



# **A Virtual Tour of Wabash.**





**Wabash.**





**Detchon Center**





**Detchon Center**



# Relationship of Nicotine Use and Cessation to Impulsivity and Foraging

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## Overview

### Decision-Making Processes

**Impulsivity** is the process by which an individual is motivated by a more immediate reward or delay gratification and waits for a later reward.

**Foraging** is the process by which an individual either continues a behavior to acquire a different reward than it has characterized fully in the human domain, but in animal models we have evidence for its role in decision making.

In mice, long-term abstinence from nicotine and heroin produce noticeable effects on decision-making.

*Do humans who struggle to quit nicotine show similar effects?*

## Procedure

- This study primarily focuses on individuals who smoke cigarettes or e-cigarettes.
- Participants were recruited through Amazon's Turk.
- Nicotine use was assessed at baseline and again six months after the study.
- Nicotine use:  $n = 100$ .
- Cigarette users:  $n = 67$  (4 quit), E-cigarette users:  $n = 33$  (9 quit, 24 did not).

### Impulsivity measures:

- Monetary Choice Questionnaire (MCQ) survey measures impulsivity.
- Participants completed MCQ survey at baseline and 6 months.
- MCQ survey results at baseline and 6 months were compared.

## Movie Row Task

Participants were presented with a choice between two movie trailers.

Participants were asked to choose between two movie trailers.

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## Initial nicotine status:

- Discounting rates ( $\log_e k$ ): decreased as reward size increased (main effect of magnitude):  $F(2,400) = 235.63, p < 0.001$

- Cigarette smokers had the highest discounting rate, followed by e-cigarette users and then non-users (main effect of nicotine use):  $F(2,540) = 0.38, p = 0.67$

## Initial nicotine status: Foraging

- Percentage of rewards accepted decreased along with post-test rankings of the rewards, as expected (main effect of rank):  $F(2,510) = 83, p < 0.001$

- Nicotine use was not a significant predictor of foraging behavior.

## Conclusions

- Nicotine use (cigarettes and e-cigarettes) was associated with higher impulsiveness.
- Less willing to wait for rewards.

Foraging measures were not sensitive to nicotine use.

- Foraging may be better suited as a more natural process to understand "real-world" human decisions because of absence of forced choice options.
- Which often do not represent many everyday decisions we are faced with.

- Nicotine cessation at six-months was not associated with baseline impulsivity or foraging behavior.
- Weak trends for higher impulsivity in those who do quit.

Findings from the foraging task may have implications for understanding of "real-world" decisions.

