COLLEGE OF COMPUTER, MATHEMATICAL, AND NATURAL SCIENCES

1300 Symons Hall
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http://cmns.umd.edu

Dean: Amitabh Varshney, Ph.D.
Associate Deans: Robert Infantino, Ph.D.
Assistant Deans: Wendy Loughlin, Joelle Presson, Ph.D., Katerina Thompson, Ph.D., Stacia Woycheck

Nationally and internationally recognized for our educational programs, research excellence, distinguished faculty and students, the College of Computer, Mathematical, and Natural Sciences (CMNS) (http://cmns.umd.edu) is a critical educational and scientific resource benefiting the region and the nation. The college offers every student a high-quality, innovative, and cross-disciplinary educational experience. Strongly committed to making studies in the sciences available to all, the college actively encourages and supports the recruitment and retention of women and minorities underrepresented in our disciplines.

Our students participate in the University Honors College (http://honors.umd.edu), College Park Scholars (http://scholars.umd.edu), the First-Year Innovation & Research Experience (FIRE) Program (http://fire.umd.edu), Carillon Communities (https://carillon.umd.edu/), Quest (http://rhsmith.umd.edu/programs/undergraduate-programs/academics/fellows-special-programs/quest/) and the Hinman CEOs (http://hinmanceos.umd.edu/) programs, other learning communities, departmental honors programs, and many other co-curricular opportunities. Our students pursue research projects in faculty laboratories, or in the rich cluster of federal and private research institutions in proximity to our campus; they apply their lab and classroom skills through internships at area companies, non-governmental organizations, and in clinical settings. Excellent advising and career services guide our students through their academic program, and facilitate transition to graduate programs and professional schools, private-sector employment, and public service careers. Our innovative and entrepreneurial graduates pursue careers in a great many fields and professions.

In collaboration with the College of Education, we are working to increase the quality and number of teachers prepared to teach science and mathematics in secondary schools. In our Terrapin Teachers program (https://tt.umd.edu), students gain experience through their science and pedagogy coursework, and make an impact through work in local K-12 schools beginning in their first semester in the program.

DEPARTMENTS
Departments and Units

- Astronomy (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/astronomy/)
- Atmospheric and Oceanic Science (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/atmospheric-oceanic-science/)
- Biology (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/biology/)
- Cell Biology and Molecular Genetics (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/cell-biology-molecular-genetics/)
- Chemistry and Biochemistry (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/chemistry-biochemistry/)
- Computer Science (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/computer-science/)
- Entomology (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/entomology/)
- Geology (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/geology/)
- Mathematics (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/mathematics/)
- Physics (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/physics/)

ACADEMIC PROGRAMS
Majors

- Astronomy Major (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/astronomy/astronomy-major/)
- Atmospheric and Oceanic Science Major (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/atmospheric-oceanic-science/atmospheric-oceanic-science-major/)
- Biochemistry Major (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/chemistry-biochemistry/biochemistry-major/)
- Biological Sciences Major (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/biological-sciences/)
- Chemistry Major (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/chemistry-biochemistry/chemistry-major/)
- Computer Science Major (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/computer-science/computer-science-major/)
- Geology Major (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/geology/geology-major/)
- Immersive Media Design Major (CMSC) (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/computer-science/immersive-media-design-major/)
- Mathematics Major (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/mathematics/mathematics-major/)

- Neuroscience Major (CMNS) (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/biology/neuroscience-major/)
- Physics Major (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/physics/physics-major/)

Minors

- Actuarial Mathematics Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/mathematics/actuarial-mathematics-minor/)
- Astronomy Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/astronomy/astronomy-minor/)
- Atmospheric Chemistry Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/atmospheric-oceanic-science/atmospheric-chemistry-minor/)
- Atmospheric Sciences Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/atmospheric-oceanic-science/atmospheric-sciences-minor/)
- Computer Science Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/computer-science/computer-science-minor/)
- Data Science Minor (CMSC) (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/computer-science/data-science-minor/)
- Data Science Minor (MATH) (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/mathematics/data-science-minor/)
- Earth History Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/geology/earth-history-minor/)
- Earth Material Properties Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/geology/earth-material-properties-minor/)
- Entomology Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/entomology/entomology-minor/)
- Geochemistry Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/geology/geochemistry-minor/)
- Geophysics Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/geology/geophysics-minor/)
- Hydrology Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/geology/hydrology-minor/)
- Mathematics Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/mathematics/mathematics-minor/)
- Meteorology Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/atmospheric-oceanic-science/meteorology-minor/)
- Paleobiology Minor (ENTM) (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/entomology/paleobiology-minor/)

- Paleobiology Minor (GEOL) (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/geology/paleobiology-minor/)
- Physics Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/physics/physics-minor/)
- Planetary Sciences Minor (ASTR) (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/astronomy/planetary-sciences-minor/)
- Planetary Sciences Minor (GEOL) (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/geology/planetary-sciences-minor/)
- Robotics and Autonomous Systems Minor (CMSC) (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/computer-science/robotics-autonomous-systems-minor/)
- Statistics Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/mathematics/statistics-minor/)
- Surficial Geology Minor (https://academiccatalog.umd.edu/undergraduate/colleges-schools/computer-mathematical-natural-sciences/geology/surficial-geology-minor/)

ADVISING

Every student in the college is assigned an academic advisor, who may be a faculty member or a professional staff member of the college or academic department. Advisors work with students to develop their programs and to ensure that they are making required progress toward the degree. Educational and career goals, academic progress, and pre-registration course planning are among the topics discussed during advising sessions. Advisors can also help students connect to valuable opportunities and resources on- and off-campus.

