

Neurosystems Engineering - Lecture and Lunch

January 25th, 12:00pm

Pete and Nancy Domenici Hall - Main Conference Room

Neurosystems Engineering (NE) links the rapid advances in neuroscience with systems engineering through interdisciplinary teams to focus on the development and organization of solutions to complex system problems that involve behavior, cognition, and technology applications. NE focuses on defining customer needs and functionality of the possible solutions early in the development and deployment cycle and approaches solutions through iteration involving theory, experiments, and modeling. This new field involves diverse personnel such as neuroscientists, cognitive and neuropsychologists, sensor and information system developers, and health care providers; tools such as brain imaging, modeling and simulation, and high performance computing; and techniques such as EM methods for brain stimulation, signal processing, and network modeling in order to link brain functions, cognition, behavior, and technology.



Dr. Gerold (Gerry) Yonas is Vice President and Principal Scientist at Sandia National Laboratories. In 1972, he joined Sandia where he initiated and directed the particle beam fusion program, as well as the development of Sandia's Pulsed Power research capability. In 1983, he served as the Chairman of the Directed Energy Weapon Panel of the "Fletcher" study that formed the basis for the Strategic Defense Initiative (SDI) Program. He was subsequently chosen to serve as the first Chief Scientist for the Strategic Defense Initiative Organization (SDIO). In 1986, he joined Titan Corporation as President of Titan Technologies. He rejoined Sandia in 1989 as Director of Laboratory Development, and in 1991, he became Vice President of Systems Applications. In 1995, he became VP of Systems, Science, and Technology, and in 1999 initiated Sandia's Advanced Concepts Group.

After completing a B.S. in Engineering Physics at Cornell University, he received a Ph.D. in Engineering Science and Physics at Caltech. He is a Fellow of the American Physical Society and a Fellow of American Institute of Aeronautics and Astronautics. He is a member of Sigma Xi and Tau Beta Pi. He received an "award for meritorious civilian service" from the USAF, the BEAMS prize "in recognition of his original contributions to the field of particle beams", the Peter Haas Award by IEEE for "outstanding service to the field of pulsed power technology," the Fusion Power Associates Leadership Award "for development of pulsed power technologies for fusion power and national defense applications." and the Secretary of Defense Medal for Outstanding Public service for "exceptionally meritorious service to his country by significant contributions to the nation's Strategic Defense Initiative."

He participates on the Defense Science Board, the Air Force Scientific Advisory Board, U.S. STRATCOM Deterrence Theory Project, the U.S. Army Science Assessment Group, the Senate Select Committee on Intelligence Technical Advisory Group, and the Center for Strategic & International Studies Commission on Global Aging. He is a member of the Bi-National Sustainability Laboratory Board, and he serves on the Advisory Councils for the School of Electrical and Computer Engineering at Cornell University, and the University of New Mexico. He has published extensively in the fields of intense particle beams, inertial confinement fusion, strategic defense technologies, and technology transfer, and has presented numerous invited lectures on subjects ranging from beam physics to national technology policy.



Sponsored by a joint chapter of the IEEE Engineering in Medicine and Biology/Systems, Man, and Cybernetics; UNM Department of Electrical and Computer Engineering; and The Mind Research Network

ECE 595 ST: Neurosystems Engineering - UNM is offering a graduate level course in this new discipline.

Also open to non-degree students with the approval of the instructors.

Wednesdays, 5 – 7 p.m. at Mind Research Network, Pete & Nancy Domenici Hall, 1101 Yale NE.

Contact Rex E. Jung, Ph.D. for more info...rjung@mrn.org