## Directions

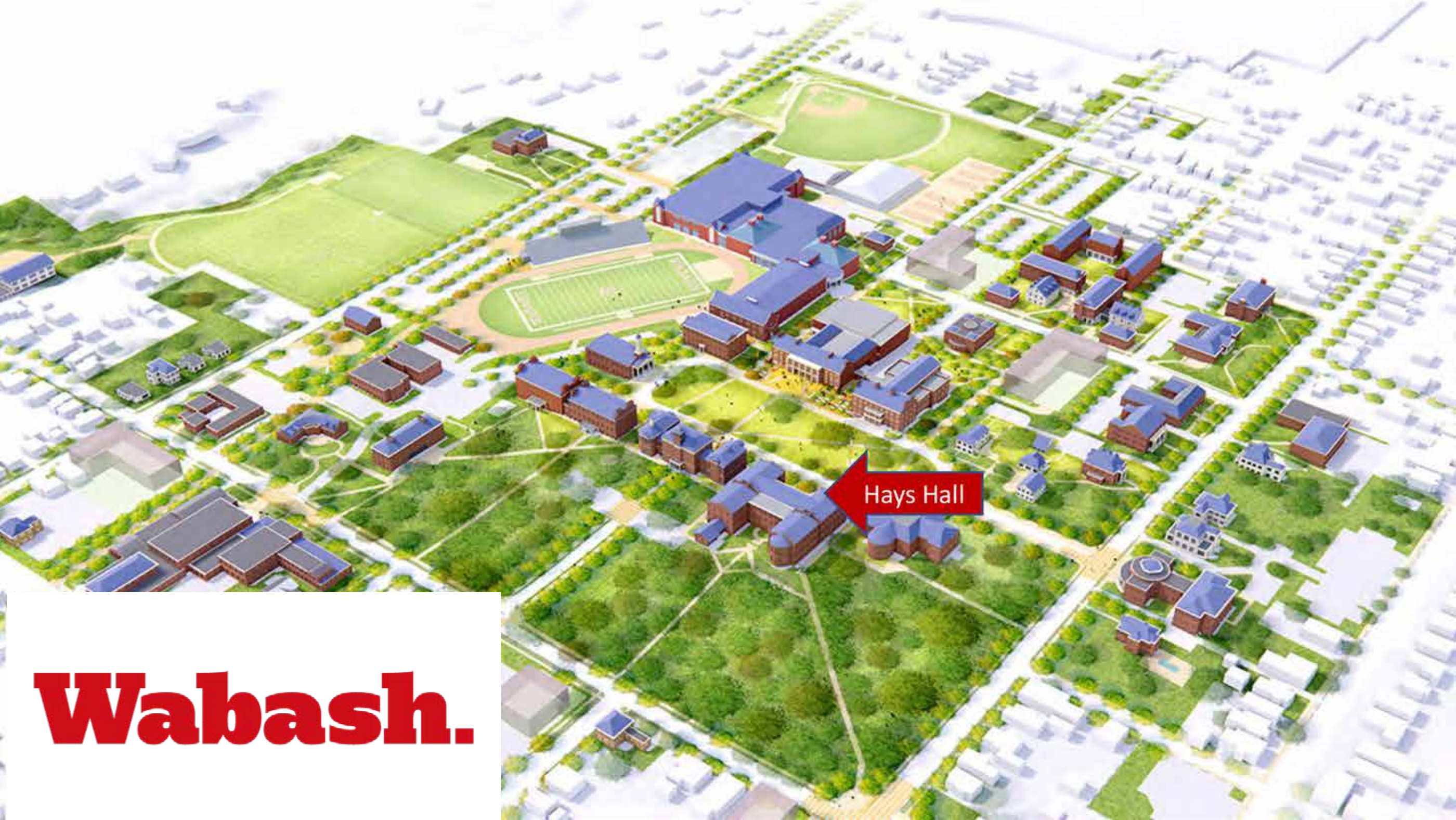
- Future research to assess the validity of the foraging task.
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## References

- Lawson, J., Wang, Y., Wilson, K., & Schmitzer-Torbert, N. (2023). Relationship of Nicotine Use and Cessation to Impulsivity and Foraging. *Psychology Department, Wabash College*.

