

STRENGTH THROUGH COLLABORATION AND COOPERATION

PATHWAYS TO A PH.D., M.D., OR D.O.



Hope COLLEGE

A MESSAGE FROM THE DEAN

The natural and applied sciences programs at Hope College have an exceptional reputation in the United States for educating students toward the B.S. degree. We transform students from passive to active participants of learning and creating new knowledge. Because of this, Hope College is second to none in helping students gain admissions to top Ph.D., M.D., and D.O. programs. Our students learn from professors who are both outstanding teachers and highly accomplished researchers. The hallmark of Hope College's teaching is enabling students to "learn science by doing science." This is accomplished through our vibrant, productive and collaborative student-faculty research programs. As a result, our graduates are highly sought after by Ph.D. - granting universities and medical schools.



Dr. Lee, with Abby Prast, is Dean of the Natural and Applied Sciences and Professor of Chemistry. Abby attends medical school at A.T. Still University of Health Science, Kirksville College of Osteopathic Medicine

BEGIN YOUR PH.D., M.D., OR D.O. AT HOPE COLLEGE

BE A SCIENTIST To become the best scientist you can be, you need to learn like a scientist. At Hope College you will do science with professors who are scientists, mathematicians, nurses, and engineers and whose research is funded by federal agencies such as: the National Science Foundations (NSF), National Aeronautics and Space Agency (NASA), the National Institutes of Health (NIH), US Department of Energy, Homeland Security, and by major corporations such as Pfizer, Dow Chemical, Detroit Energy, and Eli Lilly. Don't just learn science -- do science!

WORLD CLASS PROFESSORS In small classes you are taught by world class professors, the very same scientists with whom you do collaborative research. Hope College ranks fourth (after The University of Michigan - Ann Arbor, Massachusetts Institute of Technology and Stanford University) for engaging undergraduate students in research. Use your research to understand your course work. Use your course work to be a better scientist!

CO-AUTHOR PUBLICATIONS Scientists publish. Hope students co-author publications in major science journals such as the Journal of the American Society, Biochemistry, Journal of Medicinal Chemistry, Journal of Organic Chemistry, FASEB Journal, Endocrinology, Microbial Ecology, Journal of Parasitology, Vaccine, Molecular Cancer Therapeutics, Genomics, BMC Genetics, Mathematical Reviews, Environmental Pollution, IEEE Conference Proceedings, Hydrogeology Journal, Journal of Forensic Science and others. Hope students also regularly present their findings at national conferences.

WORLD CLASS FACILITIES AND EQUIPMENT Hope students have early and easy access to such research grade equipment as: Pelletron particle accelerator and attached microprobe facility for materials analysis, two superconducting NMR spectrometers, gas and liquid chromatography-mass spectrometry, powder x-ray diffractometer, femtosecond laser spectroscopy and single molecule detection scanning electron microscope, atomic force microscope, research grade cell culture and small animal facilities, DNA sequencer, an Apotome/Fluorescence Microscope Imaging System for Enhanced Research, and one of the most powerful supercomputers in West Michigan. It's how cutting edge research gets done.

Evidence of Excellence

In 2012, one student received a Barry M Goldwater Scholarship: Andreana Rosnik. Howard Dobbs and Danielle Goodman received honorable mentions. In 2012 nationally, only 282 scholarships and 190 honorable mentions were given.

In 2012, two students received the prestigious NSF Graduate Research Fellowships and one received honorable mention. Nationally, 2,000 fellowships and 1,783 honorable mentions were made. In 2011, five students received NSF Graduate Research Fellowships and two received honorable mentions. Nationally, 2,000 fellowships and 2,003 honorable mentions were made in 2011.

In 2011, students gave the majority of more than 90 presentations in professional conferences. Examples of conferences include the Annual Meeting of the American Chemical Society, the American Physics Society, the Geological Society of America, the American Society for Biochemistry and Molecular Biology, Experimental Biology Meeting, American Society for Microbiology, International Society for Computational Biology, the Mathematical Association of America, the American Institute of Chemical Engineers, SPIE Defense and Security Symposium and others. These meetings are held in large cities such as Anaheim, San Diego, Los Angeles, San Francisco, New Orleans, Denver, Las Vegas, Chicago, Atlanta, Miami, Orlando, Washington DC, Boston, New York City, Philadelphia and others.

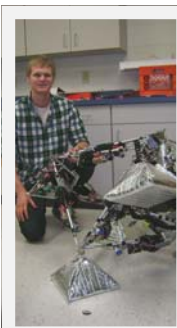
90% of applicants with grade point averages of 3.4 or above have been accepted by medical schools over the last ten years.

During the past ten years, about one-third of Hope science majors pursue Ph.D. degrees at a school of their choice. All these student have received fellowships from graduate schools to pursue their Ph.D. degree. Another third of our science graduates pursue a professional graduate degree in health-connected fields.

The Hope science research program normally has the largest number of students among all undergraduate colleges and universities nationally. Over the past three years, on average 150 students work with 45 science professors during the summer and more than 120 students continue to pursue research throughout the academic year.

In the production of Ph.D.'s in the sciences, Hope ranks in the top six percent in all liberal arts and undergraduate institutions and, in chemistry, the top one percent. 60 faculty authored 71 international peer-reviewed scientific publications in 2011. This level is almost twice the national average among non-Ph.D. granting colleges and universities.

Nursing graduates (December 2010-2011) who took the 2011 NCLEX-RN exam for the first time had a pass rate of 100%. This is the highest pass rate in the history of the Hope nursing program with recent pass rates of 97% in 2009-2010 and 95% in 2008-2009. Hope Nursing graduates have consistently passed the NCLEX-RN exam at rates above the national average.



