

MELLON COLLEGE OF SCIENCE

MCS Undergrads are breaking the boundaries of science.

MCS undergrads are integral parts of faculty research teams — they don't just repeat experiments that have been done before. They discover something new, publish their results in top journals and present their work at local and national conferences. They explore real-world problems that go beyond the categories simply labeled biology, chemistry, math or physics.

PROGRAMS

Biological Sciences

Biological Sciences (BA or BS)
Biological Sciences and Psychology (BS)
Biological Sciences/Neuroscience Track (BS)
Computational Biology (BS)
Neuroscience (BS)

Chemistry

Chemistry (BA or BS)
Chemistry/Biological Chemistry (BS)

Mathematical Sciences

Computational Finance (BS)
Mathematical Sciences (BS)
Mathematical Sciences (Computational and Applied Mathematics) (BS)
Mathematical Sciences
(Discrete Mathematics and Logic) (BS)
Mathematical Sciences (Operations Research and Statistics) (BS)
Mathematical Sciences (Statistics) (BS)
Mathematical Sciences and Economics (BS)

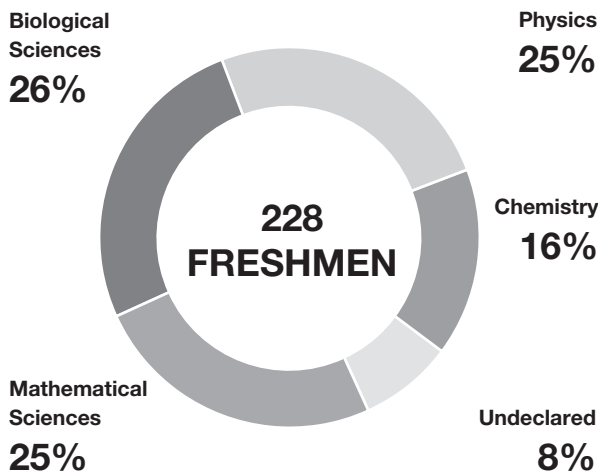
Physics

Physics (BA or BS)
Physics/Applied Physics Track (BS)
Physics/Astrophysics Track (BS)
Physics/Biological Physics Track (BS)
Physics/Chemical Physics Track (BS)
Physics/Computational Physics Track (BS)

Intercollege

Bachelor of Science and Arts (BSA)
Science and Humanities Scholars Program (SHS, joint with DC)

FIRST-YEAR STUDENTS



Favorite First-Year Courses

- Kitchen Chemistry
- Fermat's Last Theorem
- MCS First-Year Seminar: EUREKA
- Phage Genomics Research
- Matter & Interactions

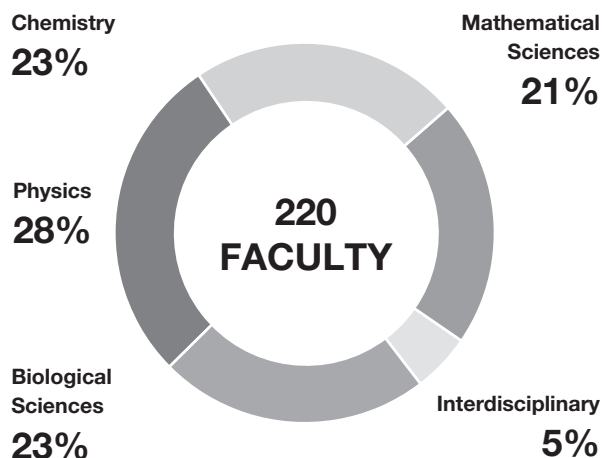
MCS Admitted Student Statistics

SATCR	SATM	SATWR	ACTE	ACTM	ACTC
680-760	740-800	690-780	33	34	33

Rank 4% GPA 3.86

More than 70% of undergrads conduct cutting-edge research. Create new knowledge. Advance their fields. Publish results.