**Celebration of Student Research**





Hays Hall

**Wabash.**





**Hays Hall**





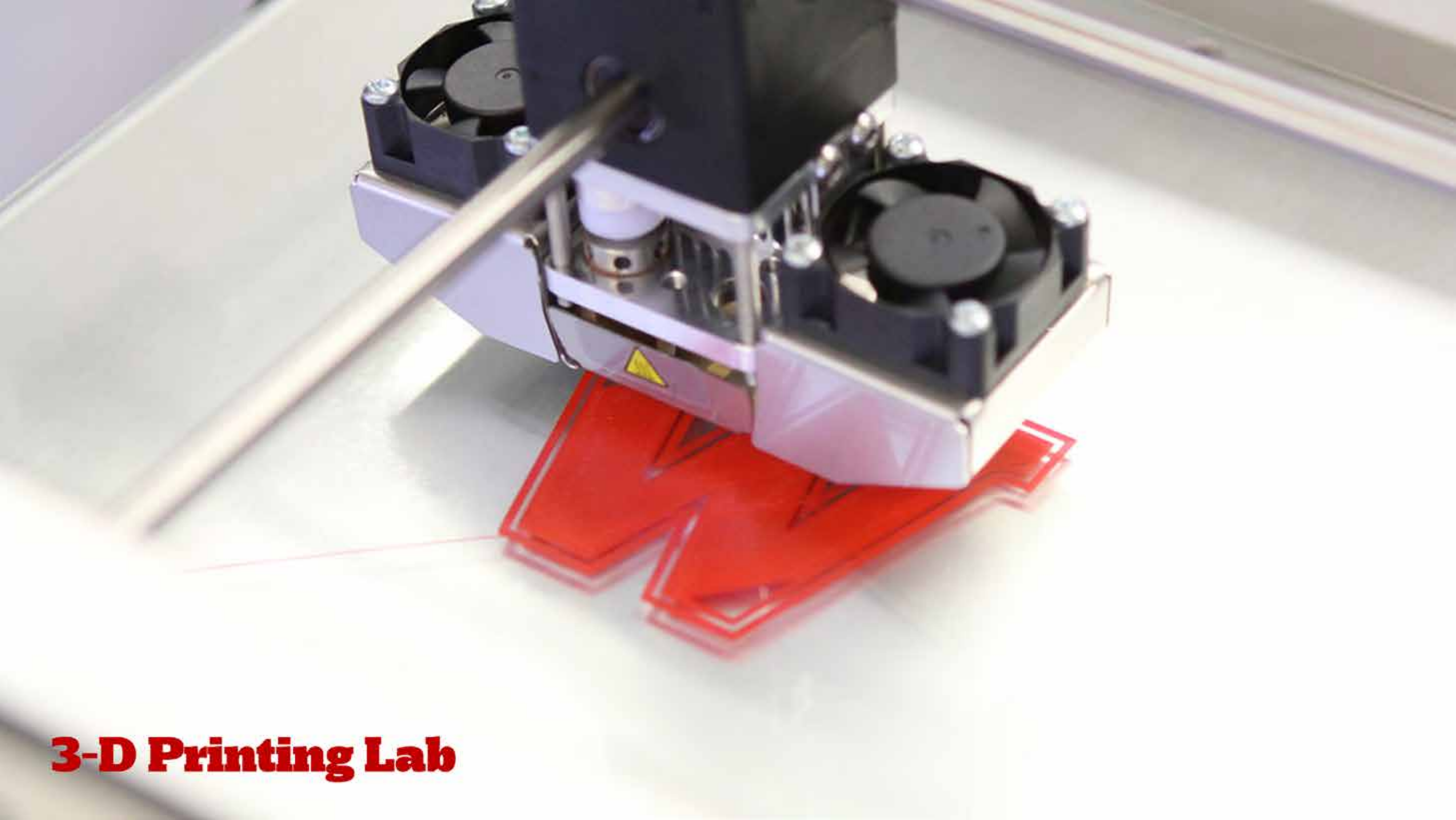
**Chemistry Lab**





**Biochemistry Lab**





**3-D Printing Lab**









Center Hall

**Wabash.**





**Center Hall and Old Entrance**





**Center Hall and Milligan Clock**





**Center 216**





Baxter Hall

**Wabash.**





**Baxter Hall**





**Baxter 101**





Fine Arts Center

**Wabash.**





**Fine Arts Center**





**Ball Theater**





**Chamber Orchestra in Salter Concert Hall**





**Glee Club in Salter Concert