

2016-09-19

Makerspaces in Motion

Rogers, Adam

<http://hdl.handle.net/1880/52186>

Downloaded from PRISM Repository, University of Calgary

A Makerspace *Program*: Broadening the Impact



Adam Rogers | @adrogersam
go.ncsu.edu/make

Hi, I'm Adam

*Emerging Technology
Services Librarian*



- in Makerspaces since January 2013
- previous work in:
 - User Experience Design
 - Digital Media support
 - Outreach, Reference & Instruction

I'm Part of a Great Team



Lauren Di Monte



Jessica Handloff



Dan Hawkins



Adam Rogers



Jack Twiddy



David Woodbury

*+ about a dozen
student workers
+ many others
supporting our
work!*

Two Makerspaces

Hunt



- 3D Printing *Service*
- Advanced capabilities
- 6000+ 3D prints

D.H.Hill



- Hands-on, DIY Space
- Easy to learn tools
- 1200+ unique users

Our Core Values

ACCESS

inclusive of all on campus

&

LITERACY

technology & data, processes,
new ways of making things

Broadening the Impact

- **Learning Experiences:**
informal to formal
- **Adding New Technologies:**
what we've done, what's next
- **Making it Inclusive:** events,
outreach, partnerships

Learning Experiences

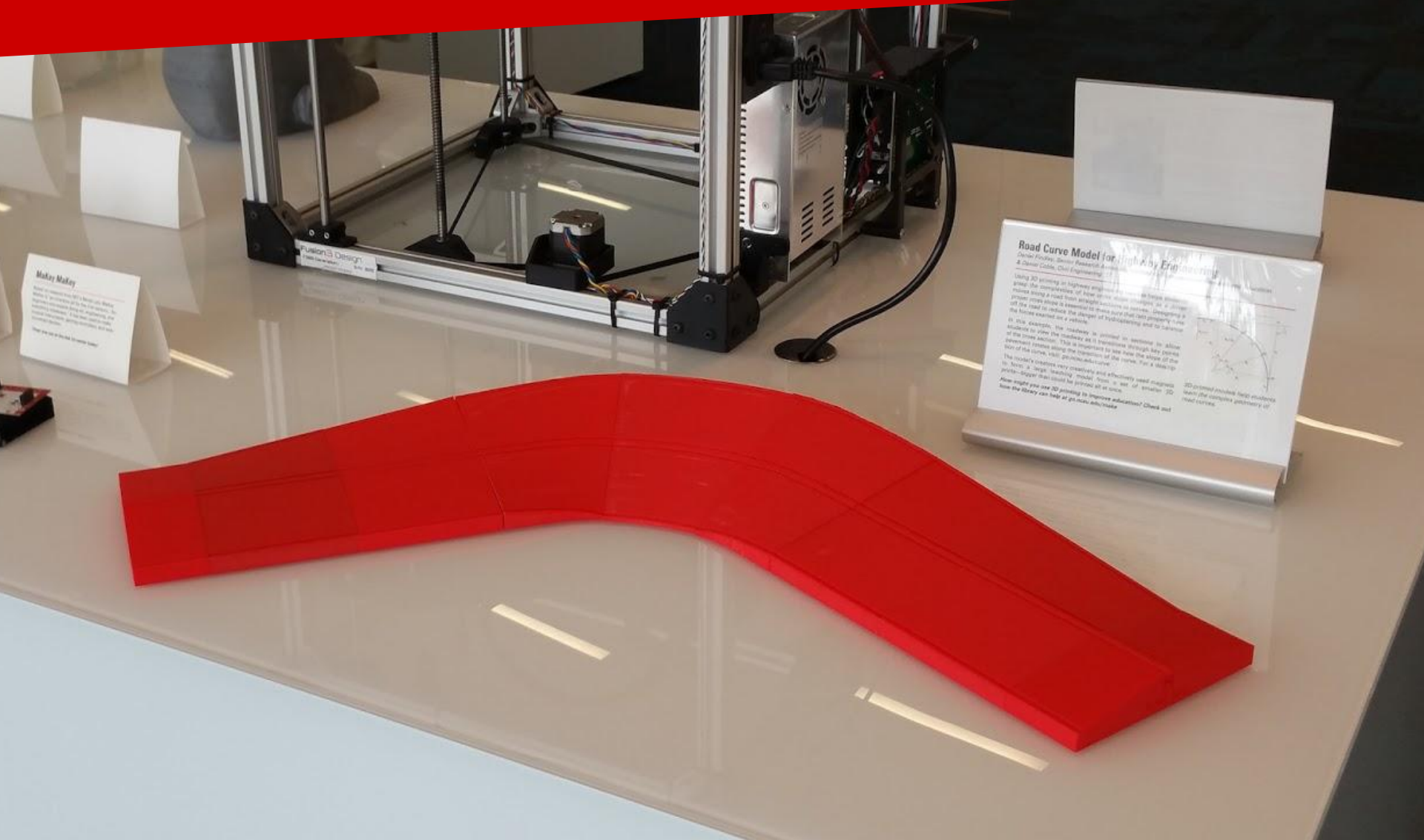
D.H. Hill Makerspace



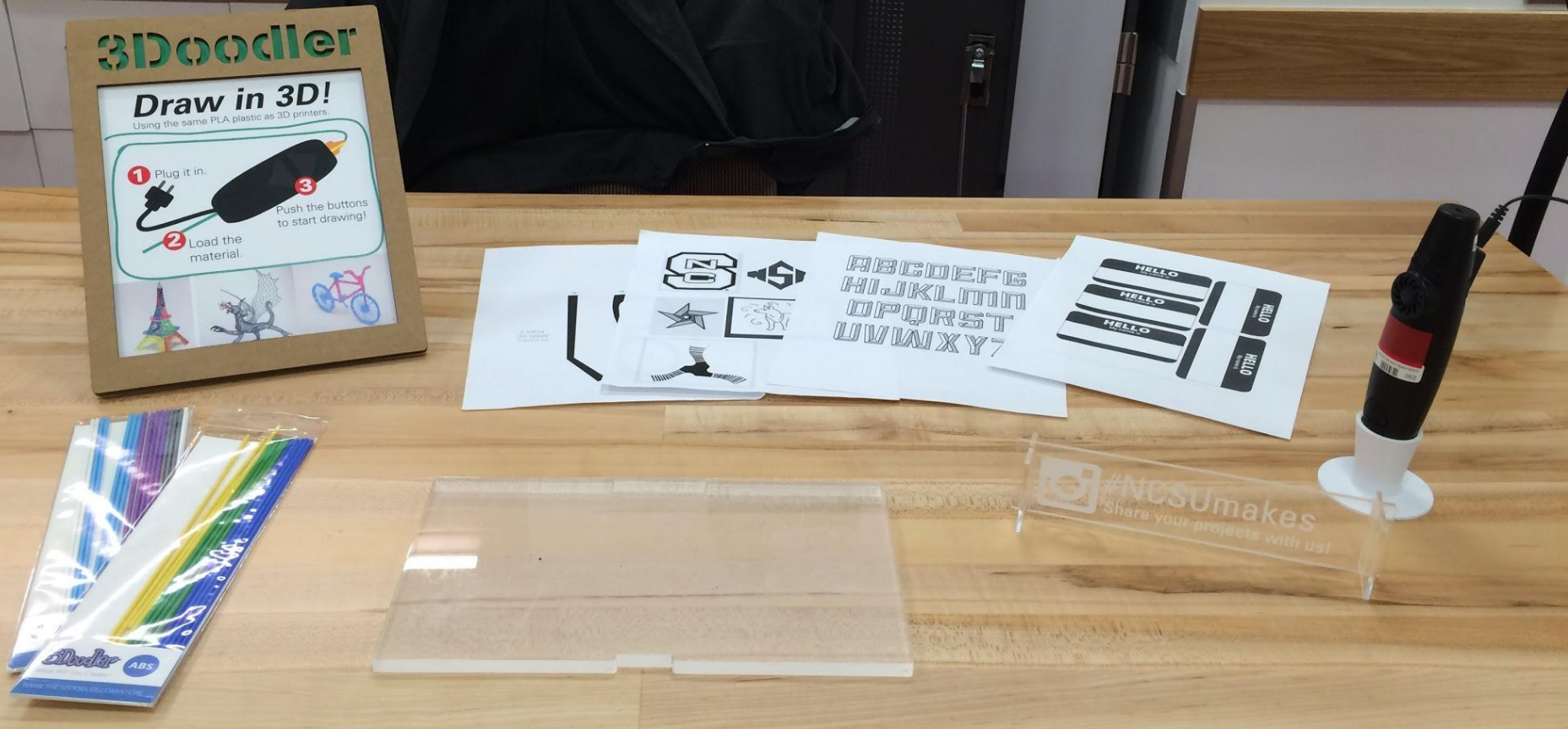
Open Door, Glass Wall



Showing Users' Work



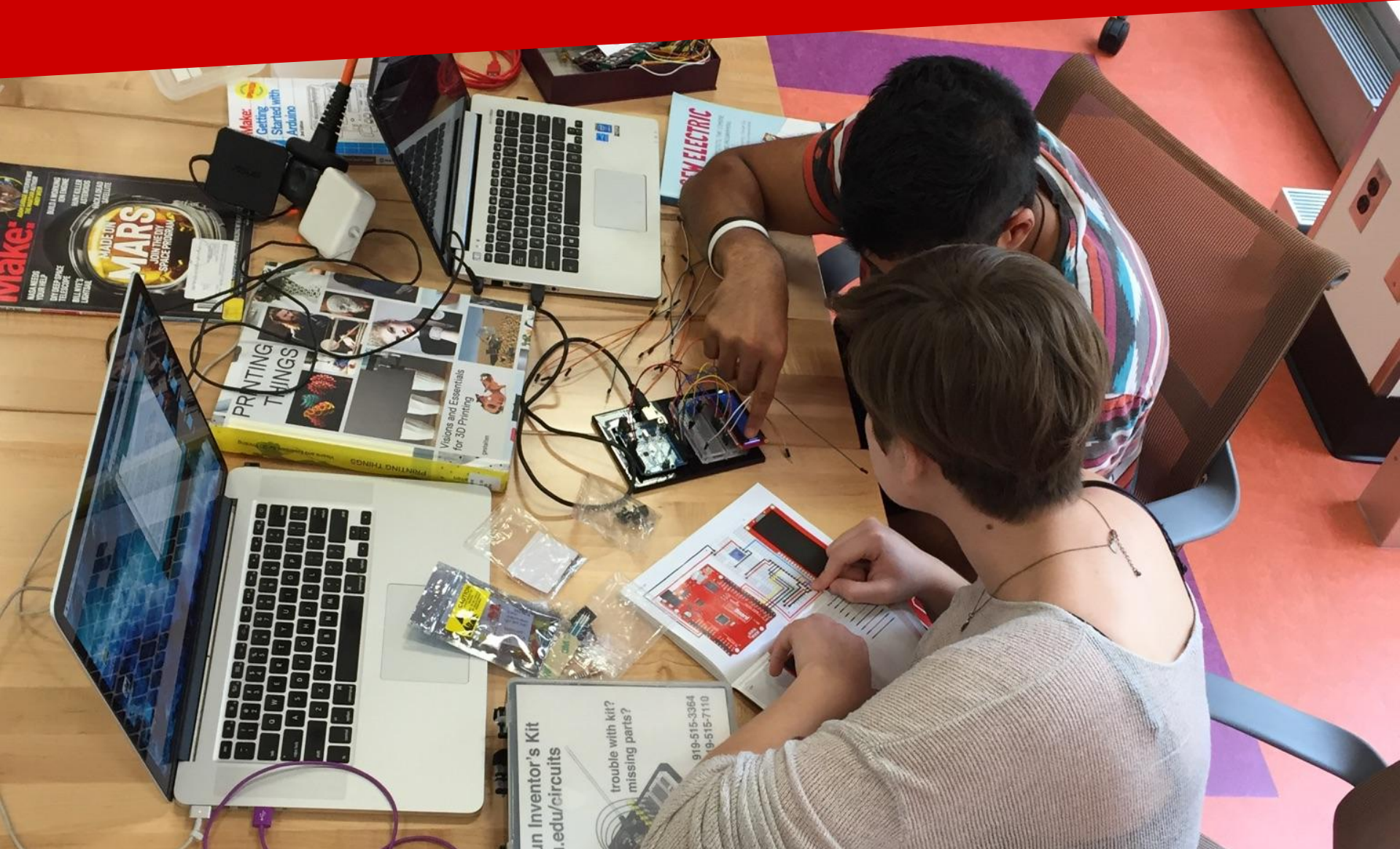
The Tinkering Table



DIY, with Support

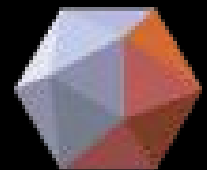


DIY, with Support



Workshops

- Coding for Wearables
- Critical Making
- 3D Design (beginner & advanced)
- Sewing & Electronic Embroidery
- Arduino; Internet of Things
- Bookmaking
- Creative Coding
- Photogrammetry & 3D Scanning
... and more!



