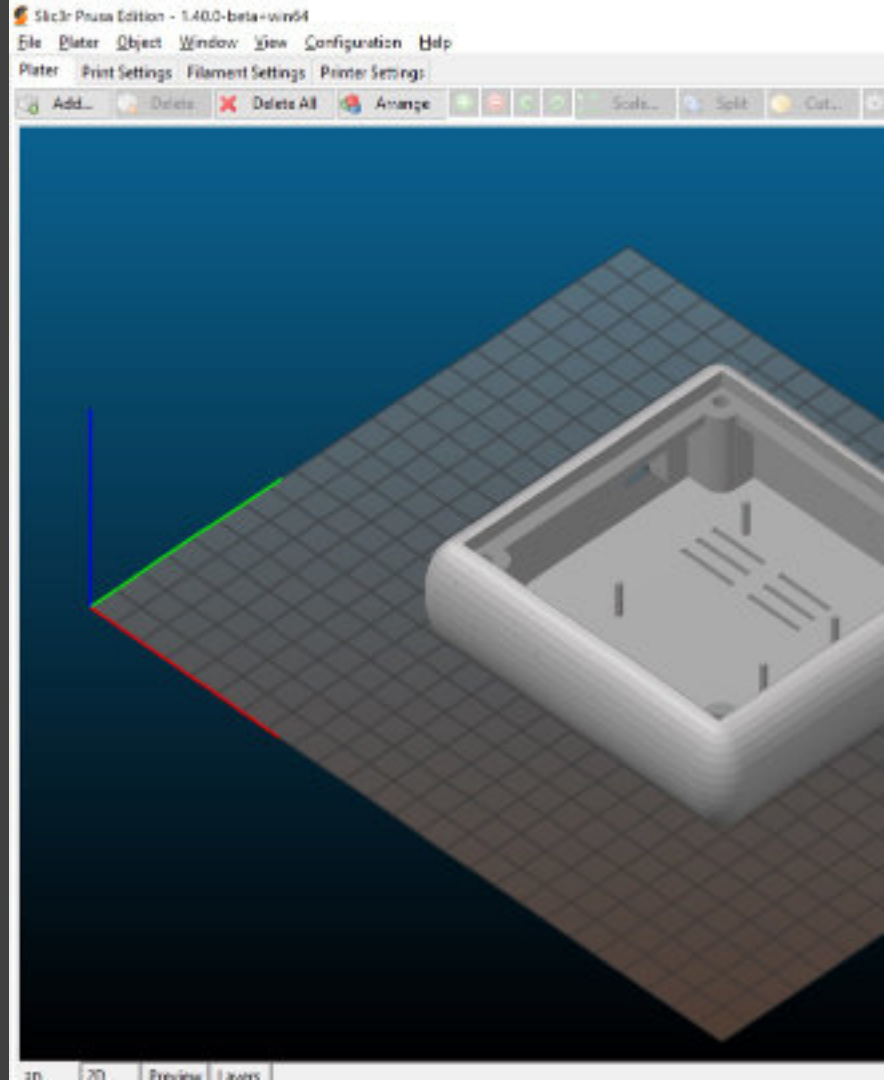


- *SLA (Epoxy)*
- *Binder Jetting (plaster)*
- *SLS (PA, Metal,...)*
- *Large-Format FFF*
- *Composites*
- *Casting*
  
- *FFF: PLA, Composites, ABS, PET, PA, HIPS, PVA, Flex*



# Hands-On

- *Install Slic3r Prusa Edition & experiment like last time*
- ***Do one or more:***
  - *Print with advanced support*
  - *Insert \* during printing*
  - *Use an exotic material*
  - *Use another printer*
  - *Print-in-place mechanism*
  - *?*



# Your Projects

- *Topics: Stefan (next week)*
- *Rest of the semester (& recess?)*
- *Lab available Fri + 1d*
- *Which day works for you?*





NEXT TIME:

- Projects!