Hall**





**Digital Filmmaking Studio**





**Moot Court in Salter Hall**





**Wabash.**





**The Mall**





**Pioneer Chapel**





**Special Events in the Chapel**





**Chapel Talk**





**Ring-In Ceremony in the Chapel**





**Commencement at Little Giant Stadium**





Goodrich Hall

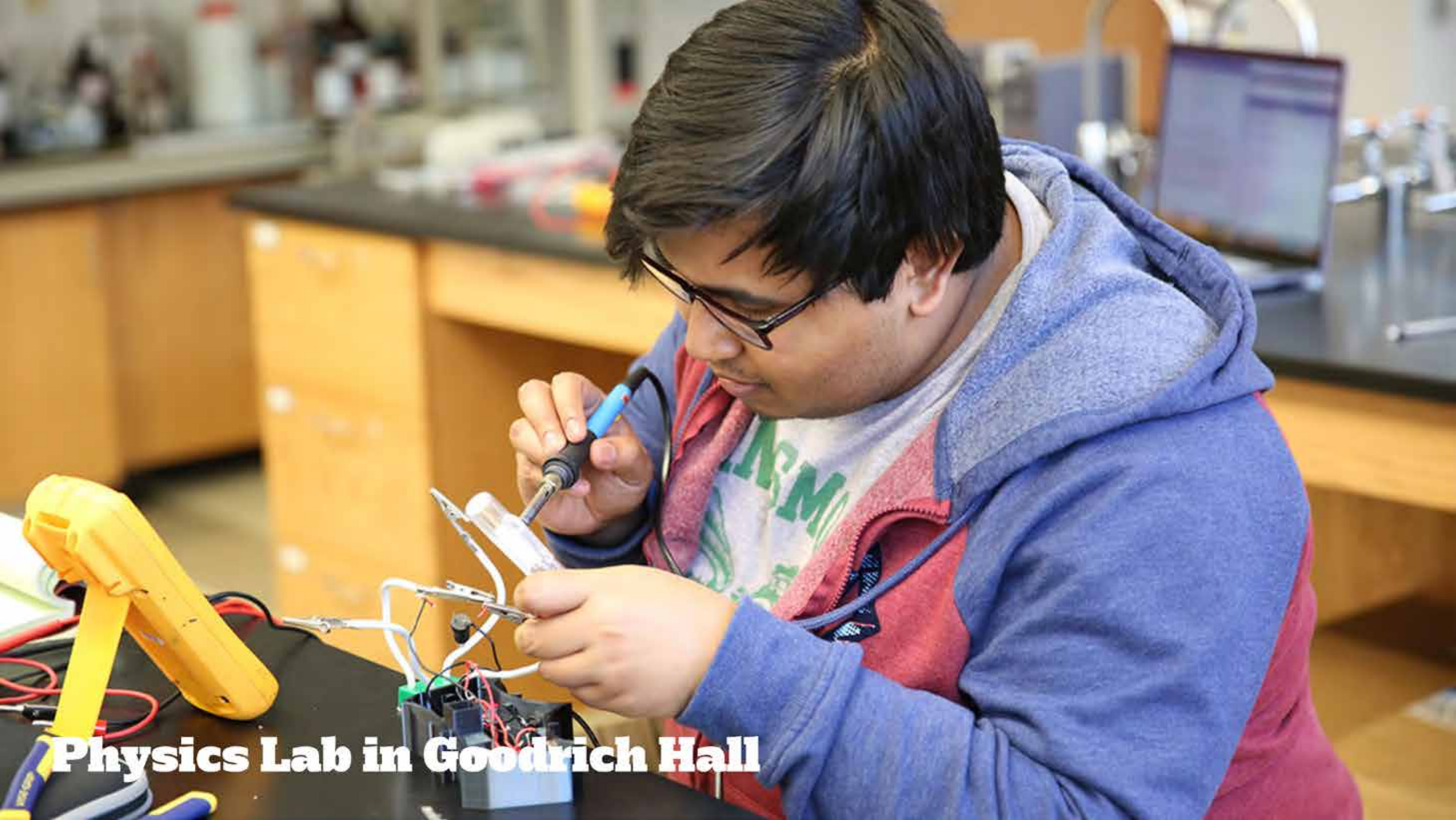
**Wabash.**





**Goodrich Hall**





**Physics Lab in Goodrich Hall**





**Wabash.**





**Allen Athletics and Recreation Center**





**“Chadwick Crazies” in Chadwick Court**





**Class of 1952 Fitness Center**





