

Paul D. Panetta, Ph.D.

Principal Scientist, Applied Research Associates, Inc.
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Education

- Ph.D., Materials Science and Engineering, Iowa State University, Center for Nondestructive Evaluation, Advisor: Professor R. Bruce Thompson, 1999
 - Backscattering and attenuation during the propagation of ultrasonic waves in duplex titanium alloys
- M.S., Condensed Matter Physics, Iowa State University, 1994, Superconductivity
- B.S., Physics, University of California at Davis, 1991

Expertise

Dr. Panetta's work focuses on ultrasonic materials characterization, slurry and emulsion characterization, wave propagation, and nondestructive evaluation. Dr. Panetta won a National Research Council Post-Doctoral Fellowship to for work at the National Institute of Standards and Technology in Boulder, CO. He has also worked at Pacific Northwest National Laboratory and a small business. At Dr. Panetta's current position at Applied Research Associates Inc, and as an Adjunct Professor at William & Mary, he is focused on mapping grain size in Rene and Inconel aircraft engine disk materials using ultrasonic backscattering and attenuation for the FAA and Aircraft Engine Manufactures. He also worked extensively with the oil and gas community to characterize third part defects and stress and strain in pipelines. Dr. Panetta has led several programs from the Department of Defense and the Department of Energy Environmental Management Science Program focused on slurry characterization to support waste cleanup. He has led several field tests with his current and past projects. He is also currently developing ultrasonic scattering measurements to measure oil droplet size to characterize dispersants and is developing and acoustic underwater remotely operated vehicle (ROV) to measure oil slick thickness in ice fields for the Department of Interior, Bureau of Safety and Environmental Enforcement. His work has led to five patents, numerous publications and invited presentations.