

**MEMORIAL RESOLUTION OF THE FACULTY
OF THE UNIVERSITY OF WISCONSIN-MADISON**

ON THE DEATH OF PROFESSOR EMERITUS JENS THURØ CARSTENSEN

Professor Emeritus Jens Thurø Carstensen died at the age of 87 on July 10, 2013 at the Agrace Hospice Care in Madison, Wisconsin, after a long illness. Born in Brooklyn, New York, Professor Carstensen grew up in Denmark where he received his MS degree in chemical engineering in 1950 from the Technical University of Denmark. Returning to the U.S. in 1950, he began his career in the pharmaceutical industry with Lederle Laboratories and later moved to Hoffmann La Roche, working in product development and pharmaceutical manufacturing. This laid the groundwork for his strong desire to understand better the fundamental underlying physical and chemical behavior of pharmaceutical systems, and thus to pursue graduate studies. He received his MS (1964) and PhD (1967) degrees in physical chemistry from Stevens Institute of Technology, then turned to academia and joined the University of Wisconsin's School of Pharmacy. He became a full professor in 1971 and retired in 1995 as professor emeritus, retaining a half-time appointment for several years thereafter.

He retained a lengthy joint appointment with the school and with extension services in pharmacy. He had a deep interest in teaching, both in the lecture hall and in the laboratory. In these roles his industrial experience and engineering background served him well. Over the years, he identified, developed and taught many popular short courses designed to enhance the scientific effectiveness of industry scientists, e.g. chemical stability and kinetics, the behavior of solids, suspensions and solutions, dissolution, and statistics—all laced with examples of problems he had encountered himself and enhanced in understanding by his academic research. His students celebrated the relevance of his teaching. After spending a sabbatical year at L'Université de Paris Sud in 1977-78, he was asked to teach his courses abroad on a regular basis. Surely, his curricula in these courses provided a key foundation for the expansive system of industrial education that we now take for granted.

Over the course of his esteemed career, Professor Carstensen helped shape and advance the fundamental understanding of pharmaceutical systems throughout the world, singly authoring eight influential textbooks and as many chapters in additional books, and writing/co-authoring over 200 research articles in peer-reviewed journals. He also shared inventorship on six patents. In his research, he successfully applied basic principles of chemistry, engineering and physics to heterogeneous systems whose behavior had previously defied quantitation, let alone the prediction of behavior. Key areas of his research included the kinetics of solid state reactions, such as polymorphic transformations, crystallization, decarboxylation, and interaction with moisture. He defined powders and suspensions, whether drug or inactive ingredient, as quantifiable collections of individual particles, enabling the development scientist to understand and anticipate better their physical and chemical behavior, such as their stability or their compaction properties on tableting. His quantitative definitions and practical mathematical relationships for the behavior of such heterogeneous systems have afforded better prediction of behavior and ultimately the development of better controls for pharmaceutical product development. The rich contribution he has made to the interrogation and understanding of a broad list of representative pharmaceutical systems is evident if one peruses the titles of his considerable list of publications.

Professor Carstensen served on the United States Pharmacopoeia Revision Committee for many years as well as on the Academy of Pharmaceutical Sciences Dissolution Committee. He also served on the editorial boards of four major international pharmaceutical science and technology journals and was a reviewer for many more. He was a member of the Food and Drug Administration's panel of experts on pharmaceuticals. He planned, presided, and taught in many of the famed University of Wisconsin-initiated pharmaceutical research conferences. For his contributions to the understanding of pharmaceutical

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systems, he received the Academy of Pharmaceutical Sciences Ebert Prize in 1976 and Research Achievement Award in 1977. He also received the Ghent Research Award (Belgium) in 1978 and the International Pharmaceutical Technology award in 1979. In 1981 he was invited to present the Ohio State University Mallinckrodt Lecture.

In 2011, Mahendra Patel (MS '74, PhD '78), one of Professor Carstensen's former students, and his wife, Jayshree, made a lead gift to establish the Jens T. Carstensen Chair in Pharmaceutical Sciences at the University of Wisconsin-Madison School of Pharmacy. This honor was then elevated to distinguished chair by additional gifts from the E. Thomas Arington Family, other friends and former students. The Jens T. Carstensen Distinguished Chair in Pharmaceutical Sciences honors and recognizes Jens' extraordinary contributions to the School of Pharmacy, to his students, and to pharmaceutical sciences.

As do many extraordinary people, Jens had "another life." While on sabbatical in France, he picked up a brush and started to paint. Over the years, his early watercolors, often Wisconsin landscapes soft in color and definition, morphed into daring patterns of bold oil or acrylic colors that define local landscapes, or figures with attitude. Thought by art aficionados from Wisconsin and Michigan to Florida to have been an artist all the while, Jens made no attempt to convince them otherwise. But many of his science colleagues became accustomed to knowing better as announcements of his exhibitions accumulated. Galleries in Wisconsin and in Michigan and their Carstensen collectors will in particular miss his artistic contributions, convivial nature and bright smile.

Jens had a jocular sense of humor that could bounce from sweet to risqué and back again, offered with a twinkle in his eye, despite the pressures of the day. His door was rarely closed—busy or not, he was quick to help a student in distress. His generous demeanor belied the unimaginable experience he suffered during his six months' imprisonment in German concentration camps in 1945 for his part in the Danish Resistance—a rare subject of conversation. His response to freedom?—he joined the U.S. Army until he was honorably discharged in early 1948.

His ebullient laugh and twinkling eyes remained infectious to the end, despite his health having faded in his last years. He will be missed, leaving behind his devoted wife and soul mate, Catherine Gene Karr, his children Peter, Poul, and Vibeke, seven grandchildren and five great-grandchildren.

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