

2026 Summer Explorations in Robotics, Programming, Science, and Technology

Middle school is a critical time for students to explore and develop potential interest in STEMM. This program at Wright Lab engages a cohort of middle school students from the New Haven area in exploring science and technology together across a range of disciplines. Participants engage with programming and robotics through hands-on projects and group-led exploration. This is the second time Wright Lab has offered the program. The first iteration of the program took place in 2024.

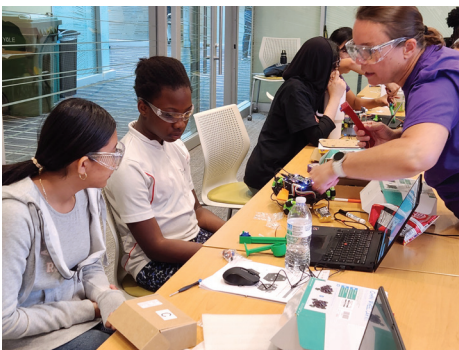
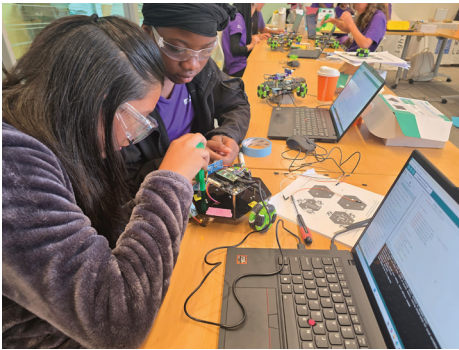


From July 27-31, 2026, 14 middle school students learned to assemble and program robots and 3D-print parts; learned about the science of the Universe; and attended physics demonstrations by Yale scientists.

Participants also toured Wright Lab, the Center for Engineering Innovation & Design (CEID), and the Yale Peabody Museum.

Over the course of the week, the students assembled a robot from a kit and programmed and reconfigured it to achieve different goals, including:

- moving autonomously
- going through a maze
- going through an obstacle course
- using ultrasonic sensors
- adding a remote control
- adding a 3D-printed robot arm
- playing basketball with ping pong balls



Lynn Connelly, director of robotics at Hopkins School in New Haven, who teaches physics and robotics and coaches the Hopkins robotics competition teams, led the hands-on robotics activities.

Connelly said, "The kids were introduced to the world of robotics and learned how hardware and software components work together to make a complete robot. They also learned about the fundamentals of design and prototyping. Along the way they were great problem-solvers, and everyone had a fun time together."



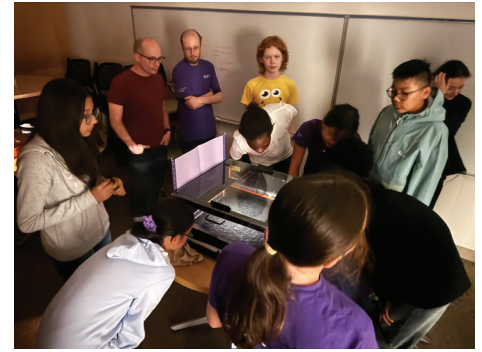
Enrichment Activities



Yale Peabody Museum Tour



Wright Lab Science Talk



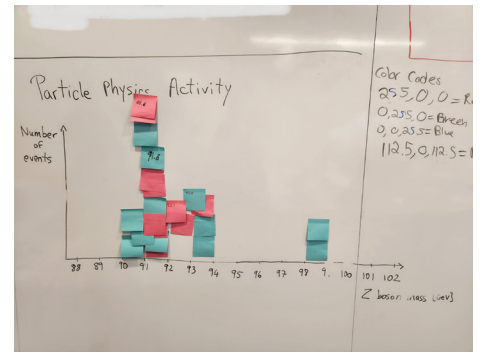
Wright Lab Science Demo



Wright Lab Tour



3D Printing Talk & CEID Tour



Exploring Particle Physics

Program Statistics

New Haven Public Schools	7
Other area schools	7
First generation student	4
Female	11
Male	3
Asian	5
Black or African American	3
White	4
Not specified	2



Statistical data provided by participant parents/guardians on program registration form.

Program Financial, Administrative, and Technical Support



The program is supported by the Yale Department of Physics, the Michele Dufault Endowment, Yale Wright Laboratory, and Yale University. Professors Karsten Heeger and Reina Maruyama initiated the program in 2024, and they continue to serve as faculty advisors to the program. Additional program support is provided by the Wright Lab Program Manager, the Yale Physics business and administrative staff, the Yale Physics instructional support team, Wright Lab's computing support staff, and a team of graduate and undergraduate student assistants.