

October 22, 2010

The 2010 ASEE-CACHE Award for Excellence in Computing in Chemical Engineering Education is in recognition of Professor Duncan Mellichamp's pioneering contributions to real-time computing, process control, and engineering economics in chemical engineering education. He was a research Engineer with Du Pont Textile Fibers for four years. A founding member of Chemical Engineering at the University of California, Santa Barbara, he developed the process dynamics and control programs in 1966-67. Duncan's pioneering work with computers led to the monograph *Real-Time Computing; Applications to Data Acquisition and Control* (Editor, 1983) and to the award winning undergraduate textbook, *Process Dynamics and Control*, (3rd Ed: 2010, co-author). He was elected to CACHE early in his career, as trustee (1973-87) and president (1977-78). A Fellow of AIChE and recipient of numerous awards and honors, he is the author of over 100 research publications on process modeling and plantwide control.

The basis of this award is Duncan Mellichamp's life-long commitment to enhancing chemical engineering education through the use of computers. His work has spanned analog and digital computers, mainframes and personal computers, process control, and process monitoring. Duncan is best known for his early contributions to real-time computing in process control. This activity was the forerunner to modern implementations of on-line control, and although many people were engaged in that field during its formative years, there is no doubt that Duncan Mellichamp was the leader in this area of chemical engineering research and education.

Duncan continues to work almost full-time during his retirement co-teaching the senior design course with Mike Doherty at UCSB. This is a six months long (two quarters) commitment he makes each year, during which time he has developed a series of computer modules on engineering economics for conceptual design, along with a 100 page monograph describing the economic models.