



IN MEMORIAM

Henry Alder
Professor of Mathematics, Emeritus
Davis
1922 — 2002

We can thank the Franco- Prussian war of 1870 for bringing Henry Alder to our campus. His grandfather, the fourth son of a banker, was called to military service. However, Germany had a rule that a fourth son did not have to serve. To doubly ensure that this son would not be called up, his parents bought him Swiss citizenship, which was inherited by all his descendants. This made it easy for Henry, then 11, and his family to leave Germany in 1933 and settle in Switzerland. He served briefly in the Swiss army, guarding the border against Germany, 1940-41, before moving to Berkeley in 1941 to escape the threat of a Nazi invasion.

A year later he graduated from UCB with bachelors degrees in mathematics and chemistry, the latter to please his father, who wanted Henry to be able to earn a living. His graduate work, all in mathematics and interrupted by service in the Army Air Corps 1944-45, culminated with a Ph.D. in 1947. That same year he was appointed an instructor in Berkeley. A year later he joined the faculty at Davis to begin over half a century of exemplary service to the University and to education and mathematics at the state and national levels.

Beginning his research with a thesis under D. H. Lehmer, a prominent number theorist, he concentrated on partition theory, the study of the ways a whole number can be expressed as the sum of smaller numbers which meet some specific condition. He generalized the famous Rogers- Ramanujan identities, introducing certain polynomials now known as the “Alder polynomials.”

He also had a strong interest in statistics and regularly taught statistics courses, out of which grew a textbook, *Introduction to Probability and Statistics*, written with his colleague Edward Roessler, which went through six editions.

He was a legendary teacher, with his year- long number theory course one of the most popular in the upper division offerings of the mathematics department. As one student recalled, “He said just enough so that I could experience the joy of discovery myself.” He quickly memorized the names of all the students and years later could recall their performances and even their grades. He was so accomplished that a new professor who had never taught before was simply advised to go watch Alder teach and try to emulate him.

He was at home with all audiences, and people flocked to hear him no matter what the topic. At a talk he gave at the California Mathematics Council’s annual Asilomar meeting, the presider asked for a show of hands from those who were drawn to learn about the topic. Two hands went up. Then, when he asked how many came just to hear Henry, everyone raised their hands.

Demonstrating yet again his devotion to teaching, he presented the Mathematics Department \$100,000 to establish a fund to provide an annual award for the top teacher among graduate students and to improve undergraduate education.

Matching his genius for teaching was his equally astonishing talent for administrative work at all levels: the Mathematics Department, the campus, the state, and the nation. He brought the ultimate in rational thinking to the most contentious issues, particularly in matters of education from kindergarten to university.

Whoever wished to joust with him had to be well prepared, for Henry thought deeply about the issues. He would reel off reasons for his case - one, two, three, four - and then warn, "If that doesn't persuade you, I have five more ready." Like a skilled juggler, he was able to work effectively on half a dozen committees at once. To accomplish this superhuman task, he often woke early and devoted hours of uninterrupted time before breakfast to preparation.

To sample his countless contributions to education and the mathematical community through his committee work, we mention just three: first chair of the campus Committee on Culturally Disadvantaged Students, member of the Committee on Teaching, chair of the committee on Undergraduate Research Participation in the Mathematical and Physical Sciences. At the statewide level, he chaired for two years the Board of Admissions and Relations with Schools of the University of California; he also served on the University of California Academic Council and the Assembly of the Academic Senate.

He was the first president of Mu Alpha Theta, the National High School and Junior College Mathematics Club, national secretary of the Mathematical Association of America for an incredible fifteen years, 1960-75, and its president 1977-78, chair of the Council of Scientific Societies 1980, and chair of the Commission on the International Mathematical Olympiad 1981.

Serving numerous mathematics journals in various capacities, he was particularly active at the Pacific Journal of Mathematics, being the vice chair of its Board from 1960 to 1996.

In 1982 he was appointed to the State Board of Education by Governor Jerry Brown, the first mathematician and first member of the UC faculty to be so appointed. After leaving that position in 1985 he served on a variety of committees appointed by the Board, such as the Mathematics Framework Committee for grades K to 12, the committee preparing statewide tests to measure achievement, and, as recently as 1999, the Content Review Panel to recommend texts to the Board for grades K to 8.

In retirement he served for two years as chair of the Mathematics Department and did not hesitate to enter the California "math wars" in order to establish standards in a very controversial environment.

In 1963 he married the former Dr. Benne Bernice Daniel. He is survived also by a son, Dr. Lawrence J. Alder and daughter-in-law Janice T. Alder of Mountain View, two granddaughters, Allison and Catherine, two brothers, Dr. Berni J. Alder of El Cerrito and Dr. Charles K. Alder of Danville and numerous cousins, nieces, and nephews.

Mat Nelsenador
Thomas Sallee
Sherman Stein