

Bruce R. Kowalski, 7 Mar 1942 to 1 Dec 2012



The uncharacteristically serious young man in this black and white picture was my research advisor at the University of Washington (UW), Seattle WA, from 1974 to 1977. I first met him in 1964 as he was finishing a double major in chemistry and mathematics at Milliken University in my Midwestern hometown. When I arrived at UW as an undergrad, there he was: a finishing PhD student in Tom Isenhour's research group. I was privileged to be instructed by Tom, Peter Jurs, and Bruce in the power of chemical computing during the exciting days of "computerized learning machines," and to absorb from them many FORTRAN do's and don'ts.

Bruce finished his PhD in 1969 and joined Shell in Emeryville, CA, but almost immediately, Shell moved away to Houston. He loved the work, but mountains called, so in 1971, he left for the Lawrence Livermore Laboratory. There, he worked closely with C.F. (Charlie) Bender, another UW grad, on the application of multivariate methods for "chemical pattern recognition" and helped develop Livermore's proprietary PATTRN data analysis system. In 1972, Bruce returned to academics as Assistant Professor at Colorado State (closer mountains) where he started building the ARTHUR polyalgorithm, loosely modeled on Livermore's system but intended for public distribution (by the way, ARTHUR was named for National Science Foundation's Arthur F. Findeis). In late 1973, Bruce was enticed back to the UW, where he remained until retirement in 1999. At UW, he became full professor in 1979 and an endowed professor in 1991.

Somehow, Bruce and I maintained loose contact during his wandering years. As he prepared to leave Colorado State, he

invited me to join him in building ARTHUR. I was a second year grad student at Arizona State and had not yet identified an engaging research topic, so I grabbed the opportunity. The following few years were exciting, exhausting, and rewarding both personally and professionally. Not a hands-on advisor, Bruce was a consummate salesman and enthusiast always focused on what *could* be done and *needed* to be done rather than the mechanics of doing. He brought into his research group some of the most fascinating folks, in particular, Svante Wold who taught us that what we were engaged in was best called "chemometrics."

Others in this issue carry on the story of how Bruce and chemometrics coevolved. Barry Wise presents the Web of relationships that virtually define the structure of modern chemometrics at <http://www.eigenvector.com/evrblog/?p=853>. But here are a few summary statistics that capture a fraction of his influence: 32 PhD and three MS students, over 230 research publications, editorials, chapters, and reports (32 in this journal) with 144 coauthors, more than 230 invited lectures, four patents, more than 50 quarters of undergrad and graduate sections spread over 18 courses, more than \$22m in grants, and – not least – founder of this journal.

Bruce retired to a very active life near Durango, CO. He joined the Fort Lewis Mesa Fire Department where his specialty was hazmat. Bruce and his beloved companion, Chaco-Bob, were involved in canine search and rescue with Durango Fire and Rescue. He is survived by his wife of 38 years, Sandy; his daughter Jennifer; son Gregory; brother Craig; sister Cindy; and numerous nieces and nephews.

By the efforts of many, three programs have been established to perpetuate Bruce's legacy. The UW graduate school's *Kowalski Excellence in Graduate Education Fund* and the UW Chemistry Department's *Bruce R. Kowalski Endowed Fund in Chemistry*, both intended to support young scholars at the UW, can be assessed through giving.uw.edu/Kowalski, search on keyword "Kowalski." The *Bruce R. Kowalski Award in Chemometrics - Administered by the Society for Applied Spectroscopy*, will recognize "outstanding young researchers in the field of chemometrics and, by extension, for advanced mathematical and/or statistical methods in chemistry" where "young researcher" is anyone (student, academic, government, or private enterprise) who is within 5 years of their most recent degree. Svante had the concept; John Kalivas, Bo Saxberg, Kate Forster, and I made it happen; and it has the full support of Sandy and the rest of Bruce's family. There is a short description of this program at <https://www.s-a-s.org/formembers/Kowalski-Award/>. All three of these programs are seeking private and corporate donations.



As a final note, this color picture is much more representative of the man we knew, respected, and loved each in our own ways. We miss you, big guy. May there always be mountains.

Dave Duewer, UW '71 & '77
david.duewer@nist.gov

Chemical Sciences Division, NIST, Gaithersburg, MD, USA