

**SCOPE  
SUMMIT  
2025-2026**



**SCOPE  
Senior Capstone Projects**

**Amazon Robotics**

**Blue Origin**

**Boston Scientific**

**Boston University (WISE)**


**Lasso Labs**

**New Balance**

**Processing Fish**

**Santos Family Foundation / Volpe Center**





Every spring, SCOPE Summit offers a window into something that's genuinely hard to describe from the outside: what it looks like when a group of talented, motivated young engineers spends a full year working on problems that actually matter.

This year's cohort took on projects with real stakes. They worked on systems where safety is not a design consideration but a requirement, and they have done projects with direct commercial consequence for the organizations that trusted us to deliver value. Along the way, nearly every team encountered a significant pivot — technical, relational, or both — and had to find their footing again. They did.

What made this class special wasn't just their engineering. It was who they were in the SCOPE suite. The coffee was always on. The breakfast snacks never lasted long. And somehow, this particular group decided that juice boxes and hot chocolate were the fuel of serious engineering work. We were not going to argue with results. The SCOPE suite became a genuine gathering place: for questions, for sanity checks, for the kind of impromptu conversation that turns a stuck team into a moving one.

SCOPE is designed to do something beyond producing deliverables. One of our program goals is personal and professional development. To achieve this goal, students develop a real, working understanding of themselves: how they think under pressure, how they contribute to a team, how they create value for organizations navigating genuinely hard problems, and how they engage with themselves as they do all of this. This class did all of that, and they did it with good humor and grace.

We will miss them.

To our sponsors, and particularly the liaisons who dedicated their time, expertise, and enthusiasm to our SCOPE teams throughout the year: thank you for bringing us problems worth solving, and for consistently and generously showing up to help your teams find their way through those problems. To our SMEs (subject matter experts), the Shop staff, Facilities, IT, and our Olin community thanks for your support in making this year a success. To all our guests: please spend time with these teams today. Ask them hard questions. They are ready.

With gratitude,  
The SCOPE Leadership Team

**Jessica Townsend**

Co-Academic Director of SCOPE,  
Professor of Engineering

**Scott Hersey**

Co-Academic Director of SCOPE,  
Associate Professor of Chemical  
and Environmental Engineering

**Amon Millner**

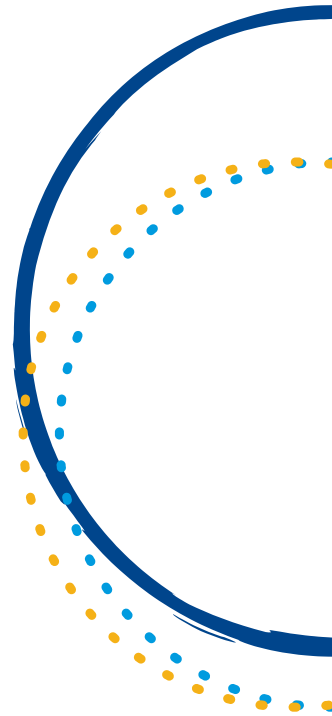
Professor of Computing and  
Innovation

**Jessica McCarthy**

SCOPE Program Director

**Lauren Palmer**

Associate Director of  
Partnership Development



# SCHEDULE OF EVENTS

## FRIDAY, MAY 8, 2026

- |                      |  |
|----------------------|--|
| <b>12:30–1:00 PM</b> | <b>Registration</b><br>Milas Hall Lobby                              |
| <b>1:00–1:10 PM</b>  | <b>Welcome from Olin Leadership</b><br>Norden Auditorium, Milas Hall |
| <b>1:10–2:00 PM</b>  | <b>Presentations by SCOPE Teams</b>                                  |
| <b>2:00–2:15 PM</b>  | <b>Break</b>   |
| <b>2:15–3:00 PM</b>  | <b>Presentations by SCOPE Teams</b>                                  |
| <b>3:00–4:00 PM</b>  | <b>Poster Session &amp; Reception</b>                                |



**Olin College**  
**of Engineering**  
**SCOPE**

## AMAZON ROBOTICS

# Low-Cost Robotics Detection, Classification, and Tracking

Amazon Robotics engaged SCOPE students in exploring the space of classifying living and non-living beings, locating them, and understanding the vectors they're heading using commercial-grade and consumer-grade sensing systems. The team designed and tested different configurations of sensing platforms for use in dynamic environments, analyzing which sensing system combinations deliver the best precision to cost ratio.

