



# Introduction to Academic Makerspaces



**Daniel J. Brateris**

Director of Experiential Learning at NJIT

[brateris@njit.edu](mailto:brateris@njit.edu)

Updated February 27<sup>th</sup>, 2021

**Originally presented**

Association of Public Land-Grant Universities

November 13<sup>th</sup>, 2018



# What is a Makerspace and how does it benefit STEM education and research?

# What is the NJIT Makerspace?

*The NJIT Makerspace is a staff and community operated workspace where students, faculty, and staff with common interests in engineering, technology, computing, science, machining, and digital or electronic art, can meet, socialize, collaborate, design, build, prototype, and test.*

# What do we do in the Makerspace?



NJIT Makerspace FED-101

# What is in a Makerspace?

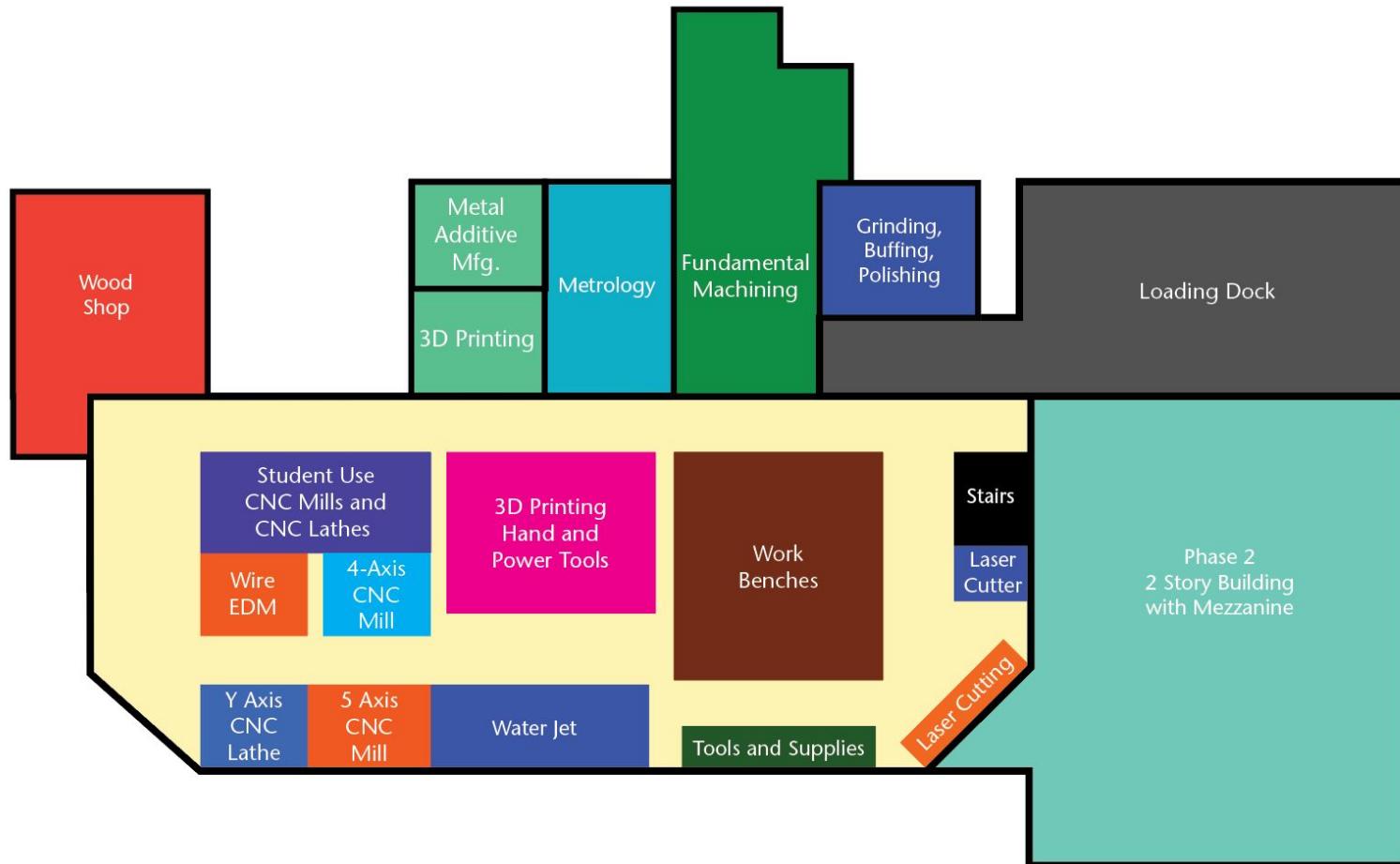
Design & Meeting

Instruction

Collaboration

Fabrication

# The NJIT Makerspace



# The NJIT Makerspace

- **Phase 1 (Open Since 2018)**
  - 10,000 sq. ft. of mixed maker and industrial spaces
  - A blend of:
    - Hand Tools, Electronics 3D Printing, Laser Cutting, Manual and CNC Metalwork, Water Jet, Routing, Metrology, and Storage
- **Phase 2 Expansion (Opening April 2021)**
  - 2 stories and a mezzanine
    - 4,000 sq. ft. per floor (2,000 sq. ft mezzanine)
    - A lighter duty space for learning, collaboration, study, socializing, and designing.

