ACADEMIC OFFERINGS
11 Doctoral degree programs
12 Master’s degree programs
11 Bachelor’s degree programs
10 Certificate programs

FACULTY
341 Tenured/tenure-track faculty members
19 Members of the National Academies
14 Fellows of the American Academy of Arts and Sciences
2 National Medal of Science recipients
2 Nobel laureates
2 Wolf Prize winners
1 Fields Medal winner
1 Japan Prize winner
1 Royal Medal recipient

STUDENTS
5,969 Undergraduate students
1,286 Graduate students

ALUMNI
45,819 Terps for Life

13 TOP-25 RANKED GRAD PROGRAMS & SPECIALTIES
U.S. News & World Report

85% of UNDERGRADS CONDUCTED RESEARCH or had INTERNSHIPS

FACT SHEET
JULY 2017

Computer Science

#1

Biological Sciences

#2

MARSHALL SCHOLAR
Aaron Solomon

GATES CAMBRIDGE SCHOLAR
Elfadil Osman

GOLDWATER SCHOLARS
Christopher Bambic, Eliot Fenton, Prayaag Venkat

HOLLINGS SCHOLARS
Anna Lowien, Emma Thrift

FULBRIGHT SCHOLARS
Sarah Blumberg, Anna Lieberman, Nageen Sherani

NATIONAL SCIENCE FOUNDATION GRADUATE RESEARCH FELLOWSHIPS
Awarded to 10 current students and recent alumni of the college

SELECT STUDENT AWARD WINNERS, 2016–2017

CMNS.UMD.EDU
AUGMENTED & VIRTUAL REALITY

Computer science researchers are using virtual and augmented reality technologies to enhance medical diagnosis and treatment, and provide public safety officials with critical situational awareness data and new tools to process crime scenes. They are also creating lifelike virtual training tools for surgical residents in trauma centers, government data and language analysts, and high-tech factory workers of the future.

BRAIN & BEHAVIOR

Biologists, computer scientists and physicists are working with engineers and behavioral scientists to develop and refine tools, including biomedical devices and imaging systems, to unravel how the brain integrates and processes visual, auditory, and olfactory information; changes with age; stores memories; and produces behavior. Their work will contribute to the university’s Center for Sports Medicine, Health and Human Performance.

CYBERSECURITY

Cyber attacks are an ever-increasing threat. Although cybersecurity draws on diverse fields such as policy, economics, and the social sciences, it remains at its core a technical discipline. Our researchers in the Maryland Cybersecurity Center, in partnership with the Clark School of Engineering, are developing robust defenses against the next generation of cyber threats, as well as educating students and professionals in this important area.

DATA SCIENCE

To solve complex scientific problems, our researchers are harnessing the power of “big data”—the massive amount of information that is acquired, stored, searched, shared, analyzed and visualized. They are tackling the computational challenges associated with this information flood and developing new tools to extract the most important pieces of information. With new, sophisticated analytic techniques and efficient algorithms, they are discovering patterns and unexpected connections in all scientific disciplines.

ECOLOGY & EVOLUTION

Basic and applied research in biology, entomology and the National Socio-Environmental Synthesis Center address issues impacting the sustainability of our planet. Our faculty members bring expertise in aquatic, terrestrial and agricultural ecology; reproductive and developmental biology; evolutionary genetics and genomics; invasive pest management and biological control; pollinator health; and computational science and modeling to this research area.

ENVIRONMENTAL SECURITY

The demands we place on our environment are growing rapidly due to our increasing population, societal needs and economic development. These demands—plus climate change—increase competition for vital resources and create geopolitical stress and security issues. Our researchers aim to improve monitoring and prediction of vulnerabilities that link environmental changes to socioeconomic stresses and security risks on time scales of years to decades.

NANOBIO SCIENCES

The nanobiosciences offer the opportunity to invent entirely new classes of biologically active, nanoscale materials that will be used to cure disease and enhance human health through effective targeted drug delivery and real-time, minimally invasive diagnostics. Our researchers offer unique strengths in developing innovative nanobiomaterials and are poised to impact the nanobiosciences through fundamental discoveries in the areas of RNA biology and chemical biology.

PLANETARY EXPLORATION

Our researchers are answering big questions about the formation of planets, comets and asteroids; the origins of life; and the habitability of planets orbiting other stars. They are investigating the dust, gas, and ices involved in planet formation; the interior and surface features of planets and moons; the chemical composition of planetary materials; and the existence of water and other chemicals in the atmospheres of planets in other solar systems.

QUANTITATIVE LIFE SCIENCES

Our understanding of living systems is transforming rapidly, with huge amounts of quantitative information accessible for each cell, each organ and even each person. Researchers in biology, chemistry, computer science, math and physics—in partnership with clinicians and federal laboratories—are building models of how immune cells recognize invaders, measuring how crowds of brain cells work together and developing personalized approaches to treat diseases such as cancer.

QUANTUM COMPUTING

The race is on to build the first quantum computer, which scientists believe will be able to solve problems intractable using current technology. Boosted by industry and government partnerships, our researchers aim to harness quantum mechanics to solve next-generation information-processing challenges. They are pursuing programmable quantum computers, quantum communication networks that cannot be tapped, quantum-limited sensors, and exotic materials with strange and useful properties.