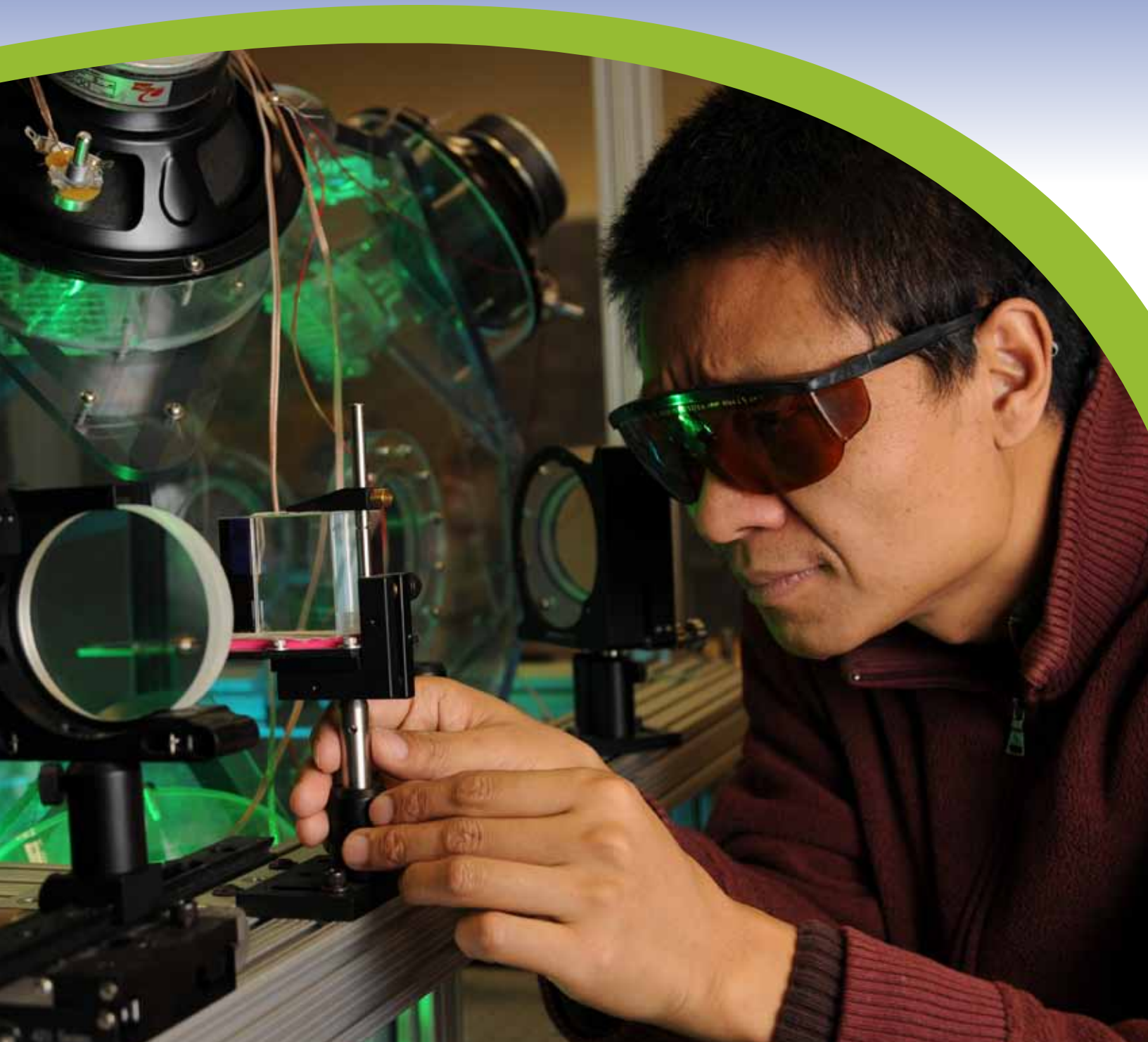


Department of  
**Physics**

*We prepare students to create the future.*

[www.phy.mtu.edu](http://www.phy.mtu.edu)



**Michigan Tech**  
Create the Future

# Physics at Michigan Tech

The Department of Physics at Michigan Tech is a dynamic community of scholars dedicated to excellence in education and research. We are small enough to provide a close-knit atmosphere and small classes, yet large enough to support a variety of top-notch research programs.

