Andrew S. Kende
1932 –2018

Andrew S. (Andy) Kende was born in Budapest Hungary in 1932. With World War II impending, his family immigrated to the United States in 1939 and settled in the Bronx where he received his earliest schooling. His father was recruited to Chicago IL to join Marshall Fields Co. and the family settled in the suburb of Evanston IL where Andy grew up and was educated through high school. A portent of things to come, he later described being fascinated with chemistry at six years old: "It's always seemed to me an interesting way to structure information," he said. "Things relate in a sensible way."

At an early age, Andy exemplified the excellence he would later encourage in his students. At 15, he was the winner of the National Westinghouse Science Talent Search where he bested in the final another noted organic chemist, National Academy member, and former President of the American Chemical Society Ronald Breslow, who as fate would have it, would later become Andy's graduate school lab mate at Harvard. At 16, he enrolled at the University of Chicago. After earning a 2-year A.B. degree, Andy realized he was not prepared to do advanced work in chemistry so he moved south to Florida State University for advanced coursework. He moved from there to Harvard University where he received his Ph.D. degree in Organic Chemistry in 1957 working with the Nobel Laureate, Professor Robert B. Woodward. During his doctoral work he elucidated new pathways for the reactions of aliphatic diazo compounds with ketenes and led to the first spectroscopic characterization of pure cyclopropanone. With the assistance of an NRC-American Cancer Society Postdoctoral Fellowship

(1956-57), Andy moved from Harvard to the UK's University of Glasgow to work with another Nobel Laureate Sir Derek H. R. Barton where he demonstrated the structure of the major photoisomerization product of dehydroergosteryl acetate.

Andy returned to the United States 1957-1958 to join Lederle Laboratories in Pearl River New York where his excursion into natural products chemistry would continue as he worked as part of the team that synthesized the antibiotic Tetracycline. He had the scientific freedom during this time to work on some of his own chemistry, which was focused on his fascination with the nascent field of organic photochemistry.

In 1968, Andy accepted an appointment as Professor of Chemistry at the University of Rochester. At Rochester, his research program focused on three principal themes: early work in organic photochemistry, pericyclic reactions, and total synthesis. During his time at Rochester, Andy's work on pericyclic reactions included the photochemistry of β,γ-enones and homoconjugated dienones, singlet oxygen chemistry, carbene reactions, rearrangements of cyclic polyenes, methylenecyclopropane isomerization and fragmentation, and the chemistry of isobenzofurans, mesoionic oxyallyl species, and phenalene derivatives. His studies in total synthesis include the construction of the antineoplastic alkaloid camptothecin from furfural, new methods for nucleophilic acylation and transition metal coupling reactions, development of selective photochemical methods in synthesis and new routes to the anthracycline antibiotics, including aklavinone which could then be modified as a less expensive, less toxic anti-tumor drug than other treatments then available. He also completed the total syntheses of numerous terpenoids including, steganacin, deoxyanisatin, and alkaloids including streptonigrin, dendrobine and sesbanine, and constructed the intricate tricyclic framework of the taxane diterpenes.

He had wide ranging scientific interests as exemplified by his collaboration with Alan Poland, an assistant professor of pharmacology and toxicology, in synthesizing TCDD, a persistent environmental contaminant and toxin resulting from the manufacture of herbicides, wood preservatives, and lubricating oils, and identifying the biological receptor for TCDD which mediated its potent toxic effects. This was an important first step in setting standards to help regulate TCDD.

Andy's research led to a 1978 Guggenheim Fellowship and to numerous invited lectures, including several Gordon Conference lectures, NSF Workshops in Natural Products Chemistry (1972 and 1974), and the International Symposium on Anthracycline Chemistry (Winnipeg, 1978), as well as plenary lectures at the Royal Society of Chemistry (Cambridge, England, July, 1983), the International Conference on Heterocyclic Chemistry (Tokyo, August, 1983), and the Medicinal Chemistry Symposium (Cambridge, England, September, 1983). In 1986, he was awarded a Japan Society for Promotion of Science Fellowship. Andy also received an ACS Cope Senior Scholar Award in 2003. Several of Andy's compounds were patented; in 1979 he was chosen inventor of the year by the Rochester Patent Law Association. That same year, he was one of 50 U.S. scientists chosen to participate in the nation's first bilateral scientific symposium with China. Other honors included the Rochester Section Award of the American

Chemical Society, and a Fellowship from the Japanese Society for the Promotion of Science. The Department of Chemistry has also created a named professorship in his honor.

