

**Daniel B. Koch, Ph.D.**

Senior R&D Staff  
Oak Ridge National Laboratory

Education:

Ph.D., 1984, Electrical Engineering, University of Missouri - Rolla  
M.S., 1979, Electrical Engineering, University of Missouri - Rolla  
B.S., 1977, Electrical Engineering, University of Missouri - Rolla

Employment:

Dr. Koch joined ORNL in 2005 after spending 10 years in industry and 18 years in academia. His current efforts are focused on creating a software framework for combining discrete-time simulation with geospatial data in a virtual environment for homeland security applications.

From 1987 to 2005, Dr. Koch was a tenured Associate Professor at the University of Tennessee in Knoxville. He was also Associate Director of the joint *UT/ORNL Center for Homeland Security* (2005). Efforts included assisting in founding the Tennessee Homeland Security Consortium – a grouping of research universities in the state to help find solutions to security problems of national scope. At UTK, he also founded and directed the *Applied Visualization Center* (1996-2004). Research activities primarily focused on 3D visual simulations for homeland security applications. Sponsors included DHS/TSA through the National Safe Skies Alliance and the Technical Support Working Group (US Government) through Oak Ridge National Laboratory. Earlier, he founded and led the Electrical Engineering *Communications, Information, and Signal Processing Group* (1987–1999). Research sponsors included Oak Ridge National Laboratory, Brunswick Corporation, Philips Labs, and the Tennessee Valley Authority among others. Academic duties included teaching graduate courses in communications, information theory, and digital signal processing.

Prior to joining the University of Tennessee, Dr. Koch worked in the aerospace industry. As a Senior Engineer with STG Electrosystems, Inc., from 1985-1987, he served as a systems designer for the Radio Frequency Expendable Decoy (RFED) program. The RFED is a radar decoy which is designed to be ejected from a Special Electronics Mission Aircraft (SEMA). From 1980 to 1985, Dr. Koch was a Senior Engineering Specialist at the Emerson Electric Company where he developed a hybrid radar waveform design technique utilizing complementary phase coding and linear frequency stepping for improved slant range resolution for the Laser Inertial Aided Synthetic Aperture Radar (LIASAR) program. He was also involved in the hardware, software, and system design of a computer controlled load management system (TWACS) for the electric utilities which utilized power line communications. As an Engineer with the McDonnell Aircraft Company from 1978 to 1980, he designed, developed, and tested a Data Link Ground Station (DLGS) for functional testing of the AN/ASW-27B data link subsystem for the F-18 aircraft.