**Weight Room**





**Class of 1950 Natatorium**





**Johnson Track in Knowling Fieldhouse**





**Little Giant Stadium and Huntsman Track**





**Fans at Little Giant Stadium**





University

WABASH  
College

WABASH TENNIS  
University

WABASH  
TENNIS

adidas

**Collett Tennis Center**





**Wabash Soccer at Fischer Field**





**Fans at Fischer Field**





**Lacrosse on Fischer Field**





**Goodrich Ballpark**





**Shelbourne Wrestling Center**





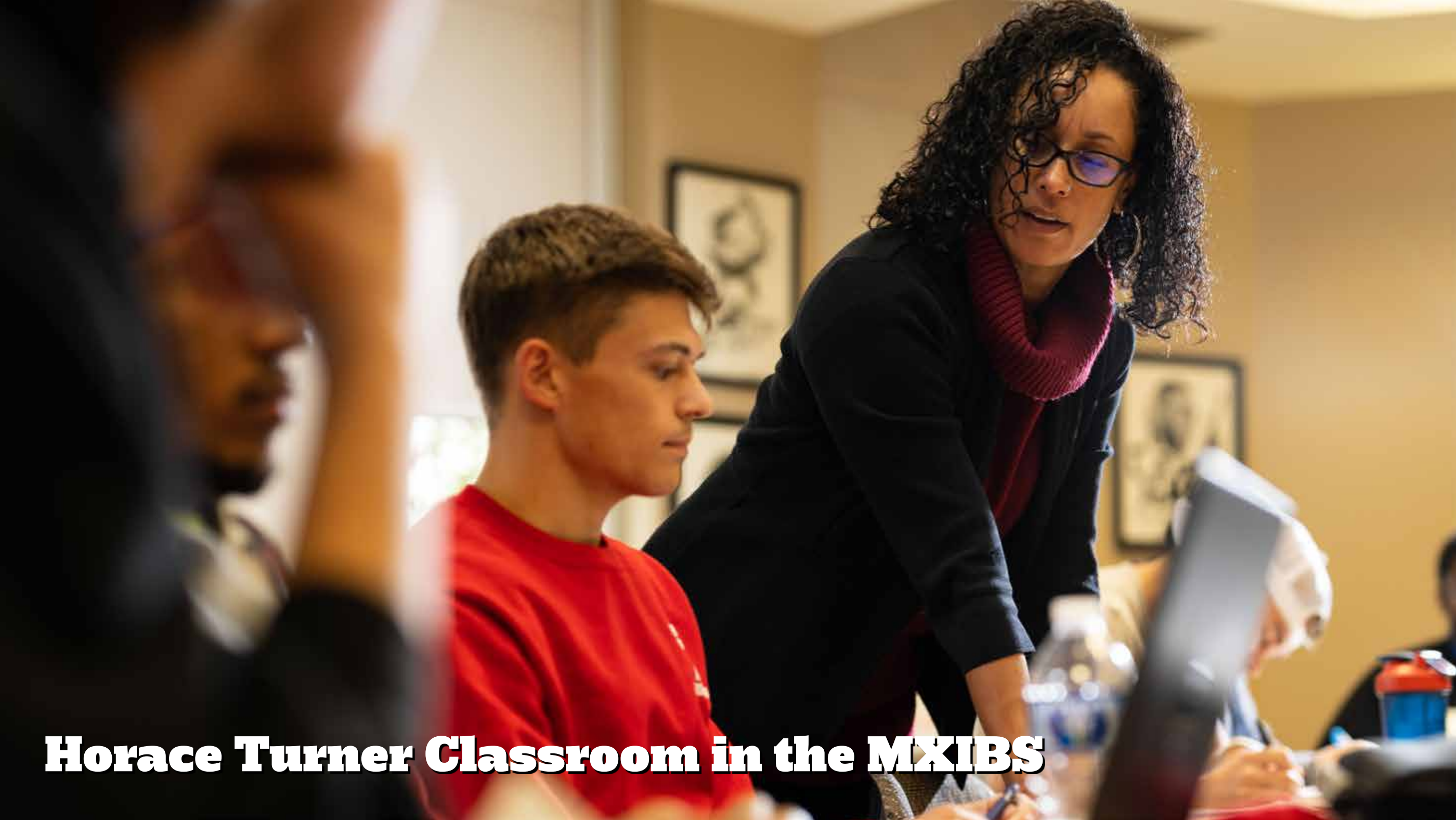
