

Yale Wright Laboratory

The Yale Wright Laboratory is advancing the frontiers of fundamental physics through a broad research program in nuclear, particle, and astrophysics including the studies of neutrinos, search for dark matter, and relativistic heavy ion physics. Yale's research in nuclear structure physics continues at several facilities worldwide. The laboratory is currently undergoing extensive renovations to provide state-of-the-art facilities for instrumentation development, research, and teaching. The new Yale Wright Laboratory will provide critical research and teaching support for training the next-generation of scientists and for developing cutting-edge experiments to address fundamental questions about our Universe:

What does the invisible Universe consist of?

What is dark matter?

What are the properties of neutrinos?

What are the states of matter in the Early Universe?

What is the structure of matter?

Mission

- Advance the frontiers of fundamental physics through a broad research program at the intersection of nuclear, particle, and astrophysics.
- Educate and train future leaders through a vibrant scientific program including seminars and master classes, topical workshops, and summer programs with special emphasis on developing skills to design and construct new instrumentation.
- Provide shared instrumentation, facilities, and support to seed the development of new experiments.
- Enable the development of novel instruments for fundamental physics by partnering with technical experts at universities and national laboratories.
- Support the design, construction, and operation of experiments based at the Yale Wright Laboratory and other locations worldwide.
- Advance scientific opportunities by connecting researchers and technical experts across subfields, and guide experimental searches and their interpretation by theory and computing.
- Broadly disseminate scientific knowledge and technical expertise
- Engage the public and students of all ages in scientific exploration through education programs and outreach activities.

Website <http://wlab.yale.edu>

Contact Karsten Heeger
Professor of Physics, Director
karsten.heeger@yale.edu
cell: 475-201-2702

Facilities for Research, Education, and Innovation



Research Laboratories

The Wright Laboratory is currently undergoing extensive renovations over 50,000 sqft to create infrastructure in support of a scientific research program in fundamental physics. New facilities include specialized laboratory spaces for instrumentation design, development, and testing, cryogenic facilities, a low-background counting room and high bay spaces for detector assembly. Renovations started in 2014 and will be completed in summer 2016.

Instrument Design / Machine Shops

An integrated machine shop for research and teaching combined with advanced CAD-based prototyping equipment will allow students and researchers to learn and practice the principles of design and fabrication of scientific equipment. A professional machine shop housed at Wright Lab will support the fabrication of detectors for experiments worldwide.





Interaction Spaces / Communication / Education

The new Wright Laboratory will feature office and meeting spaces around a central area in the building to foster the interaction of scientists, students, and technical personnel. Meeting rooms and remote conferencing facilities will enable researchers to interact both locally and with collaborators at experiments in Switzerland, China, Italy, and in Antarctica. The laboratory will host seminars, master classes, and workshops for specialized training and education of students and researchers. Yale Wright Lab will become a hub for new ideas, instrumentation development, and technical innovation by scientists pushing the frontiers of nuclear, particle and astrophysics. The lab's facilities will serve the broader scientific community at Yale University and beyond.