

Pioneer In Peptide Chemistry At UC San Diego Dies At 75

Sherry Seethaler

Murray Goodman, a professor of chemistry and biochemistry and a former Provost of Revelle College, at the University of California, San Diego who helped found the field of peptide chemistry-the synthesis and analysis of compounds that mimic important biological molecules-died on June 1 in Munich, Germany, from pneumonia. He was 75.

Goodman had published nearly 500 scientific papers, most appearing in the top peer-reviewed journals in his field, and his work had significant impacts in fundamental chemical science as well as the pharmaceutical industry. His achievements have been honored with numerous awards from around the globe, including election as a fellow to the American Association for the Advancement of Science in 1984; Ralph Hirschmann Award for Peptide Chemistry, American Chemical Society, 1997; election as a foreign member to the Russian Academy of Sciences, 1999; Herman F. Mark Polymer Chemistry Award, American Chemical Society, 2000 and the Arthur C. Cope Scholar Award, American Chemical Society, 2001.

"One of the things that was so refreshing about Murray was that he didn't just stick to the same familiar laboratory techniques," says Clifford Kubiak, chair of UCSD's Department of Chemistry and Biochemistry. "He was always learning and pioneering new methods. The younger people in peptide chemistry have been deeply influenced by Murray."

Goodman began his work in peptide chemistry when it was an emerging field. Born and raised in New York City, he received a bachelor of science from Brooklyn College in 1950. He earned his doctorate three years later from the University of California, Berkeley, working on the use of isotopes as tracers to understand the mechanisms of photosynthesis with Melvin Calvin, who won the 1961 Nobel Prize in Chemistry. Drawn by the possibilities of a new field, Goodman undertook postdoctoral research in peptide chemistry at the Massachusetts Institute of Technology and later at Cambridge University in England.

He joined the faculty of the Polytechnic Institute of Brooklyn in 1956 and rose through the ranks to become director of the Polytechnic's Polymer Research Institute. He had been the editor-in-chief for *Biopolymers*, a leading journal in his field, since 1963. In 1970, Goodman joined the UCSD faculty as a professor of chemistry. He remained there ever since, serving as chair of the Department of Chemistry for six years, and was recently honored with the establishment of an endowed professorship in his name, the Goodman Chair in Chemistry.

Goodman's research involved the chemical synthesis of natural peptide mimics and the study of how the structure of these peptides contributes to their function. Peptides-essentially small protein molecules-play many important roles in the body; for example, the body has natural painkiller peptides, endogenous opioids. Goodman's work was on the cutting edge of peptide synthesis as well as the application of the latest molecular imaging techniques to determine peptide structure. Goodman's group of scientists collaborates with other researchers to test the biological effectiveness of the peptides they make. The group then uses this information to modify the peptides to enhance their effectiveness. The work has many practical applications including the development of anticancer drugs, pain medication, artificial sweeteners and artificial growth hormones.

Goodman had influenced the field of chemistry not only by his research, but also as an inspiring teacher and mentor to undergraduate students, graduate students and postgraduate scholars. On May 11, he received

UCSD's Chancellor's Associates Recognition Award for Excellence in Graduate Teaching. He trained 84 graduate students and an additional 200 postdoctoral fellows and visiting scientists have passed through his laboratory.

"Mentoring and launching the careers of young scientists is what Murray chose for his life's work," says Joseph Taulane, Goodman's assistant and laboratory director, who knew Goodman for nearly thirty years. "He said many times that he stood on the shoulders of his students."

Goodman's 85th graduate student, Nicole Smith, who will defend her doctoral dissertation on June 4, says she knew she wanted to work with Goodman as soon as she met him.

"He really took the time to teach you, and was willing to give you the freedom to try things your own way." says Smith. "But the most important thing I learned from him was how to be a professional."

Goodman was active in the Jewish and broader communities in San Diego. He served as President of the Congregation Beth El synagogue in La Jolla, and was on the Boards of Hillel Foundation and La Jolla Country Day School. Dr. Goodman is survived by his wife of 53 fifty three years, Zelda of La Jolla, their three sons, Joshua of San Francisco, Andrew of San Francisco, and David of New York and six grandchildren, Mikaela, Zachary, Jessica, Elijah, Celia and Noah.

In lieu of flowers the family is suggesting that contributions may be made to the Murray Goodman Memorial fund with the intent of establishing an Annual Lectureship in his honor. Contributions may be sent to "Chair, Department of Chemistry and Biochemistry, UCSD, La Jolla CA 92093-0332." Alternatively donations may be made to Congregation Beth El in La Jolla or to Hillel at U.C.S.D.

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