### Team Members

**Mark Belanger**  
**Sparsh Gupta**  
**Noah Rand**  
**Satchel Schiavo**  
**Hazel Sudzilouski**

### Faculty Advisor

**Amon Millner**

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BLUE ORIGIN

## Automated Thermal Interface Material Applicator

This year, the Blue Origin SCOPE Team designed and fabricated an automated thermal interface material (TIM) application machine for use in a production environment. The team's solution allows for more accurate and consistent TIM application to avionic components. Having this capability improves repeatability and automates the application process, saving technicians time and labor. Students leveraged their skills in Mechanical, Electrical, and Software Engineering to develop an integrated solution to meet these needs.

### Team Members

**Austin Cline**  
**Rohan Giancaspro**  
**Owen Himsworth**  
**Emery Lauer**  
**Mihir Vemuri**  
**Brooke Wager**

**Faculty Advisor**  
**Jessica Townsend**

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BOSTON SCIENTIFIC

## Reducing Physician Strain with Duodenoscope Tip Rotation

An increasing number of medical procedures are conducted through endoscopic surgery. However, physicians are limited by the field of view of the camera fixed to the end of the device. Physicians often must rotate the entire assembly to view slightly different angles, which can cause unintended scope movement and create longer procedures. Boston Scientific wants to enable physicians to conduct more efficient and more complex procedures with their technology. As such, this year's Boston Scientific SCOPE team designed and fabricated a mechanism to provide enhanced access of tools and visualization at the tip of a duodenoscope without causing unintended scope movement.

### Team Members

**Tabitha Davison**  
**Matthew Farmar**  
**Alex George**  
**Akshat Jain**  
**Maya McKone-Sweet**  
**Ellen Sun**

### Faculty Advisor

**Jessica Townsend**

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**Boston  
Scientific**

Advancing science for life™



# BOSTON UNIVERSITY WHEELOCK INSTITUTE FOR THE SCIENCE OF EDUCATION

## Enhancing Early Literacy-Building Apps with Improved Audio Understanding

All students have the potential to read at or above grade level, however only 31% of U.S. 4th grade students meet reading proficiency standards. This year's SCOPE team joined Boston University's Wheelock Institute for the Science of Education (BU WISE) on a large interdisciplinary research team, investigating how technologies such as automatic speech recognition systems can become more capable of accurately identifying sounds that early elementary students make as they learn to read. The team explored a variety of approaches for translating improved audio understanding into information that can assist educators in helping young learners enhance their literacy skills. The team analyzed the efficacy of existing speech recognition tools and drafted sustainability and ethical consideration frameworks designed to guide thoughtful AI and early education integration.

### Team Members

**Belén Hutchins**  
**Dokyun Kim**  
**Sally Lee**  
**Ian Lum**  
**Kelsey McClung**  
**Elin O'Neill**

### Faculty Advisor

**Amon Millner**

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LASSO LABS

## Fiber Sheet Drying System

Lasso Labs is a food tech startup that puts taste and texture first. To aid in new product and scaling efforts, Lasso is investigating different processing techniques for their plant-based fibers. This year's SCOPE team developed a method and device to dry thin, delicate sheets of fibers in a way that is time and energy efficient, user friendly, and scalable. The team researched different methods and prototype and test systems. Lasso hopes to implement the findings from this project in their pilot line to increase product throughput and usability.

