

Optimizing Materials Performance with Peening Technology: Improved Efficiency, Cost Avoidance, and Corrosion Mitigation

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With Guest Lecturers Dr. Lloyd Hackel & Dr. Paul Crooker

Dr. Lloyd Hackel Vice President

Advanced Technologies, MIC, Curtiss-Wright Company

Dr. Paul Crooker Senior Engineer & Manager

Nuclear Plant Life Extension, Electric Power Research Institute

This seminar will provide students and faculty with an introduction to advanced peening technology and its application to energy conversion systems. Peening technology has emerged as an important contributor to high performance metals in aerospace, marine, and electric power generation applications to improve energy efficiency, shape structures and surfaces during original fabrication, and mitigate materials damage and corrosion mechanisms to increase safety, extend life and to optimize system life-cycle performance. The basics of peening technology, the development and deployment of systems, and how the nuclear electric power industry is incorporating peening into its fleet-wide materials aging management plans will be discussed.

Dr. Lloyd Hackel Abridged Biography

Dr. Lloyd Hackel is currently Vice President for Advanced Technologies for Curtiss-Wright Surface Technologies' Metal Improvement Company. This appointment followed a 28 year career at the Lawrence Livermore National Laboratory where he rose to the position of Program Leader for Laser Science and Technology. Dr. Hackel received a BS degree from the University of Wisconsin in 1971 and a Doctorate from MIT in 1974. He has worked extensively on problems in high resolution spectroscopy, laser frequency stabilization, atomic vapor isotope separation, high power lasers for military defense and high power lasers for fusion and x-ray laser photolithography. He has received six R&D100 awards for technology innovation.



Dr. Lloyd Hackel

Dr. Paul Crooker Abridged Biography

Paul Crooker is a Senior Project Manager in EPRI's Pressurized Water Reactor Materials Reliability and Technology Innovation Programs where he manages reactor coolant system materials aging and reliability, and technology innovation research. Prior to joining EPRI, Paul worked at Sandia National Laboratories and Foster Wheeler Corporation where he developed advanced energy, chemical weapon demilitarization, transportation fuels, nuclear transportation packaging and defense systems. Paul is a Professional Engineer and Mechanical Engineering graduate of the Stevens Institute of Technology in Hoboken, NJ.



Dr. Paul Crooker