FACULTY



Notable Faculty

- Alison Barth, professor of biological sciences, is a recipient of the Society for Neuroscience's Research Award for Innovation in Neuroscience. Barth is an **inventor of technologies that are advancing the field of brain research.**
- Po-Shen Loh, assistant professor of mathematical sciences, is the **academic director of the United States Mathematical Olympiad** program and national lead coach of the U.S. team. He is also founder of the crowd-sourced science and math education website ExpII.com

GRADUATE SUCCESS

Employed

40%

Plans Pending

12%

Volunteer, Military, Other

3%

Not Reported

11%

161
GRADUATES

* As of September 16, 2015

Grad School

34%

Top Employers



Microsoft

Bank of America



Merrill Lynch



National Institute of Environmental Health Sciences

Alumni Accomplishments

Mathematical sciences 2015 graduate Tomer Reiter won a **Gates Cambridge Scholarship** to study number theory at Cambridge University in England. Computational biology 2012 graduate Judy Savitskaya won a **Churchill Scholarship** to study synthetic biology at Cambridge University in England.

Biological sciences 1990 graduate Glen de Vries founded a company, **Medidata, that is helping the health care and drug industries do better science.** Medidata brings data analytics and artificial intelligence into play and is now keeping track of more than 8 billion clinical records for more than 2 million patients, with 1,400 more patients being entered into its system daily.

Student Startups

- **Emerald Therapeutics**, a four-year old Silicon Valley startup, is looking to revolutionize the biotechnology industry. Co-founded by biological sciences 2005 grad D.J. Kleinbaum and computational biology 2005 grad Brian Frezza, Emerald Therapeutics is taking an interdisciplinary approach to solving the problem of persistent viral infections that the body cannot clear on its own.

RESEARCH



An Investigation of Cluster Galaxies

Models for galaxy formation and evolution predict that the dense environment of galaxy clusters (galaxies bound in orbits through the hot gas of Intracluster Mediums) will physically alter the properties of galaxies in a cluster. This research is investigating these properties in the galaxies in the Sloan Digital Sky Survey, in the redshift range.



Math-Made Materials

Materials design can be hit-or-miss, with scientists mixing materials together until they get something with interesting and commercially relevant properties. This research uses mathematical tools to explain what happens as materials are made, helping researchers create better materials used in things like batteries, fuel cells, liquid crystals and shape memory alloys.



MRI Cell Technology

Tracking cells as they move through the body has proven to be a valuable tool in understanding disease. This research uses a multifaceted MRI technology that allows the researchers to visualize cells in real-time, providing valuable information about disease progression. The technique has been used to detect early stages of graft rejection in kidney, lung and heart transplant models.

DID YOU KNOW?

1. MCS students have been learning to be green chemists since 1992 when Professor Terry Collins introduced the **Green Chemistry course — the first university course on green chemistry.** Students learn how to design safer substitutes for hazardous chemicals and find green ways to reduce their adverse impacts.
2. **The Mellon Institute**, home to the MCS dean's office, labs and classrooms, has been a backdrop in several movies, including *Monkey Shines* (1988), *Hoffa* (1992), *Lorenzo's Oil* (1992), *The Mothman Prophecies* (2002) and most recently *The Dark Knight Rises* (2012). Dr. Bunsen Honeydew appeared on the *Muppet Show* in 1976 as a graduate of "Carnegie Melonhead University."
3. MCS administers the **Health Professions Program (HPP)**, which serves pre-health undergraduates, post-baccalaureates and graduate students across the entire university who are interested in medicine, dentistry or other health professions. The HPP director guides students in their course choices and all aspects of their professional degree program application process.
4. MCS has been home to **nine of the university's 18 Nobel Laureates**, including John Nash Jr., the subject of *A Beautiful Mind*. In 1948 he earned both his bachelor's and master's degrees in mathematics.

Carnegie Mellon University

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