Getting Started with 3D Printing



- 90-120mins
- conceptual overview + hands-on 3D printer use
- can be customized for classes

Workshop Series

3D DESIGN WORKSHOPS

in



AUTODESK®
FUSION 360™

NCSU LIBRARIES
SUMMER



OPEN SCIENCE



+

NC STATE

Data Science Initiative (DSI)

The Art of Making Data: Quantifying
Attitudes and Emotions

Faculty Outreach

NC STATE

TH!NK

Higher-order Skills
in **Critical** and **Creative** Thinking

NC STATE

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TH!NK WORKSHOP: Making in Your Classroom

Are you curious about how the maker movement and maker technologies might impact teaching and learning? Do you want to explore new ways of incorporating technology into your curriculum? This workshop will introduce you to a number of tools available in the D.H. Hill Library Makerspace and offer insights into how making methods can supplement and extend critical engagements with course content.

Course Support

MAKERSPACE INSTRUCTION STAFF



Lauren Di
Monte



Jessica Elam-
Handloff



Adam Rogers

RECENT COURSE COLLABORATIONS



Makerspace Instruction Support

[Instruction Services](#)

[Example Syllabi](#)

[Example Projects](#)

[Pedagogical Resources](#)

Instruction Services

We're here to assist you in bringing the tools and technologies of the emerging maker movement to your classroom. No matter the discipline, level of expertise, technical or creative focus, we offer our knowledge and experience to help you integrate hands-on learning in your courses. These offerings include:

- › Consulting on developing syllabi, course projects, and assignments
- › Facilitating class sessions in the D.H. Hill Makerspace or other library venues
- › Visiting your classroom to talk about library resources
- › Providing individual project assistance to students by appointment
- › Hosting final project presentations and galleries

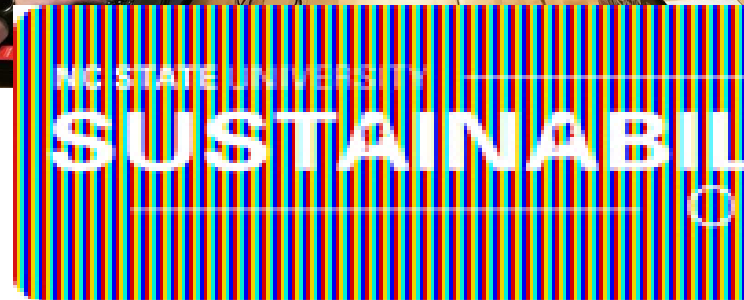
[Contact us](#) now to get started!

Example Syllabi

Across the Disciplines

- Architecture
 - Arts Studies
 - Big Data
 - Chemistry
 - Communications
 - Digital Humanities
 - Engineering
 - English
 - Fashion & Textile Design
 - Microbiology
 - Poultry Science
- ... and that's just this fall!

Deeper Experiences



25 student teams. 3 campus sustainability challenges. 1 weekend.