### Team Members

**Camilo Cuartas-Lopera**

**Camden Droz**

**Angela Huang**

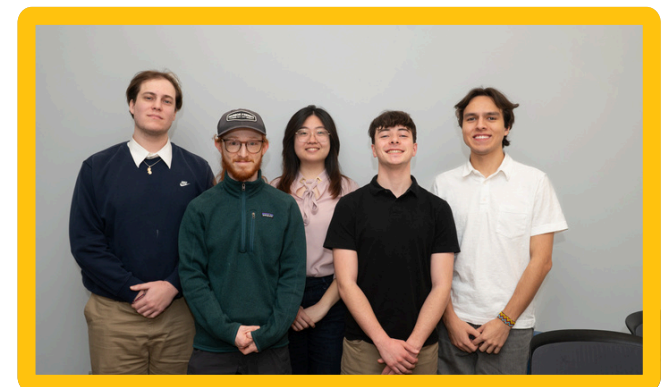
**Reuben Lewis**

**William Young**

### Faculty Advisor

**Scott Hersey**

### Project Poster



NEW BALANCE

## Push Test-Continued Automation

New Balance's current footwear manufacturing processes may include a manual quality check where associates push with their thumbs at several points around the shoe. The purpose of this effort is to check for potential issues in the adhesive bonding of the sole to the upper of the shoe. This test may be physically taxing for associates, who may perform up to 8,000 presses per shift. The quality check may also be prone to variation across tests, associates, and manufacturing locations. As part of New Balance's continual work to improve associates' work experience while maintaining high-quality standards, the SCOPE students built upon the 2025 SCOPE team's work to develop a highly-automated solution, creating tooling that reduces the manual tests and improves the consistency of the quality check.

### Team Members

**Maurice Ampane**

**Anagha Babu**

**Daniel Heitz**

**Swasti Jain**

**Owen Johnston**

### Faculty Advisor

**Amon Millner**

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## PROCESSING FISH

### Tool to Identify Defects in Pre-Processed Fish

The Alaskan fish industry is in the middle of a significant transition, resulting from global political and economic forces. This offers an opportunity to leverage developing technology to improve product quality, worker experience and safety, and processing cost. This SCOPE team developed a new tool to accurately identify the location of defects in pre-processed fish and prototype a method for automated removal.

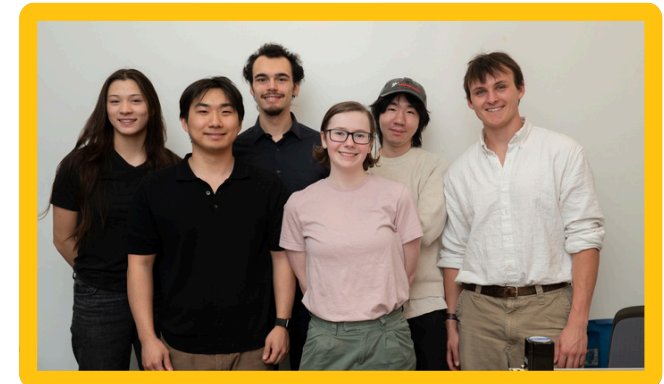
#### Team Members

**Mira Chew**  
**Alton Coolidge**  
**Benjamin Kim**  
**Chang Jun Park**  
**Dominic Salmieri**  
**Noah Woosley**

#### Faculty Advisor

**Scott Hersey**

#### Project Poster





## SANTOS FAMILY FOUNDATION / VOLPE CENTER

# Crosswalk Safety Automation

It is well established that high-visibility pedestrian crosswalks improve safety on roadways. However, crosswalk infrastructure varies substantially by location and some crosswalks require pedestrian interaction to activate safety measures. This team explored opportunities to automatically identify the presence of pedestrians and activate safety measures to improve pedestrian safety.

### Team Members

**Marta Chojkiewicz**  
**Dexter Friis-Hecht**  
**Jossian Garcia**  
**Carter Harris**  
**Sucheta Sunder**  
**Sidney Taylor**

### Faculty Advisor

**Scott Hersey**

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