Our students can choose from three different paths to their bachelor's degree. Physics majors can select a curriculum that prepares them for graduate school and a future in academia and research. Or, they can pursue an option that leads to secondary education certification as a physics teacher. Students majoring in applied physics typically go on to careers in industry and national research labs. Honors courses are available, and students have flexibility in crafting individualized programs of study.

Our undergraduates expand their experience through research projects, undergraduate teaching, outreach activities, and participation in our award-winning chapter of the Society of Physics Students.



## Highlights

- We have nearly 100 undergraduate physics majors.
- Our student-faculty ratio is less than 5 to 1.
- Over 75 percent of our students work on research before their senior year.
- The Society of Physics Students is recognized regionally as an outstanding chapter.
- Physics faculty members have received multiple honors for their outstanding teaching and research.

## Majors

- ➔ Physics
- ➔ Applied Physics
- ➔ Physics with secondary education certification

## Minors

- ➔ Astrophysics
- ➔ Physics
- ➔ Nanotechnology





## Undergraduate Research

Our students don't just learn physics, they do physics. All our students participate in a senior research experience, but students start in research (on and off campus) much earlier, beginning as early as the summer after the freshman year. What do our students do?

- Deploy a system to take holograms of clouds on a mountaintop in Germany
- Design laser systems for use in quantum cryptography
- Investigate the growth of nanomaterials, including carbon and boron nitride nanotubes
- Analyze gamma ray bursts from the collapse of massive stars into black holes

Stipends for summer research are available through the University's Summer Undergraduate Research Fellowship program, the Michigan Space Grant Consortium, faculty research grants, and the department. In a typical summer, ten to fifteen physics majors work on campus as research assistants under the supervision of faculty mentors.

## Your Future in Physics .....

Some of our graduates enter industry in laboratory research, engineering, military, computer science, or other technological fields. Others become certified secondary physics teachers or work in an educational support capacity at the university level.

Over half of our physics graduates continue to various graduate schools, where the vast majority receive paid tuition and a stipend for either research or teaching.



*Upon graduation from Michigan Tech in 2002 with a bachelor's degree in physics, I accepted a position at MIT Lincoln Laboratory in Lexington, Massachusetts, where I am currently an associate technical staff member. My physics degree has been exceptional preparation for the wide array of technical challenges that*

*I have encountered in my career, including work on antenna analysis, large-scale radar simulations, information optimization, optical tracking sensors, and modernizing the nation's instrumentation and range-safety radars. My physics education from Michigan Tech was critical in my path to success, providing me not only an outstanding education but also the ability to participate with faculty in cutting-edge research that propelled me into a career at a national research and development center.*

—Peter Kiefer

## Financial Aid

In addition to receiving University financial aid, many physics majors work within the department as teaching assistants, demonstration assistants, or learning center coaches. These paid positions are available to some students as early as their sophomore year and enhance their physics education while providing income.

## About Michigan Tech

With an enrollment of approximately 7,000, Michigan Tech is large enough to offer great academic programs and small enough for you to stand out. The University offers more than 130 undergraduate and graduate degree programs in the life sciences; engineering; forest resources; computing; technology; business; economics; natural, physical, and environmental sciences; arts; humanities; and social sciences. Courses are taught by faculty who are prominent nationwide, care about you, and make time for you.

You have the opportunity to study abroad, a key opportunity in today's global economy.

## About Houghton

Reader's Digest ranks Michigan Tech third in the nation for campus safety. Houghton has been cited as one of the nation's top-ten summer sports cities, and one of the top-ten best places to live in the country. Students come from more than seventy countries and comprise a rich, multicultural community.

## About the Area

Michigan Tech is located on the scenic Keweenaw Waterway, a twenty-mile ribbon of water that cuts the Keweenaw Peninsula in half and connects to Lake Superior. The expansive waters and forests offer terrific outdoor recreation. The University owns miles of trails for Nordic skiing, snowshoeing, hiking, and biking, plus a golf course and an Alpine ski area that are close to campus. The Student Development Complex provides ample facilities for indoor recreation and fitness activities. Both the University and the local community offer many opportunities to enjoy theater, music, and other cultural events.

Michigan Technological University is an equal opportunity educational institution/equal opportunity employer.

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