

Jacob Colwell

Department of Mechanical and Aerospace Engineering 9700 South Cass Avenue, Bldg. 370
The Ohio State University Lemont, IL 60439

Applied Materials Division 419-604-2086 mobile
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Research Interests

Control Systems, Additive Manufacturing, Robotics, Autonomous Manufacturing, Slot-Die Coating, Bayesian Optimization, Machine Learning, Learning-Based Controls

Education

PhD The Ohio State University, Mechanical Engineering Expected **May 2029**
Advisor: Dr. David Hoelzle, Associate Professor of Mechanical Engineering
Sponsor: Dr. Yuepeng Zhang, Group Leader, Argonne National Laboratory

BSME Ohio Northern University, Mechanical Engineering **May 2023**
Capstone title: "Nintendo LABO Redesign for Physical Therapy"
Capstone Advisor: Dr. Larry Funke, Associate Professor of Mechanical Engineering

Research / Industrial Experience

Visiting Student - Graduate **2024-Present**
Applied Materials Division, Argonne National Laboratory

Graduate Research Assistant **2023-Present**
Hoelzle Research Lab, The Ohio State University

Undergraduate Research Assistant **2022-2023**
Ohio Northern Biomechanics, Ohio Northern University

Operations, Research, and Development Intern **Summer 2022**
Bob Evans Farms, Lima and New Albany OH

Presentations

Conference Presentation, "Using Trilinear Coordinate Measurements to Inform Prior Models for Minimally-Invasive Material Extrusion Path Planning," Solid Freeform Fabrication Symposium (SFF), August 2024

Poster Presentation, "Nintendo LABO for Serious Gaming," Summer Biomechanics Bioengineering and Biotransport Conference (SB³C), June 2023

Poster Presentation, "Nintendo LABO for Serious Gaming," Ohio Northern Student Research Colloquium, April 2023



Poster Presentation, "Evaluating the use of Nintendo LABO as a rehabilitation tool," Ohio Northern Student Research Colloquium, April 2022.

Honors and Awards

Senior Class Honor Award , Ohio Northern University	2023
Continuous Achievement Award , Ohio Northern University	2022
Sherwood and Janet Roberts Blue Memorial Scholarship , Theta Chi Fraternity	2022
Presidential Scholarship , Ohio Northern University	2019

Teaching Experience

Department of Mechanical and Aerospace Engineering, The Ohio State University
Content Writer, ME6193 Learning-Based Controls Fall 2025
Graduate Teaching Assistant, ME3751 Kinematics and Design of Machines Spring 2024
Graduate Teaching Assistant, ME3670 Machine Elements I Spring 2024

Department of Mechanical Engineering, Ohio Northern University
Undergraduate Teaching Assistant, ME2511 Computer Applications Fall, Spring 2022
Undergraduate Teaching Assistant, ME3221 Dynamic Systems II Spring 2023

Bluffton Karate Center, Bluffton OH
Black-Belt Instructor 2017-2019

Funding Proposals

"Autonomous manufacturing of energy conversion materials for transportation applications," NSF IUCRC Smart Vehicle Concepts Center Research Seed Program; The Ohio State University; Role: writing, review, research; December 2024

Academic Service

Guest Lecturer, DOE RENEW Pathways in Physical Science Summer School August 2025

Reviewer

Transactions on Mechatronics (6 times in 2024, 5 times in 2025), Modeling Estimation and Control Conference (2024), North American Manufacturing Research Conference (2024, 2025, 2026), American Control Conference (2024)

References

Dr. Dave Hoelzle, Assistant Professor of Mechanical Engineering
The Ohio State University, (614) 688-2942, hoelzle.1@osu.edu

Dr. Yuepeng Zhang, Nanocomposite Materials and Membrane Manufacturing Group Leader
Argonne National Laboratory, (630) 252-7927, yuepeng@anl.gov

Dr. Larry Funke, Associate Professor of Mechanical Engineering
Ohio Northern University, 419-772-1862, l-funke@onu.edu