Adding New Technologies

2 New Areas in 2015-16



ELECTRONICS

Prototype and make electronics with easy-to-learn tools



3D PRINTING

Print physical things from digital models you design or download



3D SCANNING

Make 3D digital models of real-world objects



CUTTING & MILLING

Cut, etch, and mill with powerful digital tools



WEARABLES

Sew and create with textiles and integrated electronics



INTERNET OF THINGS

Connect physical things to the Web

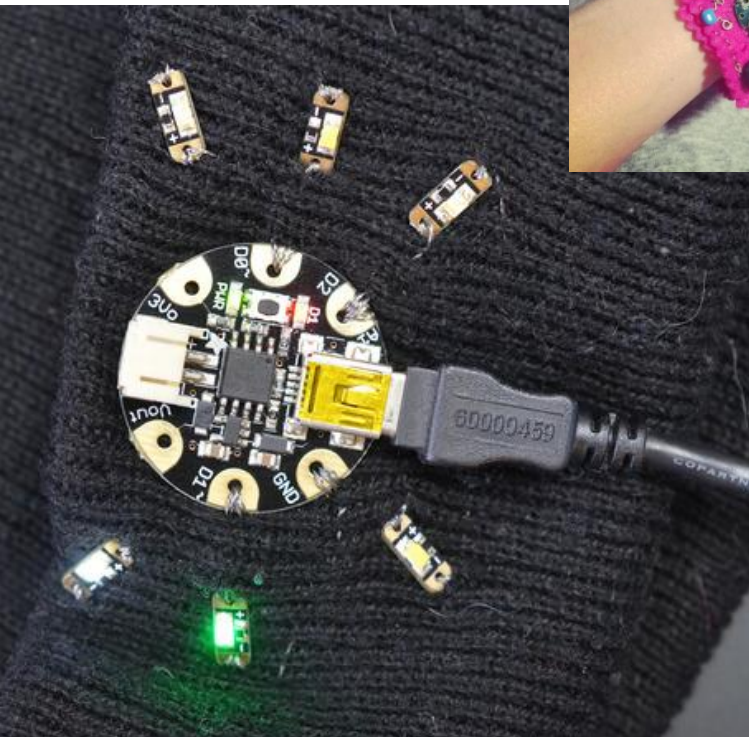
WE LOOK FOR

- opportunities for our users
- easy to learn tools
- literacies to develop

Wearable Technology



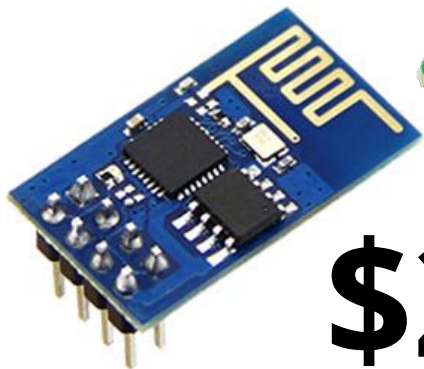
artwTM
ART2WEAR



Pulse-Sensing Dress

***PULSE dress by Jaszalyn McNeil
LED lights, pulse sensor, Arduino***

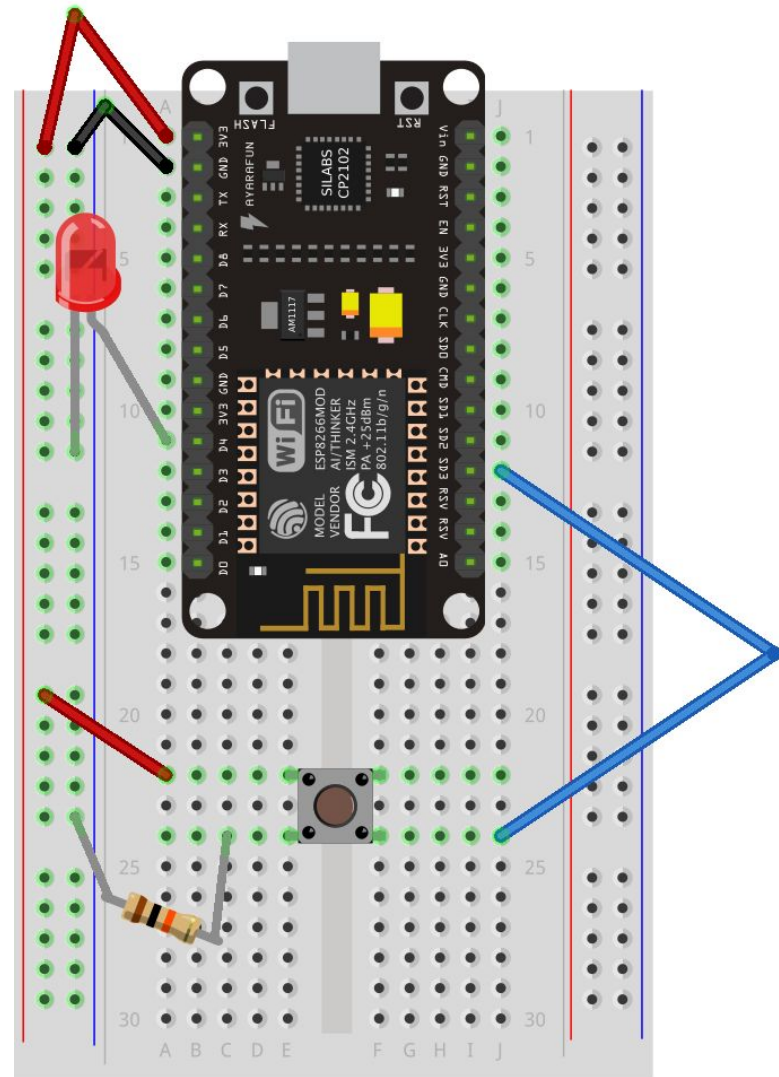
Internet of Things



\$2



\$5



IoT Card Access System



- Raspberry Pi, 3D-printed and laser-cut parts, Rails database
- Great data for space assessment
- Open Source! see github.com/NCSU-Libraries

What's Next?



