



Reasons to choose our program...

The Western Michigan University **Department of Physics** offers graduate programs leading to **Master of Arts in Physics** (M.A.) and **Doctor of Philosophy in Physics** (Ph.D.) degrees. These programs prepare students for careers in industry, academia and at national laboratories. Concentrations are available in:

- Atomic and nuclear physics with potential applications in astrophysics
- Condensed matter physics and material physics
- Physics education—Master's level only in the Department of Physics, with potential for a thesis. Students interested in physics education at the doctoral level should also apply to the Science Education: Physics program through the WMU Mallinson Institute for Science Education.

Research Connections

- WMU is an associated institution with the Joint Institute for Nuclear Astrophysics-Center for the Evolution of the Elements (JINA-CEE), and faculty have particularly strong collaborations with several national and international scientists and agencies.
- Experimental studies are conducted at University facilities and at larger national and international facilities. For example, faculty regularly conduct research at the Advanced Photon Source at Argonne National Laboratory, the Environmental and Molecular Science Laboratory, the nearby Lurie Nanofabrication Facility and National Superconducting Cyclotron Laboratory. They also anticipate active research at the Facility for Rare Isotope Beams (FRIB) at Michigan State University, when it comes online.
- Theory faculty and students utilize the department's computer cluster, and they have access to national supercomputer centers.



Points of Pride

- Faculty are engaged in advanced studies of atoms and molecules, nuclei, materials and the cosmos.
- A 6 MV Tandem Van de Graaff accelerator is on-site (applications in atomic, nuclear, materials physics).
- The department has an X-ray diffractometer and a Physical Properties Measurement System (PPMS) from Quantum Design with 14 Tesla cryogen-free superconducting magnet. The PPMS allows measurements from 0.05K to 400K of magnetization, electrical conductivity, and specific heat for condensed matter physics research.
- Faculty regularly conduct research at the National Superconducting Cyclotron Laboratory at Michigan State University, Argonne National Laboratory and other facilities in the United States and abroad.
- Faculty are regularly funded by the National Science Foundation, the Department of Energy and NASA.

Industry Highlights

More than 90 percent of physics graduates at all degree levels find work after graduation. Physics is one of the most employable majors in higher education because students develop important practical skills like gathering and evaluating data, developing research models and hypotheses and working with mathematical modeling and problem solving.

Physics

Teaching, Research and Program

Focus Areas

The department's diverse research program complements its commitment to excellence in teaching. Department faculty are involved in cutting-edge research at leading national and international laboratories. Their interests include high-intensity photon beams, advanced materials synthesis and analysis, and experimental nuclear physics with applications in astrophysics. Theorists work on strongly correlated quantum systems, atomic structure and spectroscopy with applications in astrophysics, photonic crystals, and nuclear structure and reactions.

Also, a group of faculty are dedicated to the research and improvement of physics teaching and learning at the college and secondary levels.

Students often work in applied physics in conjunction with the College of Engineering and Applied Sciences.



Funding

The department offers typically three to six graduate teaching assistantships to students in each year's entering class. Assistantships are for one year, but are generally continued for students in good academic standing. Additionally, assistantships are usually available for one or both of the two summer sessions. Students with an assistantship are typically assigned to undergraduate laboratory classes and devote 20 hours each week to teaching, grading and meeting with students during office hours. Research assistantships are also often available.

Admission

Domestic and International Applicants

M.A. and Ph.D. applications are accepted until March 15 for the fall semester only, with priority consideration given to completed applications submitted by Feb. 15.

Department of Physics

wmich.edu/physics

(269) 387-4940



Dr. Kirk Korista
Graduate Programs Advisor
kirk.korista@wmich.edu

Western Michigan University est. 1903

Offering over 100 world class advanced degree programs and holding Carnegie Foundation classification as a higher research doctoral university, the institution has consistently appeared in the U.S. News & World Report as one of America's best national universities. Graduate students make up 21 percent of the total student body and have been awarded nearly \$52 million in financial assistance. WMU enjoys a rich 60+ year history of graduate education.

Kalamazoo, Michigan

The community offers a vibrant cultural atmosphere mixed with a variety of outdoor recreational activities. The city of Kalamazoo is located midway between Detroit and Chicago and is in close proximity to the shoreline of Lake Michigan.

