

Biographical Sketch

JAMES S. ALBUS

B.S.	Physics	Wheaton College (Illinois)	1957
M.S.	Electrical Engineering	Ohio State University	1958
Ph.D.	Electrical Engineering	University of Maryland	1972

Dr. James S. Albus is currently a Senior NIST Fellow in the Intelligent Systems Division at the National Institute of Standards and Technology. Over a long and varied career Dr. Albus has made a number of scientific contributions. During the 1960's he designed electro-optical systems for more than 15 NASA spacecraft. During the 1970's, he developed a model of the cerebellum that after 30 years is still the leading theoretical model used by cerebellar neurophysiologists today. Based on that model, he invented the CMAC neural net, and co-invented the Real-time Control System (RCS). RCS is a reference model architecture that has been used over the past 25 years for a number of intelligent systems including the NBS Automated Manufacturing Research Facility (AMRF), the NASA telerobotic servicer, a DARPA Multiple Autonomous Undersea Vehicle project, a nuclear Submarine Operational Automation System, a Post Office General Mail facility, a Bureau of Mines automated mining system, a commercial open architecture machine tool controller, and numerous advanced robotic projects, including the Army Research Lab Demo III Experimental Unmanned Ground vehicle. He is also the inventor of the NIST RoboCrane.

Dr. Albus has received numerous awards for his work in control theory including the NIST Applied Research Award, the Department of Commerce Gold and Silver Medals, the Industrial Research IR-100 award, the Presidential Rank Meritorious Executive, the Jacob Rabinow award, and the Japanese Industrial Robot Association R&D Award. He was the 1984 winner of the Joseph F. Engelberger Award for robotics technology. In 1992, his RoboCrane was selected by **Construction Equipment Magazine** as one of the top 100 new products of the year and by **Popular Science** magazine as one of the top 100 inventions of the year. In 1998, he was named a "Hero of Manufacturing" by Fortune magazine.

Dr. Albus is the author of more than 150 scientific papers, journal articles, and official government studies on intelligent systems and robotics. He has lectured extensively throughout the world and authored or co-authored five books:

Engineering of Mind: An Introduction to the Science of Intelligent Systems – Wiley, 2001

Intelligent Systems: Architecture, Design, and Control - Wiley, 2002

The RCS Handbook: Tools for Real-Time Control Systems Software Development – Wiley, 2001

Brains, Behavior, and Robotics – Byte/McGraw-Hill, 1981

Peoples' Capitalism: The Economics of the Robot Revolution – New World Books, 1976

He is a member of the editorial board of the Wiley Series on Intelligent Systems serves on the editorial boards of six journals related to intelligent systems and robotics.