

Biographical Information



Arthur E. Pontau, PhD
Deputy Director
Combustion & Industrial Technologies
Transportation Energy Center

Dr. Art Pontau leads the Combustion and Industrial Technologies Group as part of the new Transportation Energy Center at Sandia National Laboratories in Livermore, California. The group includes efforts in engine combustion, hydrogen and combustion technologies, and thermal/fluid science and engineering.

Dr. Pontau joined Sandia in 1978 and spent his first 17 years in the Physical Research Division, first as a staff member and then as the manager. He undertook multiyear research programs addressing hydrogen and helium in materials, plasma-materials interactions, and the accelerator-based analysis of materials. Sponsors for his work included Defense Programs, the Magnetic Fusion Energy Program, the Strategic Defense Initiative, and the Department of Energy's Nonproliferation Programs. Technical partnerships were a large part of the division's efforts; Dr. Pontau lived and worked in Germany on Sandia's behalf for more than a year in the mid-1980s.

In the late 1990s, Dr. Pontau worked in four different jobs, directly supporting Sandia vice presidents. Following that era, he went on to manage the Microfluidics Department, where basic microfluidics research is conducted, the liquid-phase MicroChemLab bioagent detection system was developed, and insulator-based dielectrophoresis (iDEP) was created for biosample processing.

He then became a senior manager for the Materials and Energy Sciences Group. In this role, he was responsible for research, development, and engineering organizations pursuing materials physics, hydrogen and metallurgical sciences, thermal/fluid science and engineering, and energy systems.

Dr. Pontau has a bachelor's degree with majors in physics and mathematics from the University of California, San Diego, and a master's degree and PhD in physics from the University of Illinois at Urbana/Champaign. He has authored about 100 articles that have been published in a broad range of technical journals. He has also participated in several teams that have created leadership development programs for Sandia. Dr. Pontau is currently affiliated with the American Physical Society, the Materials Research Society, and the Asia Society.