



# Transformation in Perpetuity

**A**s a young Hope chemistry major, Dr. A. Paul Schaap '67 practically lived in the laboratory.

In fact, there were times when he wouldn't return home and would be found the next morning running experiments in Science Hall (now Lubbers Hall), unaware that he had worked through the night.

"Once I became involved in research, while I certainly continued to work at my classes, it became the main focus of my career at Hope College," he said. "It's one thing to learn about science in the classroom, or to learn it in the teaching laboratory, but it's another level of excitement to be involved in original experiments."

Little did he know that the passion he held for chemistry during his days at Hope was the beginning of a remarkable career that would impact many—and which would ultimately enable him to play a leadership role in assuring the same transformative learning experience for future generations of students.

Dr. Schaap cites his Hope research mentor, former faculty member Dr. Douglas Neckers '60, who is retired from Bowling Green State University, where he established the Center for Photochemical Science, as a particularly important influence as a teacher-researcher with an infectious enthusiasm for his work. He notes that the lessons he learned as they collaborated together to answer original questions in the laboratory—efforts that led to professional-level, peer-reviewed publications—proved to be an essential foundation as he headed to Harvard University for graduate school.

"It certainly was very useful, as I went on to graduate school, to have been deeply involved in collaborative research, and it really gave me a head start in my doctoral research," Dr. Schaap said.

After earning his Ph.D. in organic chemistry from Harvard University in 1970, Dr. Schaap taught chemistry at Wayne State University, where his research focused on dioxetanes, high-energy chemical compounds which can be triggered to generate chemiluminescence or light much as do fireflies in nature. Following a 30-year tenure at Wayne State, he retired to



Hope is a recognized leader nationally for involving students in collaborative research, experience that brings to life the lessons of the science classroom and adds many more. Junior Robert Sjöholm has been conducting research with chemist and dean Dr. Moses Lee since his freshman year. His career goal is to conduct research in the treatment of infectious diseases that affect predominantly developing countries, likely after obtaining an M.D./Ph.D. degree following Hope.

become the full-time president of Lumigen Inc., the company that he had founded in 1987 to commercialize the dioxetanes, which are now distributed worldwide by major corporations because of their sensitivity, versatility and stability as chemiluminescent detection reagents in life-science research and medical diagnostics. Now retired from Lumigen as well, he is active in community service—including as a member of the college's Board of Trustees.

Dr. Schaap and his wife, Carol, who live in Grosse Pointe Park, Mich., have felt that it is important to give back to Hope to help assure that today's students have access to the same education that he enjoyed. In addition to a major gift recognized by the naming of the A. Paul Schaap Science Center in 2006, they have provided a \$2 million endowment and completed an \$8 million charitable remainder unitrust (a deferred gift which will provide a later benefit to Hope) to fund collaborative research.

"It's a reflection of how important participating in research at Hope was to me in my education and scientific career, and I really want that experience for other students," he

said. "I also saw the importance of research when I was a faculty member at Wayne State University and taught my own students, both undergraduate and graduate."

Hope is a recognized leader nationally for involving students in collaborative research, and the college's program in the natural and applied sciences is one of the country's largest, with more than 160 students participating this

summer. It's an opportunity that draws students to Hope and which they fully appreciate.

"Along with the presence of a strong Christian community, Hope's focus on collaborative scientific research made me certain that this would be a place I could truly grow, both as a servant of God and in the development of the essential skills for my chosen career path," said junior Robert Sjöholm of Burnsville, Minn., who has been conducting research with chemist and dean Dr. Moses Lee since his freshman year. Sjöholm's career goal is to conduct research in the treatment of infectious diseases that affect predominantly developing countries, likely after obtaining an M.D./Ph.D. degree following Hope.

"Without a doubt, doing research is the prime environment for learning how to think and solve real problems," he said. "But perhaps even more importantly, research has taught me a relentless work ethic and passion—one that is able to easily overcome failure and transform exciting ideas fully into reality."

The Schaaps' gift is well-timed. Demand for research experiences is high and the benefits are clear and numerous, but financing the

program remains an ongoing challenge—and in some ways an increasingly difficult one. Much of the support for student researchers has traditionally come from external competitive grants, often federal, won by faculty, but such funding is always uncertain. The college is correspondingly placing a priority on building endowment to sustain in certainty a program that is a signature part of a Hope education.

And to expand it. In the latter half of the 20th century, the natural and applied sciences at Hope earned a reputation for excellence through the collaborative-research program, but the methodology is solidly applied in the arts, humanities and social sciences as well. It's no accident that Hope psychology students have won regional Psi Chi research awards for the past 11 years in a row, and national research honors in three of the past seven years.

The support and projects can take many forms. Linda and David '64 Wesselink, for example, established an endowed fund in support of collaborative learning through the Center for Faithful Leadership. The center is using the support for consulting projects for area organizations in need.

Senior accounting major Jacob Rollenhagen of Ada, Mich., received a stipend that enabled him to spend his summer with the center's ASI (Assessment, Solutions, Implementation) program, helping the independent food pantries of Allegan County develop a way to coordinate their efforts to serve a growing need—given the economic times, they had seen a 30 percent increase in demand for food.

"My work at ASI allowed me to grow both as a student and a person," said Rollenhagen, who plans to become a CPA after graduation. "There is no easy way to measure the exact number of people who will be fed because of the project, but I do know the process I developed will feed many and make a great impact. If even one more child is fed because of my work, it is worth it to me."

His work included studying a variety of food pantries and other communities' solutions, working with multiple organizations and individuals with a variety of needs and ideas, and then bringing the research and interactions together. "The skills I acquired in my position at ASI are not only great tools for success in business, but also in life," he said.

"My work at the Center for Faithful Leadership solved a real-life problem," Rollenhagen said. "At the same time, I grew a heart for giving to those who are less fortunate. I cannot thank Dr. Steve VanderVeen and Dr. Virgil Gulker [of the Center faculty] enough for granting me the opportunity to transform in this way during my years at Hope College." 🙌

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– Dr. A. Paul Schaap '67

Dr. A. Paul Schaap '67 and his wife Carol have provided major endowment support for collaborative student-faculty research at Hope because they know from Dr. Schaap's experience how significant the experience is. From his time at Hope Dr. Schaap went on to a career that included teaching chemistry for 30 years and founding Lumigen Inc. to commercialize the dioxetanes on which his research focused. The high-energy chemical compounds can be triggered to generate chemi-luminescence or light much as do fireflies in nature.