Making, Made Easy.

Meet the world's first hand-held CNC machine. This compact, powerful tool is as intuitive as it is innovative, letting you plug in and immediately create with precision, control, and confidence.



470

backers

\$833,155

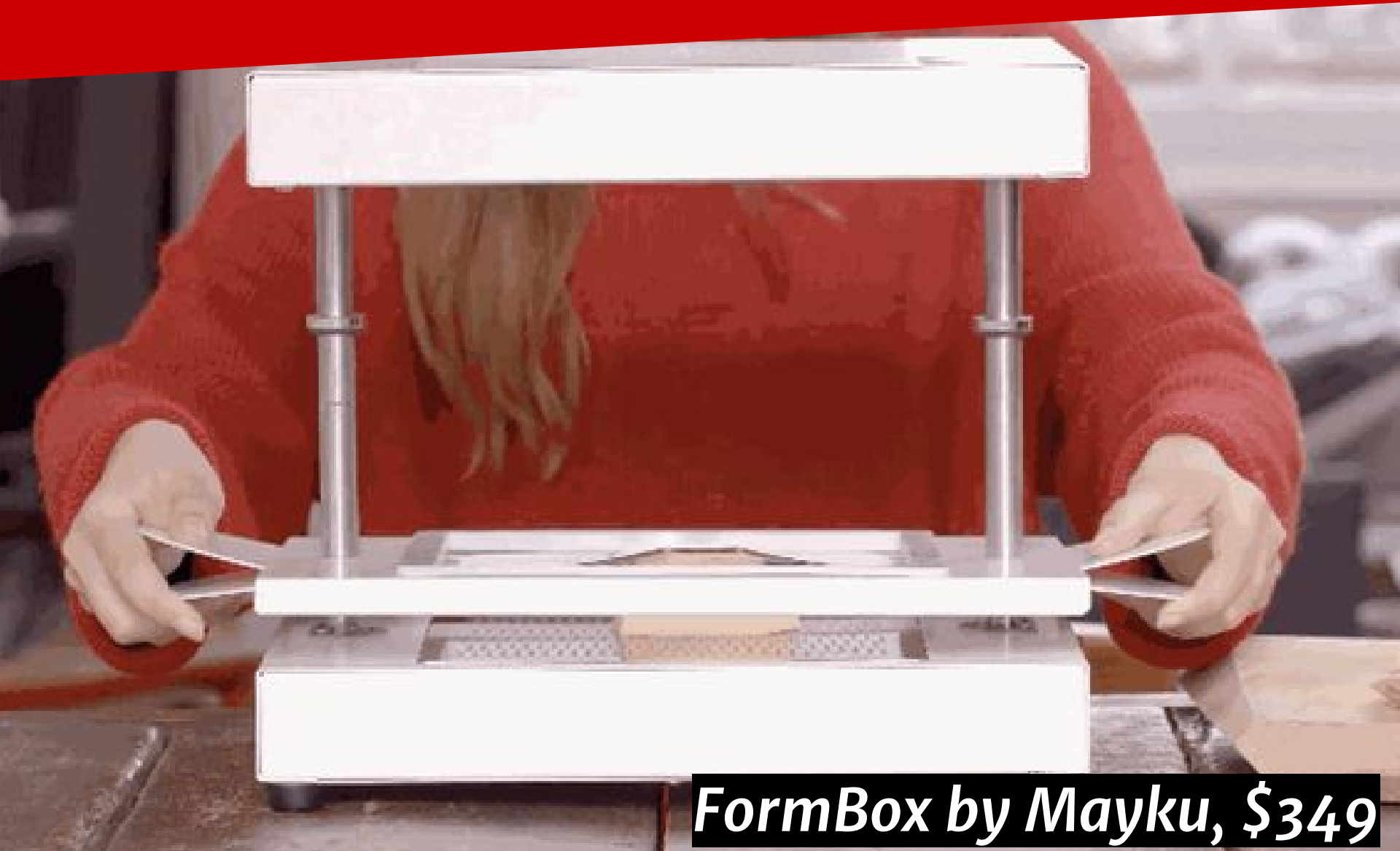
pledged of \$100,000 goal

56

days to go

[Back This Project](#)