Andy enjoyed teaching and was demanding instructor, but his real thrill was in mentoring and training his graduate students and participating in the research they did. He mentored over 50 postdocs and 50 students during his career. At Rochester, Andy had the reputation for demanding scientific excellence and would not settle for less than the pursuit of science at the highest level. The lessons they learned from him – about chemistry but also about working hard and achieving excellence – have remained with them over the years. Yuh-geng Tsay, an early Ph.D. student, remembers that whenever Andy returned from a business trip, "he would stop by the lab first to see how everyone was doing. This type of work ethic has inspired us not only to work hard, but to have a sense of urgency in everything you do. His teaching style empowered us to solve any technical challenge and to be independent problem solvers." Andy demanded excellence from all of those around him; students, staff, and faculty. His vision, imagination, and vast knowledge of organic chemistry were a valuable resource and set a standard that many tried to emulate. His selfless and energetic service to the field of organic chemistry was exemplary, a standard for all to strive.

Lanny Liebeskind, a Ph.D. student in the mid '70's, remembers walking into Andy's lab for the first time as a new graduate student. "I remember asking Andy when I should start my research. His succinct answer, in effect, was 'Now!'" says Liebeskind, the vice provost for strategic research initiatives and Samuel Dobbs Professor of Chemistry at Emory University. "I got the message loud and clear. It was a bit like being dropped into a professional sports team where the coach is constantly challenging you to push yourself beyond the comfort level. In doing so, you grew in ways as a scholar and person that you never would have on your own." Tsay had a similar experience. "When I toured Professor Kende's labs, I noticed there was a memo from him posted in each cubicle of his graduate students and postdocs. Two key phrases stood out that got my attention. 'When you are here, you should roll up your sleeves and work. If you cannot manage at least two experiments at the same time, you don't belong in this group.'"

During his 50-plus years as a member of the American Chemical Society, Andy served Organic Chemistry in numerous ways outside of his research, teaching, and mentoring. As department chair at Rochester from 1979 to 1983, he worked with the University's chief science librarian to introduce chemistry undergraduates to the wonders of the computer as a new way to search for articles and information "buried in the huge and growing body of scientific literature." This consisted of using an "ordinary phone" to dial a database, attaching the receiver to a portable computer terminal, typing in a request, and then "within seconds" getting a printout. Although truth be told, Andy was the very last to give up his venerable IBM Selectric typewriter and in the beginning was mystified by the new-fangled gadget called a mouse. He was noted running the mouse around on his assistant's computer monitor in her absence clicking away to no avail since his only exposure to computers, to that point, had been a touch-screen monitor at the local Wegman's supermarket.

Andy joined the editorial board of *Organic Reactions* in 1970 while William Dauben was Editor-in-Chief. During his twelve-year term on the editorial board, Organic Reactions published ten volumes. Because of Andy's avid interest in the Organic Reactions organization, he was elected to membership on the Board of Directors in 1980. He assumed the role of Editor-in-Chief in 1984 and held that position for five years before handing the mantle to Leo Paquette. Andy remained on the Board of Directors until his resignation in 2013.

During his four decades serving these various roles, Andy was responsible for the appointment of an additional Editorial Board secretary. This position was required as Organic Reactions grew from publishing roughly a single volume annually to its current multiple volumes a year.

Andy also elected as a member of the Editorial Board and was Editor of Volume *64* of *Organic Syntheses*. He subsequently joined the Board of Directors and served as President of *Organic Syntheses* Inc. from 2002-2012. In this role, he oversaw the beginning of *Organic Syntheses* transition from a purely print format to the current electronic and print publications.

He was appointed an associate editor of the ACS *Journal of Organic Chemistry*, serving for 12 years. He also was selected as a member of the Editorial Advisory Boards of *Chemical Reviews,* and *Synthetic Communications*. At the University of Rochester, Andy was a member of numerous University committees including graduate admissions, budget, tenure and privilege, and River Campus parking, served in the University Senate, and chaired the Scientific Advisory Board of the UR Cancer Center.

After his retirement from teaching 1998, he continued productive research until 2002, when Andy and his wife Fran moved from Rochester to Scottsdale, AZ. During the next 16 years, Andy and Fran continued to indulge their passion for travel and good food. Andy was a lifelong lover of good food of all types (particularly meat and potatoes but famously not fish), prepared and served well. As in everything he did, he brooked no incompetence in either area. The only “compensation” for his service to *Organic Reactions* and *Organic Syntheses* was an invitation to the annual or biannual dinners on the occasion of the meetings of the Editorial Boards and the Boards of Directors, typically at ACS national meetings. Because of Andy's well-known like of good food and wine as well as his involvement in both the *Organic Reactions* and *Organic Syntheses* organizations, there was a good-spirited competition at each annual or bi-annual meeting to determine which dinner was "best." Andy, of course, was the sole judge.

Andy and Fran were also justifiably immensely proud of their only child, their son Mark, who in his own right has gone on to considerable distinction in academia as a constitutional law scholar holding the James Madison Chair in Constitutional Law at the Drake University School of Law.

Andy rest in peace, we all will miss you on so many levels, as a person, as a scholar, as a teacher who trained your students to carry on your high standards of scientific rigor and excellence, and for your unselfish service to your science and your profession. Godspeed.

Robert K. Boeckman Jr.
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