Dale L. Boger

Born August 22, 1953 in Hutchinson, Kansas, Dale Boger received his B.Sc. in chemistry from the University of Kansas, Lawrence, Kansas (1975, with highest distinction and honors in chemistry) and Ph.D. in chemistry from Harvard University (1980) under the direction of E. J. Corey. He returned to the University of Kansas as a member of the faculty in the Department of Medicinal Chemistry (1979-1985), moved to the Department of Chemistry at Purdue University (1985-1991), and then joined the faculty in the Department of Chemistry at The Scripps Research Institute (1991-present) as the Richard and Alice Cramer Professor of Chemistry. Professor Boger is internationally recognized for his work in organic synthesis, heterocyclic chemistry, natural products total synthesis and biological evaluation, synthetic methodology development, medicinal and bioorganic chemistry, and has made seminal contributions to the understanding of DNA-agent interactions of naturally occurring antitumor antibiotics. Most notable is his development and application of the hetero Diels-Alder reaction to the syntheses of complex natural products, his development and applications of the cycloaddition reactions of cyclopropenone ketals, methodology based on the inter- and intramolecular alkene addition reactions of acyl radicals, medium and large ring macrocyclization technology, and solution phase combinatorial chemistry methodology. Beautiful applications of this may be found in his total syntheses of natural products including bleomycin A_2, CC-1065, streptonigrin, lavendamycin, colchicine, vancomycin, teicoplanin, prodigiosin, trikentrin A, duocarmycin SA, duocarmycin A, deoxybouvardin and bouvardin, sandramycin, luzopeptins A-C, quinoxapeptins A-C, isochrysohermidin, and grandirubrine. Many of the above agents were addressed on the basis of their properties. For example, Professor Boger's group was not only the first to prepare duocarmycin SA, but they went on to define their DNA alkylation properties and selectivity. In these studies they defined the common pharmacophore of CC-1065 and the duocarmycins, made the unusual observation that both enantiomers of the natural product constitute effective DNA alkylating agents, have identified an unusual source of catalysis for the DNA alkylation reaction, and have defined subtle structural and stereoelectronic features of the agents that contribute to functional reactivity and reaction regioselectivity and their impact on the DNA alkylation and biological properties of the agents. Dr. Boger is the founding editor of *Bioorganic and Medicinal Chemistry Letters* (1990-present) and he has received a number of prestigious

honors and awards. Among these are a National Science Foundation Predoctoral Fellowship (1975-1978), a Searle Scholar Award (1981-1985), a National Institutes of Health Research Career Development Award (1983-1988), an Alfred P. Sloan Fellowship (1985-1987), the American Chemical Society A. C. Cope Scholar Award (1988), the American Cyanamide Academic Award (1989), the ISHC Katritzky Award in Heterocyclic Chemistry (1997), the Aldrich ACS Award for Creativity in Organic Synthesis (1999) and the A. R. Day Award (2000).