



Mechanical Engineering
Academy of Distinguished Alumni

Arthur C. Ratzel, III

Distinguished Mechanical Engineer, 2009

BSME, University of Houston, 1974

MSME, University of Houston, 1976

Ph.D., ME, The University of Texas at Austin, 1981

Technical Director (Retired 2014)

Sandia National Laboratories, Albuquerque NM

Dr. Arthur (Art) C. Ratzel III was destined to be an engineer. As a young boy living in New Jersey, he shadowed his dad, the lead engineer/chief estimator at Todd Shipyards, exploring cruise and cargo ship engine rooms. Art's family moved to La Marque, Texas in 1965; there he met his soulmate, Alde Tholen, whom he married in 1974. While a high school and college student, Art explored engineering career opportunities through summer work as a draftsman and as a technician/engineer at Todd Galveston and at the Texas City Amoco (BP) refinery. He joined a thermal-fluids technology group at Sandia National Laboratories (SNL), in Albuquerque, New Mexico after graduating from the University of Houston in 1976 with his MSME. In 1979, Art was selected to participate in the Sandia Doctoral Study Program; he completed his Ph.D. at The University of Texas at Austin in 1981, supervised by Dr. J. R. Howell. Art returned to SNL after his Ph.D. and retired in 2014 after 38 years of service.

Art's technical work at SNL spanned research and development (R&D) for multiple national security (NS) programs including: innovative solar collector design, computational tool development for nuclear reactor safety, thermal calorimetry development for underground nuclear weapons (NW) testing, and development of explosive discrimination systems for the Strategic Defense Initiative (SDI). Beyond his NS work, Art also was a key contributor in several nationally significant accident investigations, including: Three Mile Island Nuclear Reactor, Columbia Shuttle, and TWA-800 accidents. Art supported efforts to stop the Macondo well oil flow after the Deepwater Horizon accident, providing leadership for NNSA-DOE Lab efforts teaming with BP, for which he received a DOE Secretary of Energy Achievement Award in 2011.

Art transitioned to technical management in engineering sciences in 1990, overseeing thermal, fluids, and aero-sciences R&D activities. From 2003 to 2005, Art served as chief of staff to the SNL NW Program, working with SNL and NNSA leadership and Congressional staff. Art was promoted to director of engineering sciences in 2005. Art's leadership of his 300+ staff advanced development/utilization of engineering mechanics computational tools and enhanced SNL's engineering mechanics experimental capabilities. Art completed his career at SNL as director of the facilities management and operations center, responsible for facilities and physical infrastructure across all of Sandia. In this role, Art led efforts to fund and complete significant NS-critical building renovation/repurposing efforts and to sustain SNL's aging infrastructure while reducing costs.

Art led SNL's mechanical engineering (ME) Ph.D. recruiting at UT Austin from 1990-2009. He helped lead Sandia's UT Campus Executive Program and supported SNL's strategic partnership with the UT System. Art served on UT's ME External Advisory Panel for 10 years (1999-2002; 2003-2011) and was a member of the Board of Visitors for UT's Institute for Computational Engineering and Science (ICES) from 2011-2014.

Art and his wife, Alde, are enjoying their retirement, splitting time between NM and CA. They travel often to see new places both abroad and in the U.S., and to be with their children and grandchildren scattered across the U.S. With family still in Texas, they also enjoy visits to their Texas roots, and especially to the Hill Country.