

David J. Nagel Biography

David J. Nagel received a BS degree in Engineering Science (Magna Cum Laude) from the University of Notre Dame (1960), and an MS degree in Physics (1969) and a PhD in Materials Engineering (1977), both from the University of Maryland at College Park. During more than six decades of supporting, performing, and leading Research and Development projects, Dave has had multiple successful careers:



Officer in the U.S. Navy. After graduating first in his Naval ROTC class at Notre Dame, he served four years on active duty, starting as Navigator on an Antarctic supply ship. He then had 26 years of reserve service, including three tours as a Commanding Officer. He retired in 1990 with the rank of Captain in the U. S. Naval Reserve.

Federal Research Scientist. After his active duty, Dave joined the civilian staff of the Naval Research Laboratory (NRL) as an experimental physicist. He measured the x-ray emissions from nuclear weapons at the Nevada Test Site, other multi-million-degree terawatt plasmas, and energetic atomic collisions in which core energy levels formed transient molecular orbitals. He co-invented and patented plasma x-ray lithography. During those 20 years, Dave published in top journals, such as Physical Review Letters.

Federal Research Leader. Still at the NRL, he served as a head of a materials physics group for 13 years. He then became a member of the Senior Executive Service (ES-4), and was the leader of a nuclear and solid-state physics division for another 13 years. As a Division Superintendent, Dave managed the global experimental and theoretical efforts of 150 government, contractor, and other personnel, including 80 PhDs (then \$30M/year = \$66M currently). He was responsible for a cyclotron facility and two accelerators, an electron LINAC and a Tandem Van de Graaff ion system configured for Trace Element Accelerator Mass Spectrometry. The division performed research and development on satellite, terrestrial and oceanic programs, on time scales from picoseconds to decades, temperature scales from a few degrees to multi-million degrees, and pressures from high vacuum to many atmospheres. He led work on "cold fusion" (now Low Energy Nuclear Reactions, that is, LENR) from the start of the field.

University Teacher and Researcher. For the last 27 years, Dave has been a Research Professor in the Department of Electrical and Computer Engineering of The George Washington University (GWU). He taught courses on MEMS and NanoTechnology (2000-2006), mentored undergraduates on their senior projects (2007-2015), taught Physical Electronics (2015), and taught Sensors, Networks and Applications (2018-9). Dave has mentored about one hundred undergraduate and graduate students on diverse topics. His research now centers on LENR, especially spectroscopy of electrochemical LENR experiments. He leads work in the GWU LENR Energy and Spectroscopy Laboratory. Recently, he managed a team of senior GWU scientists, which developed advanced solar cells at the NRL.

Business Developer. In 2011, Dave founded two companies. The first, NUCAT Energy LLC, provides consulting, instruction, and educational materials on LENR (nucat-energy.com). The second was OptoBioSense LLC, a spin-off from the GWU. It sought to develop inventions, which were made with a Computer Engineering PhD student, into a commercial point-of-care analyzer for uric acid in clinical samples.

Lecturer. In addition to teaching undergraduate and graduate courses, Dave has given hundreds of technical presentations at conferences, in seminars and for senior management. Effective communication of technical topics to broad audiences is one of his major interests.

Writer. During his careers, Dave has written or co-authored many refereed papers, conference proceedings, sponsor reports, book chapters, encyclopedia entries and magazine articles. He has a few patents, the most recent from 2022. Dave has written extensively on LENR, both for the open literature and consulting reports. He published many journal papers, and magazine articles on LENR. He is writing a book on LENR science and business.

Traveler. For business and personal reasons, Dave has been in over fifty countries on all continents. He has had four round-the-world trips, one on a Navy ship (westbound in 1962) and three in the air: eastbound to Japan (1978), eastbound to Russia and Japan (1992), and westbound to Malaysia and Singapore (2008). He revisited Antarctica in early 2023. He lectured in Abu Dhabi at the first AI university, and at an International Conference in northern Japan, in 2025.

LENR Activities

Nagel has been active as a scientist, engineer, manager, teacher, and leader of LENR since 1989. He attended many conferences sessions and meetings on LENR. Nagel participated in all 25 of the International Conferences on Cold Fusion (ICCF). He co-chaired ICCF-14 in 2008 on Capitol Hill in Washington DC with Michael E. Melich, and co-chaired ICCF-21 in Fort Collins CO in 2018 with Steven B. Katinsky, a successful entrepreneur from Los Angeles. For ICCF-24, Nagel was Program Chairman, served on a featured panel, and gave the summary talk.

Nagel has published two dozen papers on LENR, most in the refereed Journal of Condensed Matter Nuclear Science, and written another two dozen articles for Infinite Energy magazine. He has presented over 100 talks on LENR in six countries on three continents to more than 4500 people

In 2011, Nagel founded NUCAT Energy LLC, which provides consulting services and instruction on LENR and other technical topics. In 2015, he and Katinsky formed a not-for-profit company, LENRIA Corporation, to serve as an Industrial Association for LENR. It advocates for research funding for LENR.

In 2015, Nagel set up the LENR Energy and Spectroscopy Laboratory in the George Washington University. His current experimental research centers on LENR using electrochemical interactions of protons with nickel, as well as deuterons with palladium, and co-deposition of deuterons and palladium. He is also working on direct nuclear-to-electrical power generation. The different experiments are monitored with various thermal and spectroscopic techniques.