Vacuum Former



FormBox by Mayku, \$349

Waterjet Cutter



steel *timelapse*



Penn
Engineering

WAZER, \$5999

Making It Inclusive

WISE Workshops



Making Space series



Celia Hodent
Epic Games



Brittany Johnson
NC State



Deren Guler
Teknikio



Alex Cattron
Code2040



Lauren Spohrer & Phoebe Judge
Criminal Podcast

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EQUITY AND DIVERSITY**

 **NCSU LIBRARIES**

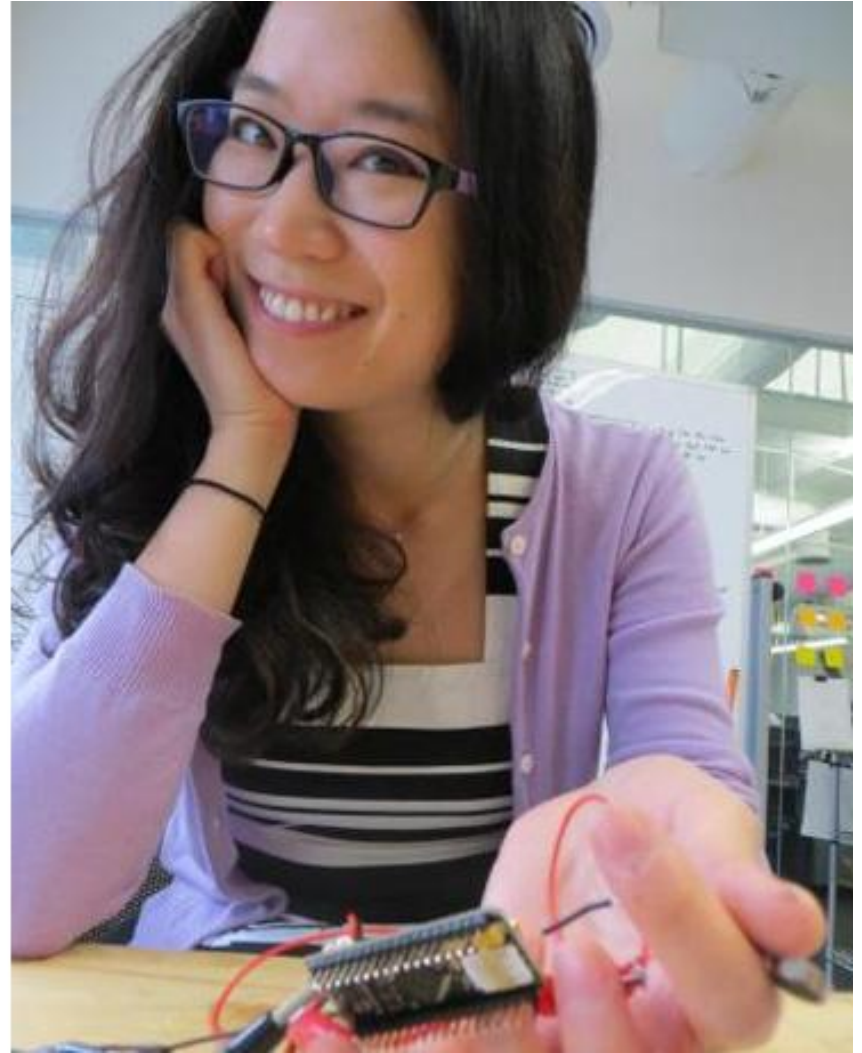
Making Space (tonight!)

MAKING SPACE SERIES

BUZZFEED'S
CHRISTINE SUNU

Monday, September 19
4:00 p.m. – 5:00 p.m.

D. H. Hill Library
Auditorium



Outreach & Partnerships



Communication, Rhetoric and Digital Media
OFFICE FOR **INSTITUTIONAL EQUITY AND DIVERSITY**

NC STATE Office of Faculty Development



Questions?
Thanks!

Slides: go.ncsu.edu/RogersDLV
More info: go.ncsu.edu/make
Contact me: asroger2@ncsu.edu