# Makerspace Overview - Main Wing







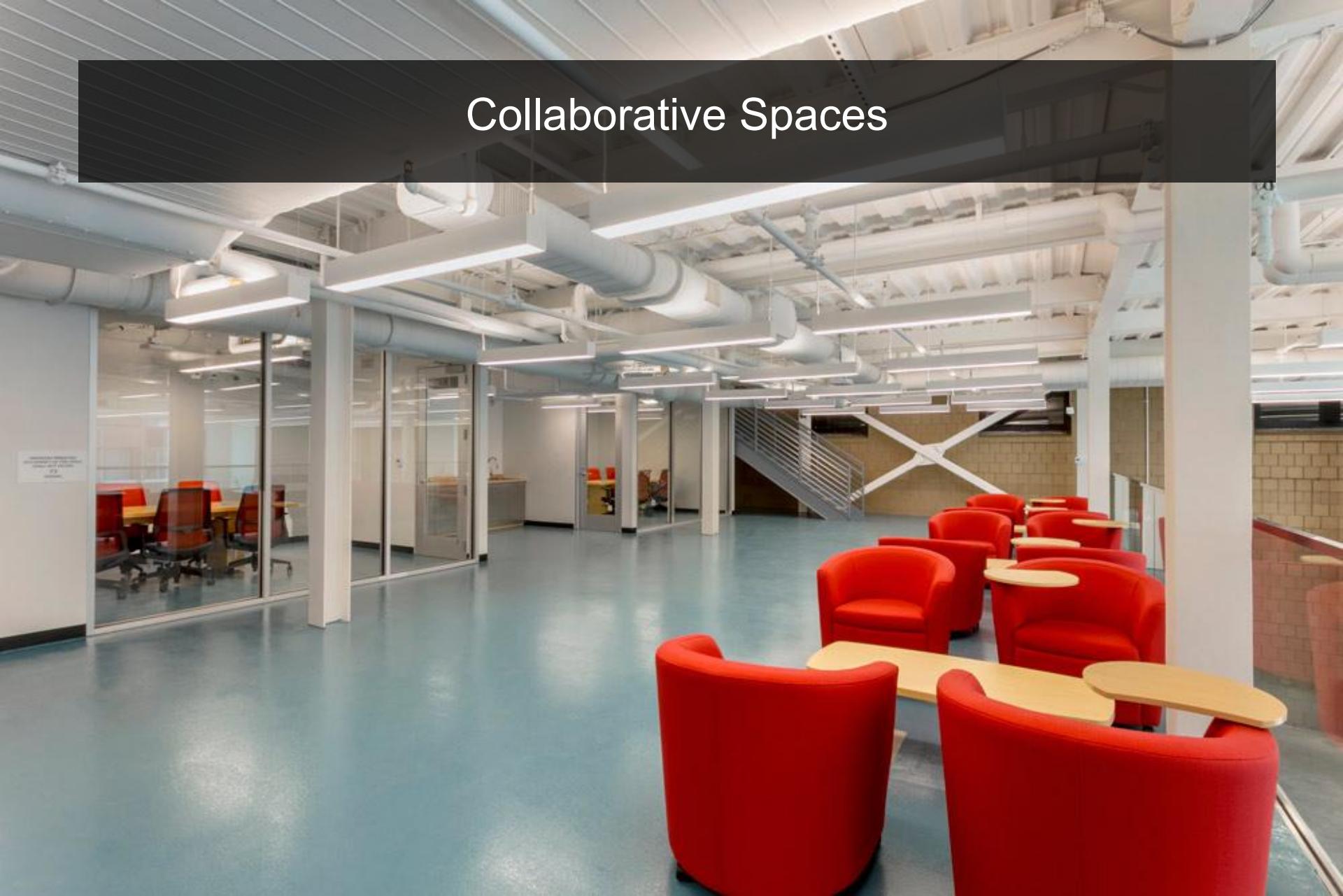
# Collaborative Spaces



# Collaborative Spaces



