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Editorial

Special Issue in Honor of Professor David G. I. Kingston

We are honored and pleased to be able to bring to our readers this special issue of the *Journal of Natural Products*, which is dedicated to Dr. David G. I. Kingston, Professor of Chemistry and University Distinguished Professor, Virginia Polytechnic Institute and State University, Blacksburg, Virginia. David has made many outstanding contributions to the field of natural products science and is best known for his work on paclitaxel (Taxol), an anticancer drug responsible for saving lives of numerous cancer patients, and for the conservation of biodiversity through drug discovery.

Let us cover the professional aspects of David's career first, and then we will continue with more of David, the person, from a variety of aspects, rather than David the professional chemist and teacher. However, David's love of chemistry, both synthetic and natural product isolation and structure determinations, comes through in his strong relationships with colleagues from around the world.

David Kingston was born on November 9, 1938, in London, England. He earned his B.A. in Chemistry in 1960 with First Class Honors from Cambridge University and a Dip. Th. in 1962 from the University of London. He returned to Cambridge University, where he completed his M.Sc. and Ph.D. on the chemistry of aphid pigments in 1963, both under the direction of Professor Lord Todd, F.R.S., Nobel Laureate, and Dr. D. W. Cameron, which may have been his first introduction to natural products chemistry. He then moved back and forth across the Atlantic for some years. From 1963 to 1964, he was a research associate in biochemistry at M.I.T., perhaps his first formal introduction to the biological aspects of chemistry. He then returned to Cambridge University, where from 1964 to 1966 he held a N.A.T.O. Fellowship as a Research Fellow and Director of Studies in Chemistry at Queen's College. Continuing in his peripatetic ways, he recrossed the Atlantic, this time permanently from a professional aspect, taking up an Assistant Professorship in the Department of Chemistry at the State University of New York at Albany in 1966. During these travels, aside from chemistry, he managed to find the time, while publishing a significant number of papers for those days, to woo and marry Beverly Mark, his wife of now close to 43 years. In 1971, the Kingston family, now plus two very young daughters, Christina and Joy, moved from the snow belt of Northern New York to the more sylvan pastures of Blacksburg, Virginia, where he was appointed an Associate Professor of Chemistry at the then Virginia Polytechnic Institute, now known as the Virginia Polytechnic Institute and State University (VPISU). David rose through the ranks to become Full Professor in 1977, just after the birth of his third child, this time a son, Jonathan. He was promoted in 1999 to University Distinguished Professor.

During his distinguished and productive career spanning over 45 years, David Kingston has authored or co-authored nearly 330 peer-reviewed scientific publications, 30 book chapters, 16 patent applications, and a book, which he jointly edited with Dr. Gordon Cragg and one of us (D.J.N.).[1] David's research has focused on all major aspects of natural products science, including isolation, structure elucidation, biological evaluation, biosynthesis, and chemical synthesis. His pioneering and insightful work on structure−activity relationships of Taxol led to a number of discoveries, which formed the basis of subsequent SAR studies that have been accomplished by David and others, in particular,

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continuing studies with Ojima's group at Stony Brook. David has investigated almost every functional group on the taxane ring system and its side-chain to see how these changes affect the biological activity of Taxol. These included methods to remove the side-chain to give baccatin III and to re-esterify baccatin III to provide 13-acyl analogues;[2] open the oxetane ring to yield analogues that are significantly less active than paclitaxel;[3] prepare A-ring contracted analogues;[4] and deoxygenate C-1, C-2, C-4, C-7, and C-10.[5] David's group was also responsible for developing a very clever method to remove the benzoyl group at C-2 of Taxol, which led to the synthesis of 2-*m*-azidobenzoyl and 2-*m*-methoxybenzoyl analogues with impressive activity[6] and a sulfetane analogue with no activity.[7] The impact of this work on drug development is apparent, as at least one analogue of Taxol with a 2-*m*-methoxybenzoyl substituent has entered clinical trials. David's more recent work on Taxol is summarized in his recent article entitled "A Natural Love of Natural Products", which was the title of his award address following the bestowing of the Guenther Award last year by the American Chemical Society.[8]

In addition to his formal presentations in the scientific literature, David has been and still is very active in helping people both in the United States and, in particular, in areas of the world where his love of chemistry and of people combine. He has been very successful in the International Cooperative Biodiversity Group (ICBG) program administered by the Fogarty International Center at NIH and is currently on his fourth five-year award. He has aided scientists and people in developing nations spread widely though the tropics (in particular Suriname and Madagascar) and has trained, both in those countries and others and in his laboratories at Virginia Tech, a number of bright young scientists, who have published with him on materials from their country's flora and fauna. These colleagues are now back on their native shores, aiding others in their search for novel agents not only against cancer but for infectious diseases of interest to their countries, in particular malaria and TB. In addition to the ICBG work, for 15 years, David's laboratory was an integral part of another Cooperative Program, this time, the National Cooperative Drug Development Group (NCDDG) program from the NCI. David, Sidney Hecht from the University of Virginia, Randall Johnson from the then Smith Kline Beckman (now GSK), John Lazo from the University of Pittsburgh, and one of us (D.J.N.) were part of this successful program studying plant and marine invertebrate extracts in targeted assays related to cancer.

Besides these two major cooperative programs, David had grants in his own right from NIH and other funding agencies with many millions of dollars being brought in to aid in developing his graduate students and postdoctoral associates. During his time in the U.S., David had graduated 23 Master's level and 36 doctoral students, and the number of postdoctoral associates, visiting fellows, etc., is very high. We might add that he has consistently been evaluated by his students as an excellent and inspiring teacher of chemistry. Two of the Guest Editors for this issue of the *Journal* (A.A.L.G. and V.d.S.B.) were associated with David and have gained much under his guidance, and one of us (A.A.L.G.) has spent over eight years of his productive career in David's group working on projects involving SAR studies of Taxol and natural product-based drug discovery.

David's "extracurricular activities" are catholic (using the old sense of the term) in nature. He has been a mainstay of the American Society of Pharmacognosy, where he was President in 1988−1989 and for over 20 years was heavily involved with the *Journal of Natural Products* as the Book Review Editor (1979−2002) and as Associate Editor (1984−1998). He has been a very frequent and fair reviewer for many chemical journals and on numerous NIH Study Sections. David is also a very talented lay preacher in his local congregation (The Blacksburg Christian Fellowship) for the years he has been in western Virginia, and one of us (D.J.N.) can remember a few occasions when collaborating with him on review articles and book chapters, David would say that he had to finish a sermon before he could devote his time to more "earthly concerns".

In closing, if one had to think of a single term to describe David, we think that we would have to move to a language that some may have heard or heard of, some may be able to read and speak. To best describe him in one word, we suggest that the Yiddish term "mensch" would fit the bill.

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