Advising is mandatory for most CMNS students, and all are encouraged to take advantage of this service. Specific information about advising appears on the college website at http://cmns.umd.edu/undergraduate/advising-academic-planning/.

The University Career Center & The President's Promise (https://careers.umd.edu) provides a diverse array of resources and opportunities for students to explore and develop career-related aspirations – beginning as new students and even serving Terp alumni. The University Career Center@CMNS is a partnership that provides college-level career services support and activities more focused on the needs of CMNS majors. For more information, contact UCC@CMNS Program Director Rebecca Ryan (ryanreb@umd.edu) 1320 Symons Hall.

Students interested in pursuing careers in the health professions can find additional advising support from the Reed-Yorke Health Professions Advising Office (http://prehealth.umd.edu), 2300 Symons Hall, 301-405-7805.

OPPORTUNITIES
Living-Learning Programs

The college sponsors several living-learning programs which offer special academic and co-curricular opportunities to participants.

Advanced Cybersecurity Experiences for Students

Program Director: Dr. Michel Cukier

Advanced Cybersecurity Experiences for Students (ACES) (http://aces.umd.edu) is the newest living-learning program in the Honors College (http://www.honors.umd.edu/). It exposes students to the breadth of technical and non-technical aspects of this emerging field, preparing future leaders in the field of cybersecurity through an interdisciplinary curriculum, hands-on experience with real-world problems, and internships with companies and government agencies.

Integrated Life Sciences

Program Director: Dr. Najib El-Sayed

The Integrated Life Sciences Program (ILS) (http://ils.umd.edu) in the University Honors College was created to offer students enhanced cross-disciplinary training in the life sciences through an innovative curriculum and research and internship opportunities.

Design Cultures & Creativity

CMNS faculty members also contribute to the course offerings of the Design Cultures & Creativity (https://dcc.umd.edu) honors program that emphasizes interdisciplinary approaches to exploring emerging technologies and their global impacts.

College Park Scholars

The college sponsors three programs in the College Park Scholars (CPS) (http://scholars.umd.edu) living-learning program which draw upon the breadth of the academic disciplines and faculty expertise in CMNS. Each of these two-year programs brings students together around a common disciplinary focus through courses, seminars, and experiential learning opportunities. The programs inspire students to develop their interests and intellectual capacity by building a community in which everyone has shared interests in scholarly pursuits, in close contact with faculty who are working at the forefront of their fields of expertise.

CPS - Life Sciences

http://scholars.umd.edu/programs/ls/
Director: Dr. Beth Parent
Assistant Director: Ms. Candace Leverette

CPS - Science and Global Change

http://scholars.umd.edu/programs/sgc/
Director: Dr. Thomas R. Holtz, Jr.
Associate Director: Dr. John Merck, Jr.

Specialized Academic Programs

An important part of the content of CMNS majors is delivered outside the classroom, with the greatest emphasis being on leveraging our strength: research. Our students experience scientific discovery first hand, as conceptual learning in class is integrated and applied. Each major provides access to a variety of research experiences that will provide opportunities to collaborate with faculty members, postdoctoral fellows, graduate, and undergraduate students. Our geographic location also offers many unique opportunities for students to gain research and internship experience in federal laboratories and agencies, private companies, and non-governmental organizations. Employers and graduate schools look for research experience in applicants. Be a part of the science discovery in CMNS, which places the college among the top public and private universities worldwide. More information about research opportunities are provided on the college website (http://cmns.umd.edu/undergraduate/research-internships/), and on departmental webpages.

Pre-Health Professions Advising and Programs

2300 Symons Hall
Phone: 301-405-7805
preprof@umd.edu
http://prehealth.umd.edu

Director of Health Professions Advising Office: Asst. Dean Wendy Loughlin
Assistant Director: Courtney Butler
Advisors: Annie Montgomery, Peggy Wolf

The Reed-Yorke Health Professions Advising Office (HPAO), part of the College of Computer, Mathematical, and Natural Sciences, serves University of Maryland students and alumni interested in pursuing careers in medicine, dentistry, or allied health fields. For more information, please see Reed-Yorke Health Professions Office (http://prehealth.umd.edu).

