



*Adams*

## R. PETER KING

1938–2006

Elected in 2003

*“For the development of techniques for quantifying mineral liberation  
and for leadership in Internet education about mineral processing.”*

BY JOHN A. HERBST

THE WORLD LOST an outstanding scholar and human being on September 11, 2006, when R. Peter King died at the age of 68. At the time of his death, Dr. King was a professor of metallurgical engineering at the University of Utah in Salt Lake City. His accomplishments over his lifetime were truly remarkable.

Peter was born in Springs, South Africa, on March 12, 1938, and spent his youth in the goldfields of South Africa. His formal education began at Witwatersrand University in 1954. In 1956, he met Ellen Courtenay, who became his constant companion, loving wife, and partner for all the years that followed. Peter graduated with a B.Sc. Chem. Eng. (cum laude) from Wits in 1958 and received an M.Sc. in 1962. Upon graduation, he received a scholarship from Shell Oil to pursue his doctoral studies at Manchester University; Peter and Ellen were married while living in Manchester. In 1963, after receiving a Ph.D. from the University of Manchester, the couple returned to South Africa, where they started their family, which soon included Jeremy, Andrew, and Janet.

From 1963 to 1990, Peter taught at Wits and led a research group at the National Institute of Metallurgy. He was the recipient of many honors during this period, including election as president, and later a life fellow, of the South African Institute of Mining Metallurgy (SAIMM). He was also a member of the

Scientific Advisory Committee of the Prime Minister. In 1991, Peter was awarded the Gold Medal by SAIMM.

In 1990, Peter was appointed professor of metallurgy and director of the Generic Mineral Processing Center in Comminution at the University of Utah. On December 19, 1995, he became a U.S. citizen, and in 1999, he was appointed chairman of the Department of Metallurgical Engineering at the University of Utah. Between 1999 and 2006, he received many additional honors. He was appointed editor-in-chief of one of the most respected journals in his field, the *International Journal of Mineral Processing*. In 2002, he received the Antoine M. Gaudin Award of the Society of Mining Engineers for his “seminal research in mineral liberation.” In 2003, at the zenith of his career, he was elected to the National Academy of Engineering in “recognition of the development of useful techniques to quantify mineral liberation and his leadership in Internet education of mineral processing.” That same year, he was recognized with the prestigious International Mineral Processing Douglas W. Fuerstenau Lifetime Achievement Award.

Professor King excelled in both research and education. His research on the modeling and simulation of mineral processing operations led to the highly successful MODSIM computer software system for the simulation of plant operations. In addition, his pioneering research in mineral liberation represented a quantum leap forward in the accurate, quantitative description of multiphase particles. In fact, his research in mineral liberation provided a basis for collaboration that eventually led to a state-of-the-art micro-CT laboratory in the Department of Metallurgy at the University of Utah. Subsequently, these advances were integrated into detailed comminution models for quantifying the breakage of multiphase particles in complex grinding circuits. Dr. King’s recent research was focused on the fundamental analysis of particle fracture and the aspects of this phenomenon that limit efficient energy utilization during comminution.

Professor King was truly a “distinguished teacher” in every sense, and he gave other educators in the field a model to emulate. In recognition of his contributions, he received the University of Utah Departmental Teaching Excellence Award in 1987

(as a visiting professor), 1996, 2000, and 2001 (as a regular faculty member). Peter's career was dedicated to education. He was a pioneer in the use of modern engineering methods in the classroom. Students were taught computer-based methodologies, and software was integrated not only into classroom work, but also into traditional lectures so students came away with a confident understanding of advanced engineering procedures. He not only challenged his students, but also provided them with a vision, or goal, and his students usually achieved academic excellence.

With the advent of the World Wide Web, new dimensions in engineering education became a reality. Professor King's leadership in this new arena of education was exemplified by his highly successful Internet course, "Modeling and Simulation of Mineral Processing Plants." In the first year, 44 students enrolled in the course from all over the world (Sweden, Brazil, Turkey, Peru, Australia, and South Africa), ranging from currently enrolled undergraduate/graduate students to university faculty, industrial researchers, and plant engineers.

Another online course, "The Virtual Laboratory," was created and enhanced under Peter's leadership. By simulating metallurgical equipment, processes, and reactions, the Virtual Laboratory environment made it possible for students to perform laboratory experiments easily, quickly, conveniently, and accurately.

Dr. King published more than 150 scholarly papers on fundamental aspects of mineral processing. He authored or co-authored five books, the most recent of which are *Introduction to Practical Fluid Flow* (Elsevier, 2002) and *Modeling and Simulation of Mineral Process Systems* (Butterworth-Heinemann, 2001).

Admired by colleagues and students around the world, Peter was always willing to mentor people who asked for his help, no matter their age or professional level. He and his wife Ellen contributed to the tuition of many engineering students both in South Africa and the United States

On a more personal level, Ellen says that Peter was a dedicated father and grandfather who took time with the family to visit the national parks and to ski. Peter very much enjoyed being with his seven grandchildren, and he recently told Ellen he

regretted that he hadn't had an opportunity to teach his grandsons how to make and fly model airplanes. He also told her he longed to return to the South African game parks. Peter enjoyed listening to classical music and opera, which he was able to do up until the day of his passing.

Peter is survived by his wife, Ellen; sons Jeremy and Andrew; daughter Janet; grandchildren Ryan, Ashley, Michael, Anthony, Robert, Lucy, and Nicholas; son-in-law Richard; and daughters-in-law Sylvia and Angela.

