

DIVISION OF NATURAL SCIENCES

The Mathematical, Physical, and Life Sciences have revolutionized our view of the world. By providing the foundations for the technology shaping our every day life, they have an enormous impact on our physical, economic, social, and intellectual well being and hold a key to understanding and solving many of today's most pressing problems.



Highlights

- Physics professor emeritus David Thouless received the 2016 Nobel Prize in Physics. The Natural Sciences faculty also includes two MacArthur Fellows.
- Graduate programs within the departments of Chemistry, Physics, Psychology, Speech and Hearing Sciences, and Statistics are ranked among the top 10 nationally in their disciplines.
- The Division is the largest major provider of STEM education at the UW, offering more than 1,300 courses in the natural sciences each year. The Departments of Biology, Chemistry, Physics, and Astronomy are among the largest undergraduate programs in their disciplines nationally, based on the number of majors.
- The Department of Biology's new Life Sciences Complex, scheduled to open in 2018, will feature an open and adaptable design, perfect for exploring emerging research questions. The complex will also include a world-class greenhouse.

Research

Researchers in the Natural Sciences are at the forefront of such diverse fields as ecology and climate change; population health; renewable energy; computational neuroscience; big data; quantum materials; survey astronomy; nuclear physics; treatment of mental illnesses and speech and hearing disorders; and early childhood development. This research is supported by grants and contracts—totalling \$92 million for fiscal year 2017—mostly from federal sources such as the National Science Foundation, the National Institutes of Health, the National Aeronautics and Space Administration, and the Department of Energy.

Because many of today's important research problems require expertise from multiple disciplines, a culture of collaboration is a hallmark of UW research. Faculty and staff in the natural sciences play key roles in interdisciplinary programs at the UW, including the Institute for Nuclear Theory, the Institute for Learning and Brain Sciences, the Clean Energy Institute, the Astrobiology Program, the eScience Institute, the Center for Statistics and the Social Sciences, and the new Molecular Engineering Materials Center, established in 2017 through a \$15.6 million, six-year grant from the National Science Foundation.

Faculty also hold leadership roles in national and international research collaborations. They pursue malaria research with partners in India, they conduct physics research at the Large Hadron Collider in Switzerland, and they lead the project science team developing the Large Synoptic Survey Telescope with public and private partners across the globe.

Research is also integral to Arts & Sciences clinics that provide valuable services to the community—the Speech and Hearing Clinic, the Behavioral Research and Therapy Clinics—as faculty and students pursue advancements in treatment. Many programs in the Division are poised to play a significant role in the new University-wide Population Health Initiative.

Suzanne Hawley, Divisional Dean

DEPARTMENTS

Applied Mathematics
Astronomy
Biology
Chemistry
Mathematics
Physics
Psychology
Speech and Hearing Sciences
Statistics

STUDENTS (AUTUMN 2017)

3,513 Undergraduate majors
1,260 Graduate students

DEGREES GRANTED (July 2016-June 2017)

2,062 Bachelor's degrees
293 Master's degrees
127 PhD degrees



Research in Speech and Hearing Sciences

Education

The educational mission of the Natural Sciences Division ranges from promoting an understanding of the scientific method for all students to training the next generation of researchers advancing the forefront of knowledge. More than 20,000 students take natural sciences courses each year as preparation for further degree work in science and engineering; as prerequisites for courses in the social sciences, business, or other fields; and as electives within a broad liberal arts education.

Several departments pursue research in science education, including the Biology Education Research Group and the Physics Education Research Group. They have pioneered and introduced new active learning methods in UW courses, markedly improving student performance.

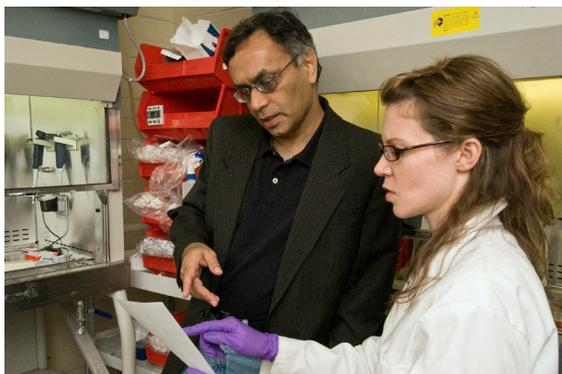
Science education at a research university also includes numerous opportunities to work on cutting-edge research in faculty laboratories. Programs that encourage undergraduates to participate in research include the Washington Experimental Mathematics Laboratory, and the Pre-majors in Astronomy Program.

The Division offers numerous professional masters degrees, with programs in physics, psychology, applied mathematics and computational finance, statistics, data science, and speech and language pathology among others.

Outreach

Natural Sciences faculty and staff contribute valuable expertise and services to the local community and the state. A few examples:

- Natural Sciences departments organize many public lectures such as the Allen L. Edwards Lectures in Psychology, the Milliman Lectures in Mathematics, and the Frontiers of Physics lecture series.
- Psychology and Speech and Hearing Sciences offer clinical services at low cost, benefiting the public and providing invaluable learning opportunities for students.
- Biology faculty provide expertise and vision as curators at the Burke Museum, bridging research and public engagement.
- Astronomy offers public events at the UW's digital planetarium and Jacobsen Observatory, as well as at local breweries through Astronomy on Tap.
- Many Natural Sciences departments offer programs and workshops for K-12 teachers and students. Math Day draws thousands of high school students to campus each year, and the Summer Institute in Mathematics at UW encourages budding mathematicians through a six-week program on the UW's Seattle campus.



FACULTY (2017)

265	Faculty
25	Research Professors
48	Lecturers (full-time)
157	Postdocs

SELECTED CENTERS & INSTITUTES

Astrobiology Program

Behavioral Research & Therapy Clinics

Center for Child and Family Well-Being

Center for Experimental Nuclear Physics and Astrophysics

Center for Statistics and the Social Sciences

Computational Neuroscience Center

Institute for Learning and Brain Sciences

Institute for Nuclear Theory

Molecular Engineering Materials Center

UW Institute for Neuroengineering

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From left: Early learning is the focus of the Institute for Learning & Brain Sciences; researchers in the Department of Chemistry work toward solutions for defeating malaria; Astronomy faculty and students at the Apache Point Observatory, where the UW is a founding partner.