College Honors Program

In addition to our living-learning programs described above, CMNS departments offer research-intensive departmental honors programs to which students may apply. Based on a student's performance in a multi-semester mentored research project and defense of a written thesis, the department may recommend that candidates receive their bachelor's degree with Departmental Honors or Departmental High Honors. Successful completion of departmental honors is recognized on a student's diploma and transcript. Participation in the University Honors College is not a prerequisite for participation in departmental honors programs. See individual CMNS department websites (http://cmns.umd.edu/departments/) for more information.

Student Engagement and Service Units

CMNS Student Services Office
1300 Symons Hall
Phone: 301-405-2080
cmnsque@umd.edu

The College Student Services Office coordinates orientation and advising services, reviews dean's exception to policy requests, and fields inquiries about academic regulations, transfer credit review, study abroad, and other undergraduate program matters. Each department is also served by an undergraduate program office which coordinates departmental academic advising.

Financial Assistance

The College Scholarships page (http://cmns.umd.edu/undergraduate/scholarships/) provides a list of scholarships and awards administered at the college level for currently enrolled students, and information about the application process. Students complete an electronic application to be considered for all merit and need-based scholarships administered by the college for which they are eligible. The annual application deadline for scholarship applications for returning students is in May.

See department websites (http://cmns.umd.edu/departments/) for more information about undergraduate scholarships based in the departments of CMNS.

Awards

See the college website (http://cmns.umd.edu/undergraduate/scholarships/) for a complete listing of undergraduate scholarships and awards.

Research Units

In addition to our academic departments, many undergraduate students pursue mentored research projects in the college's research centers and institutes. Contact information for the centers and institutes are provided below. Information about the scope of research in the unit, as well as affiliated faculty, is provided on the website of each center or institute.

Brain-Behavior Institute

Phone: 301-405-6487
http://bbi.umd.edu
Director: Dr. Elizabeth Quinlan

Brin Mathematics Research Center

4146 Computer Science Instructional Center
Phone: 301-405-0652
http://brinmrc.umd.edu
Director: Dr. Doron Levy

Center for Bioinformatics and Computational Biology

3234 Brendan Iribe Center for Computer Science and Engineering
Phone: 301-405-5936
http://cbcb.umd.edu
Director: Dr. Michael Cummings

Earth System Science Interdisciplinary Center

5825 University Research Court
Phone: 301-405-5599
http://essic.umd.edu
Director: Dr. Ellen Williams

Institute for Advanced Computer Studies

3134 Brendan Iribe Center for Computer Science and Engineering
Phone: 301-405-6722
http://umiacs.umd.edu
Director: Dr. Mihai Pop

Institute for Bioscience and Biotechnology Research

9600 Gudelsky Drive
Rockville MD 20850
Phone: 240-314-6000
http://ibbr.umd.edu
Co-Directors: Dr. David Weber and Dr. John Marino

Institute for Physical Science and Technology

4211 Atlantic Building
Phone: 301-405-4814
http://ipst.umd.edu
Director: Dr. Konstantina Trivisa

Institute for Research in Electronics and Applied Physics

Energy Research Facility
Phone: 301-405-4951
http://ireap.umd.edu

Director: Dr. Yanne Chembo

Joint Center for Quantum Information and Computer Science

3100 Atlantic Building
Phone: 301-314-1840
http://quics.umd.edu
Co-Directors: Dr. Andrew Childs and Dr. Yi-Kai Liu

Joint Quantum Institute

2207 Atlantic Building
Phone: 301-405-1300
http://jqi.umd.edu
Co-Directors: Dr. Jay Deep Sau and Dr. Gretchen Campbell

Joint Space-Science Institute

Phone: 301-405-1507
http://jsi.astro.umd.edu
Director: Dr. Peter Shawhan

Maryland Cybersecurity Center

5234 Brendan Iribe Center for Computer Science and Engineering
Phone: 301-405-0794
http://cyber.umd.edu
Director: Dr. Michelle Mazurek

Maryland Nanocenter

1119 Kim Engineering Building
http://nanocenter.umd.edu
Director: Dr. Sang Bok Lee

Norbert Wiener Center for Harmonic Analysis and Applications

2211 Mathematics Building
Phone: 301-405-5058
http://norbertwiener.umd.edu
Director: Dr. John J. Benedetto

National Socio-Environmental Synthesis Center (SESYNC)

One Park Place, Suite 300
Annapolis MD
Phone: 410-919-4810
http://sesync.org
Director: Dr. Margaret Palmer

Quantum Institute for Robust Simulation

3100 Atlantic Building
Phone: 301-314-1840
http://rqs.umd.edu
Director: Dr. Andrew Childs

Quantum Materials Center

0368 Physics Building
Phone: 301-405-8285
http://qmc.umd.edu
Director: Dr. Johnpierre Paglione

Quantum Technology Center

2457 AV Williams Building

Phone: 301-405-3114
http://qtc.umd.edu
Director: Dr. Ronald Walsworth