

Biographical sketch - James F. Ely

Jim Ely earned a Bachelor of Science in Chemistry and Physics from Butler University in 1968. After completing those studies, he went to Indiana University where he studied with Donald A. McQuarrie in the Chemistry Department, earning a Ph.D. in Chemical Physics in 1971. In November of that year, he became a NAS-NRC Research Associate in the Cryogenics Division of the National Bureau of Standards under the supervision of Howard Hanley and Duane Diller. Most of his research at NBS at that time focused on measurement and prediction of electromagnetic properties of polyatomic molecules. Two years later he accepted a Post-doctoral position in the Chemical Engineering Department at Rice University where he worked on the measurement of the pVT surface of propane under the supervision of Riki Kobayashi. In 1975 he joined the Corporate R&D-Chemical Engineering Division of Shell Development Company working in the Basic Data and Separations Group with Ping Chueh, Carl Deal and Dick Derr (amongst others). Two major activities at Shell were working on new physical property models for the in-house chemical process simulator and developing a properties package for compositionally dependent reservoir simulation for the Exploration and Production Division.

In 1979, Jim returned to the National Bureau of Standards (destined to become the National Institute of Standards and Technology) in Boulder, joining the Thermophysics Division. Some major projects during that time included the development of the TRAPP model and equation of state models for the properties of materials used in supercritical fluid extraction. He worked at NIST until 1991, becoming the Group Leader of the Theory and Data Group and the Associate Director of the Chemical Science and Technology Laboratory. During that time he also became an Adjunct Professor in the Chemical Engineering Department at the Colorado School of Mines and left NIST in 1991 to become a Professor of Chemical Engineering at CSM. He now holds the position of Head of the CSM Chemical Engineering Department and since 2007 also holds the position of Director of CSM's Bioengineering and Life Sciences (BELS) program.

Current research interests include equation of state mixture model development and simulation of equilibrium and transport properties in mixtures. A special interest is in the development of simulation force fields that are accurately transferable to different molecular systems and different properties. He has published approximately 150 articles, papers, reports and technical memoranda and has edited one book and eight conference proceedings. He is currently a member of the AIChE, ACS, APS, MRS and ASEE.