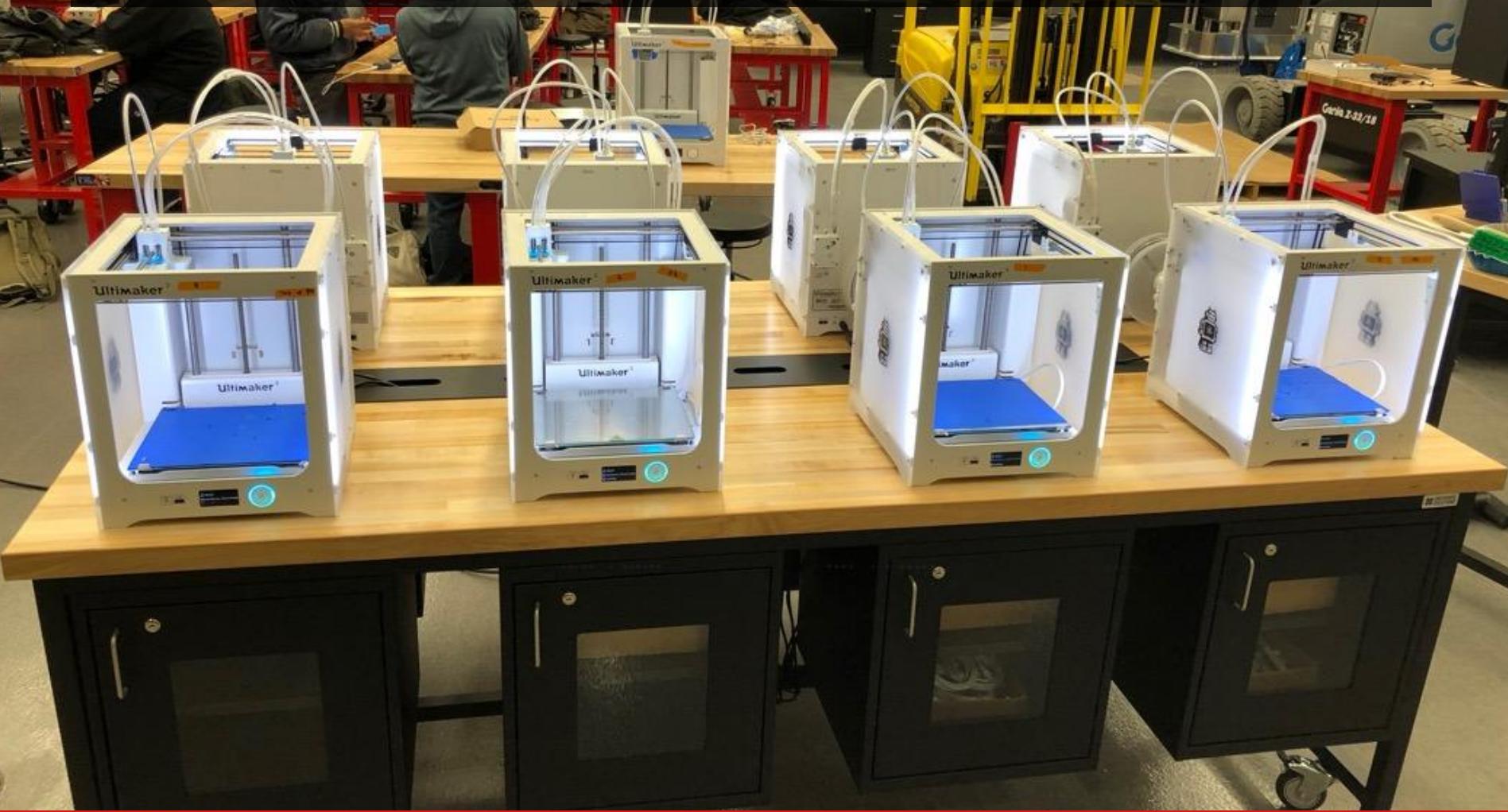
# Collaborative Spaces



# Instructional Spaces



# 3D Printers





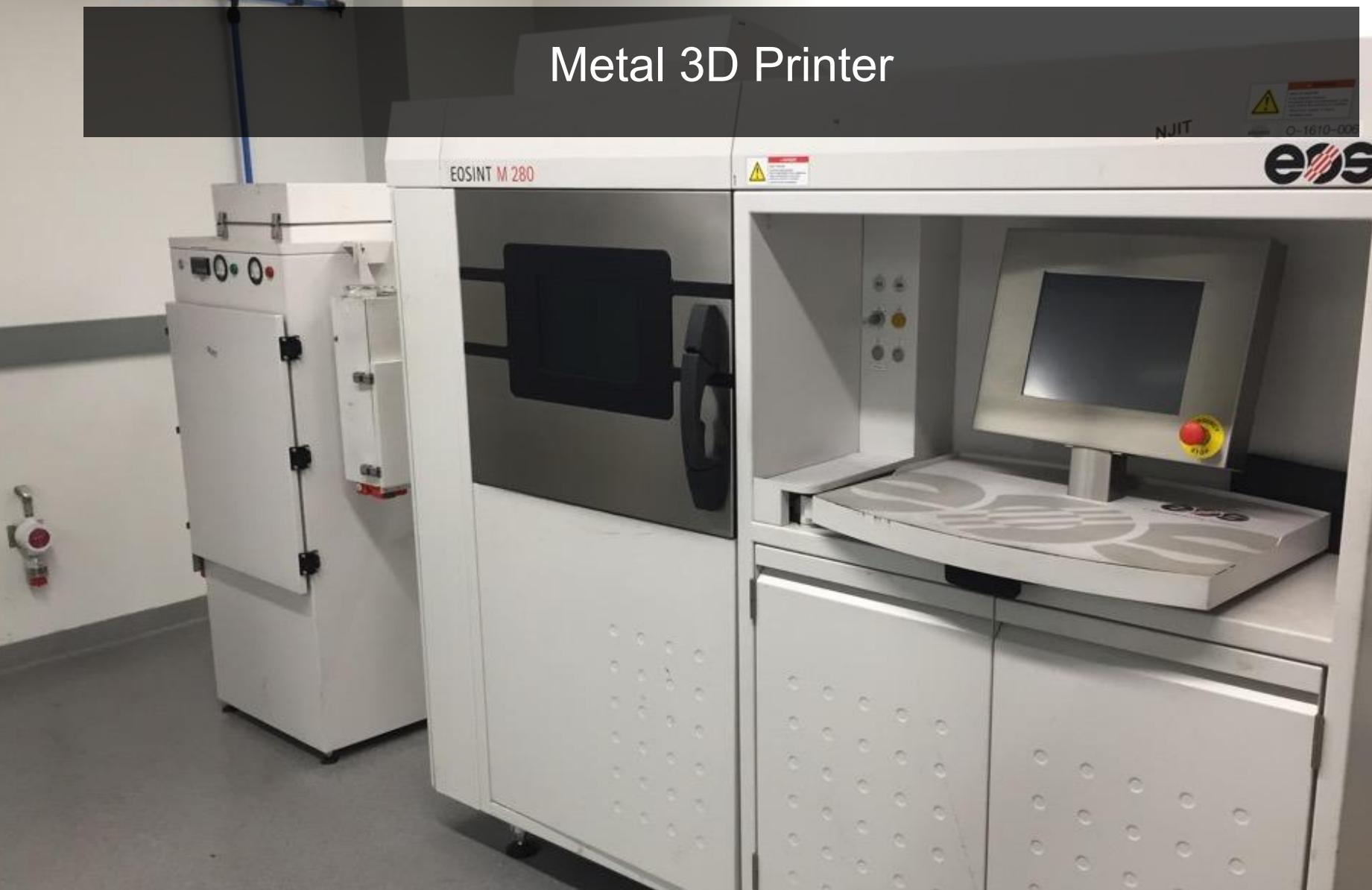