**Wabash.**





**Malcolm X Institute of Black Studies**





**Horace Turner Classroom in the MXIBS**





**Nathaniel Mary Quinn '00**





Sparks Center

**Wabash.**





**Frank Hugh Sparks Center**





**The Great Hall in the Sparks Center**





**Sparks Center**





**Wabash.**





**Lilly Library**





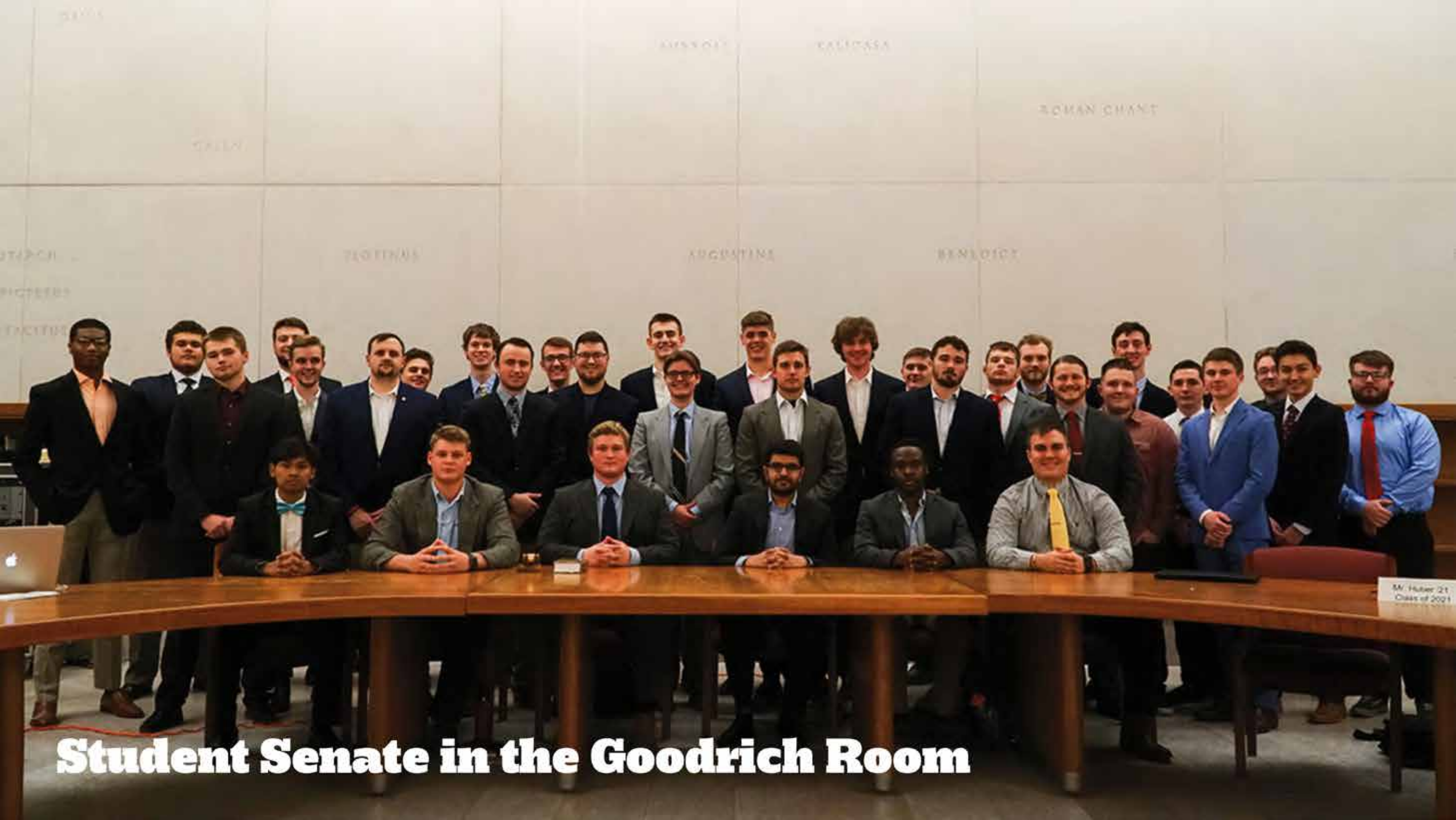
**Rare Books Seminar Room**





**Robotics Class in Lilly Library**





**Student Senate in the Goodrich Room**





**Academic Support**





Historic Corner

**Wabash.**





**Forest Hall**





Trippet Hall

**Wabash.**





**Byron K. Trippet Hall**



**Wabash.**