Dear Faculty, Staff, and Friends,

Many of you may already know the sad news of Carl Djerassi’s passing.  Carl died last Friday, January 30, 2015, at his home in San Francisco following a long illness. He is survived by his son, Dale Djerassi, stepdaughter Leah Middlebrook, and grandson, Alexander M. Djerassi.

Much has, and will continue to be, written about Carl’s extensive contributions to science, humanity and the arts.  Here, I would like to briefly focus on his academic and research career, and him as our faculty colleague at Stanford for more than 40 years.  Carl attended Newark Junior College and Tarkio College, and subsequently graduated summa cum laude from Kenyon College before his nineteenth birthday. It was at Kenyon where, in his own words, he “became a chemist”. He then moved to the University of Wisconsin where he earned a Ph.D. in chemistry in 1945 and made lifelong connections with both its prominent professors (William Johnson) and students (Gilbert Stork). He subsequently worked as a research chemist at the CIBA Pharmaceutical Company in New Jersey, developing one of the first commercial antihistamines (Pyribenzamine) and experiencing first hand the powerful connection between chemistry and human health.  In 1949, at the age of 26, Carl became associate director of research at Syntex, S.A. in Mexico City. His research was directed at a synthesis of cortisone from diosgenin, a molecule derived from a Mexican wild yam and a naturally abundant precursor for synthetic steroids. Later, he and his coworkers synthesized norethisterone, a potent orally available progestin analog that to this day is a component of pharmaceuticals that control fertility (a.k.a. “the Pill”).  Carl’s chemistry contributed critically to what is perhaps one of the greatest liberations of all time, the freedom of a woman to make a choice on conception.

Carl reestablished his connection with academia in 1952, accepting a position as Professor of Chemistry at Wayne State University. However, in 1957, he returned to Syntex, S.A. in Mexico City, while on leave from Wayne State, to serve as its vice president of research.  In the late 1950s, William Johnson, one of Carl’s mentors at the University of Wisconsin, was recruited to Stanford University.  Bill came to Stanford in 1960 as the new Executive Head with the mandate from the then Stanford Provost Fred Terman to build Chemistry into one of the world’s leading Departments.  During this same period, Bill championed the recruitment of Carl from Wayne State (at that time on leave at Syntex in Mexico City) and Carl joined the Department in 1959.  Providing modern laboratory space for two large experimental groups in the “Old Chemistry and Organic Chemistry Buildings” was a daunting challenge.  Fortunately, support for a new research chemistry laboratory building was quickly found and through the generosity of the Stauffer Family, the Stauffer Laboratory (known now as Stauffer I) was designed by the local architect Birge Clarke with guidance from Carl and Bill.  The new building, completed in late 1960, was the home for Carl’s office and research laboratories through all of his academic career at Stanford.

Carl engaged vigorously in the teaching and research missions of the Department.  He was even planning to give a Sophomore Seminar class this winter quarter, which he regrettably had to cancel in December due to his failing health.  As a Stanford Chemistry colleague, Carl did many things which were important for our Department beyond his outstanding research, teaching and mentorship.   He created our Industrial Affiliates Program that served as a model for effective university-industry partnerships. He is responsible for the Chemistry Department Gazebo, which was his brainchild and for which he raised funding from several industrial donors.  Carl was the co-founder of our Johnson Symposium which began in 1986 as a tribute to Bill Johnson and this year will be the 30th in the series.  At the same time, Carl continued his dual academic-industrial career, serving as the President of Syntex Research in Palo Alto from 1968 to 1972. In 1968, he also started a new company, Zoecon, connecting his interest in human hormone biochemistry to insect hormones that influence insect growth and can thus be used for pest control.

Carl’s scientific productivity was astounding and he published over 1200 scientific papers.   He made a mark on synthesis, contributing methods for the construction of organic compounds and most notably steroids. He contributed significantly to our understanding of biosynthesis, *i.e*., how nature makes molecules and he was one of the early leaders in efforts to isolate, characterize and elucidate the biosynthesis of marine natural products.  Carl also helped to pioneer development and application of instrumentation and methods in chemistry.  This included the use of mass spectrometry, a highly sensitive analytical tool that is critical to establishing the structure of complex molecules. He also made contributions to magnetic circular dichroism and optical rotatory dispersion, again providing insights into the structure of molecules, including their chirality or handedness.  With Stanford colleagues Joshua Lederberg and Edward Feigenbaum, Carl played an important role in developing the use of computer artificial intelligence techniques for structure elucidation.  He devised a computer program called DENDRAL that allowed for the elucidation of the structures of unknown organic compounds. This was done at a time (1965) when most were not even aware of computers, let alone their transformative potential and the emerging field of artificial intelligence.

As might be expected from his pioneering achievements in many areas, Carl was recognized with numerous awards. Highlights among these were the National Medal of Science (1973), the first Wolf Prize in Chemistry (1978), being inducted into the National Inventors Hall of Fame (1978) and the National Medal of Technology (1991). The American Chemical Society honored him with many awards, including the Award in Pure Chemistry (1958), the Priestley Medal (1992), and the Willard Gibbs Medal (1997). Carl was a member of the U.S. National Academy of Sciences and of its Institute of Medicine, the American Academy of Arts and Sciences, as well as a foreign member of the Royal Society (London), the Royal Swedish Academy of Sciences, and the Royal Swedish Academy of Engineering Sciences.  He received many honorary doctorates from universities all over the world.

After retiring from our Chemistry Department in 2002, and with the encouragement of his late wife Dianne Middlebrook, Carl devoted himself to expressing science to the general public in artistic forms including drama, fiction, and poetry.  And he did so with immense personal energy and with much success.  Actually, he had started on that theme before 2002, but it accelerated significantly after his retirement.  Many of his colleagues enjoyed his book signing events, opening nights in the theater district, and literary soirees in his San Francisco home.  His passion for educating the mind and soul will be missed across the Stanford community.

Thank you to Paul Wender and Dick Zare who contributed significantly to this note about Carl.  A perspective on Carl’s early time in our Department is found in Eric Hutchinson’s History – 1891-1976 (see <http://web.stanford.edu/group/swain/history/hutchinson/index.html>, Chapter 3).  We will keep you informed about plans that are being developed to recognize and honor Carl’s contributions.

ps.  the Austrian stamp honoring Carl was issued in 2005, see:

<http://news.stanford.edu/news/2005/january19/djerassi-011905.html>

Sincerely, Keith

Keith Hodgson, Chair of the Chemistry Department