# Mills and Lathes



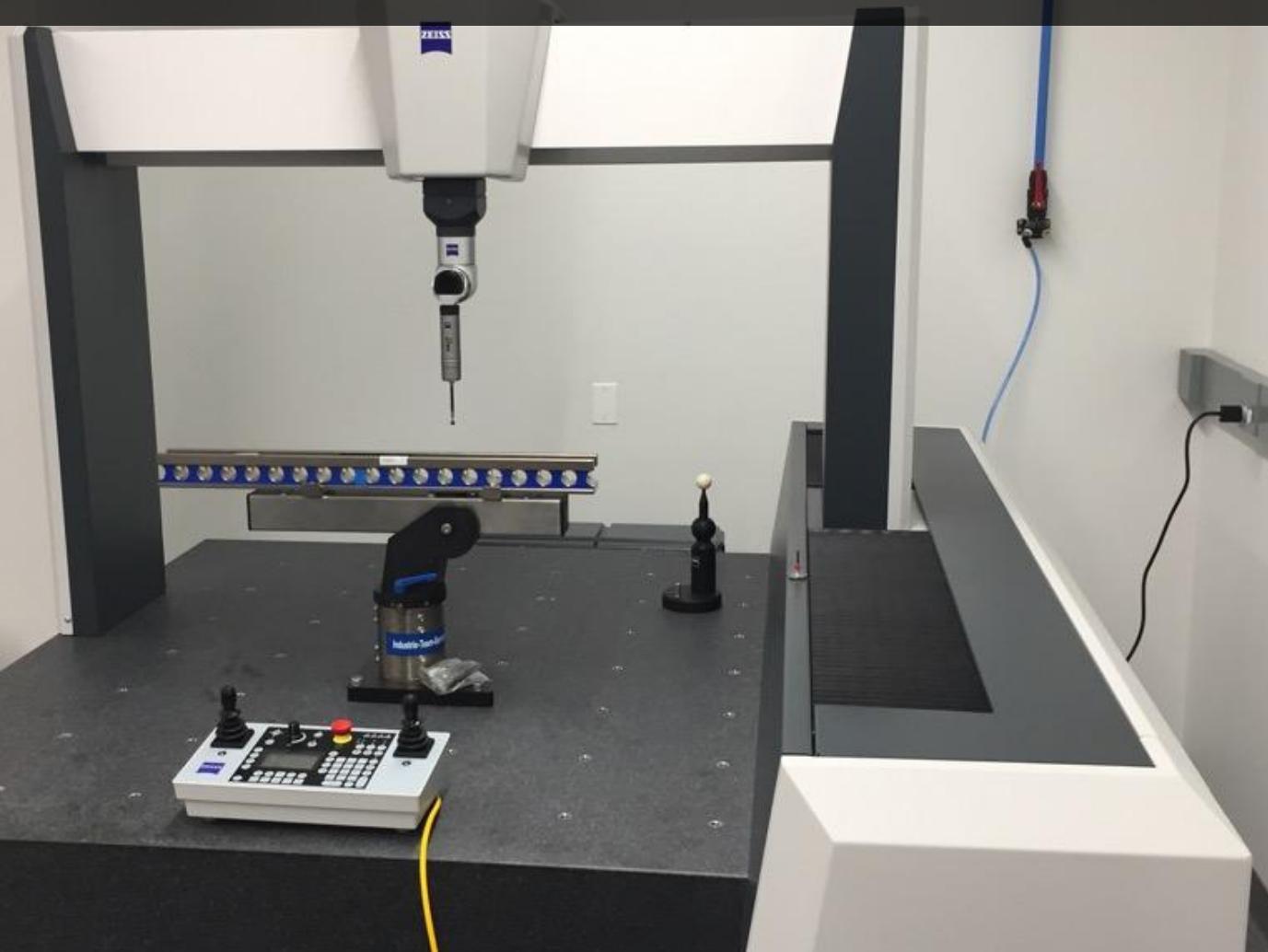
# Water Jet



# Metal 3D Printer

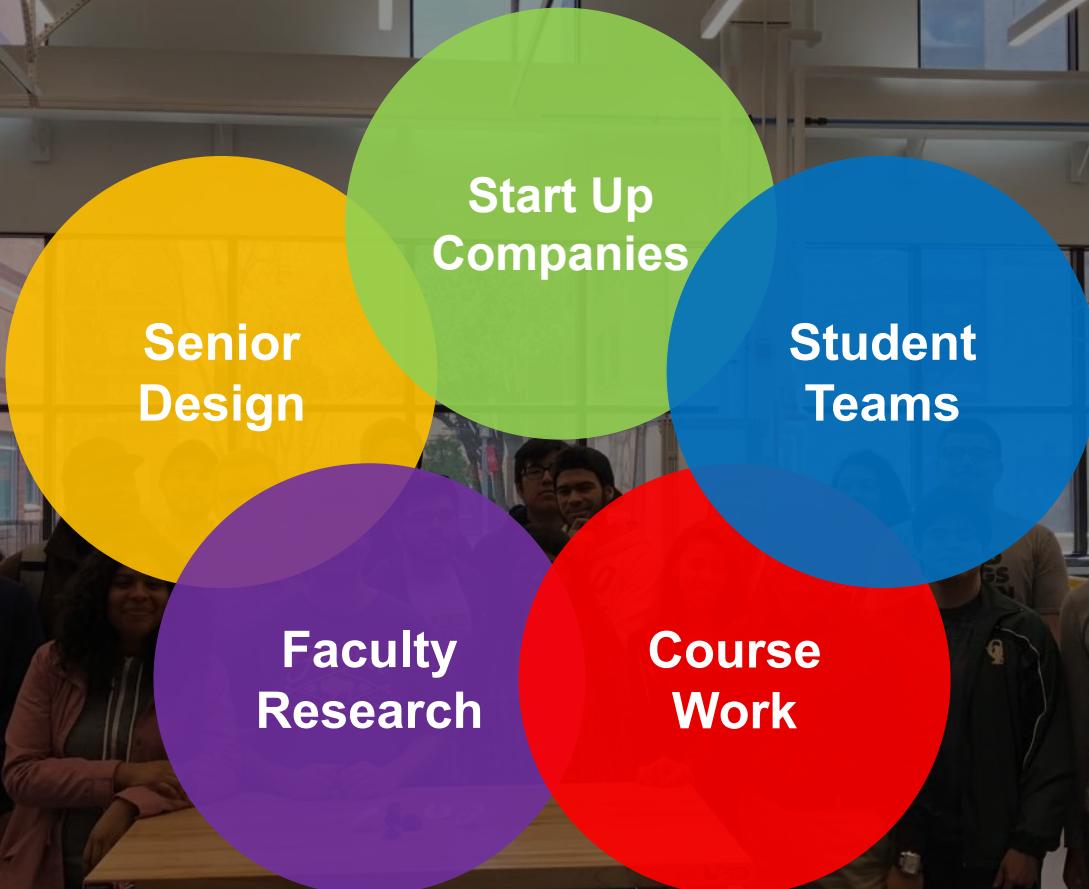


# Zeiss Contura CMM



What are some ways  
the Makerspace has  
been used?

# Makerspace Users



NJIT Makerspace FED-101

## Student Group: SAE Baja



# Course: FED 101



# Half-day Middle School Workshops



## Half-day High School Workshops



# Course: FED 101



# COVID-19 Response

# Questions and Comments