Student Success Stories

Valerie Winton, '11

BS degree in chemistry, Valerie will began her Ph.D. studies at the University of Wisconsin, Madison in the fall of 2011. She was also accepted to Caltech, University of California, Berkeley, Stanford, University of Illinois, Urbana-Champaign, University of Chicago, and the University of Michigan, Ann Arbor. While at Hope Valerie did research for four years, producing two peer-reviewed publications and making 17 conference presentations. Her major awards include a Graduate Research Fellowship from the National Science Foundation (one of 2,000 awarded) and a Barry M. Goldwater Scholarship honorable mention.

“Conducting research at Hope has been an excellent experience which has cultivated my confidence and independence as a scientist. I believe this research background, as well as close interaction and support from the chemistry faculty, has been strongly influential in my graduate school acceptances as well as receiving the NSF Fellowship.”

Valerie Winton

Shirley Bradley Dean, '10

BS degree in ACS Chemistry and Biology, Shirley began a Ph.D. program at the Mayo Clinic. She was also accepted to the University of Michigan, Case Western Reserve University and Indiana University. At Hope she did research for three years, producing one peer reviewed publication and presented her work at 18 conferences. Shirley's awards include a Graduate Research Fellowship from the National Science Foundation (one of 2,000 awarded)

“Being involved in Hope's biology and chemistry departments immersed me in a depth of knowledge and engaged me in cutting-edge research. The research mentors at Hope are phenomenal, and my research mentor encouraged me to think critically about my project and inspired me to use my project as a platform for science outreach. These and other experiences aided me in acquiring various awards and advancing my career in medical research.”

Shirley Bradley Dean

Blair Williams, '10

BS degree in Mechanical Engineering; Blair is pursuing his M.S. (with fellowship) at Stanford. He was also accepted to Massachusetts Institute of Technology, University of Michigan, Purdue, Georgia Tech., and Carnegie Mellon. While at Hope he pursued original research for two years. He had one publication and gave six presentations at professional conferences. His major awards include the Barry M. Goldwater Scholarship (one of 278 awarded) and a Graduate Research Fellowship from the National Science Foundation (one of 2,051 awarded).

“My research experiences at Hope were pivotal to my preparation for graduate school. Not only was I able to carry out research on a self-proposed project, but I was able to gain experience with project proposals and grant writing. Perhaps the most rewarding aspect of research at Hope was working one-on-one with Hope professors; from such personal attention and active collaboration, over time these relationships evolve from student-mentor partnerships to lasting friendships.”

Blair Williams

Eric Lunderburg, '12

BS degree in Physics and Mathematics; Eric is pursuing a Ph.D. degree at Michigan State University. He was also accepted to Notre Dame and Stony Brook. While at Hope Eric began researching before his freshman year of college and continued original research during his four years. He had three first or second author publications and gave nine presentations at professional conferences. Eric received a Barry M. Goldwater Scholarship Honorable Mention in 2010.

“The undergraduate research program at Hope Taught me how to think critically, always looking toward the goal of making new scientific discoveries.”

Eric Lunderburg

**STRENGTH
THROUGH
COLLABORATION**



Dr. A. Paul Schaap graduated from Hope College in 1967 with a major in chemistry and received his Ph.D. in organic chemistry from Harvard in 1970. He joined the chemistry faculty at Wayne State University in 1970 and attained the rank of professor in 1979. Dr. Schaap's research at Wayne State University focused on the study of dioxetanes (high-energy chemical compounds which can be triggered to generate chemiluminescence or light). Dr. Schaap formed Lumigen, Inc. in 1987 to commercialize the dioxchemiluminescent detection reagents in life science research and medical diagnostics. In 2005, the world-class Hope College's A. Paul Schaap Science Center for teaching and research was inaugurated.

"My education and research experience in chemistry at Hope were instrumental in my career, first in academics and now in business."

A. Paul Schaap '67



2012 Summer Research Program
Division of Natural and Applied Sciences, Hope Entrepreneurial Institute and Department of Psychology

Students pursue their studies in well equipped and spacious facilities, including the new state-of-the-art A. Paul Schaap Science Center. The new building encompasses more than 150,000 square feet; including 21 teaching laboratories, 30 world-class faculty research laboratories, and teaching and research equipment. The Schaap Science Center is home for the teaching, research and learning of five departments; biology, chemistry, geology and environmental science, nursing and psychology. Van Zoeren and VanderWerf Science Complex houses the departments of: computer science, engineering, mathematics, and physics. Five physics and one engineering research laboratory were recently renovated through a grant from the NSF (ARI) in 2010.

HOPE COLLEGE IS YOUR PATHWAY TO:

- | | |
|---------------------------------------|--|
| Ph.D. programs at these universities: | M.D., D.O. programs at these universities: |
| Harvard University | Michigan State University |
| MIT | University of Michigan |
| Cornell University | Wayne State University |
| Duke University | Loyola University |
| Michigan State University | Northwestern University |
| Ohio State University | University of Iowa |
| University of Michigan, Ann Arbor | Kirksville College |
| University of Minnesota, Twin Cities | Medical College of Wisconsin |
| University of Wisconsin, Madison | University of Chicago |
| University of Texas, Austin | Washington University |
| Stanford University | Ohio State University |
| Scripps Research Institute | Cornell University |

Contact Information | admissions@hope.edu | www.hope.edu | 1.800.968.7850