

# **Biographical Sketch**

Paul S. Prevéy III President and Dir. of Research, Lambda Research, Inc. CEO and Dir. of Engineering, Surface Enhancement Technologies, LLC Fellow of America Society for Metals

## EDUCATION

1970	Bachelor of Science, Physics Case Institute of Technology
1970 - 77	University of Cincinnati Graduate School in Material Science,

## PROFESSIONAL EXPERIENCE

1970 - 72	Metcut Research Associates, Inc. Project Engineer, Low Cycle Fatigue Laboratory
1972 - 77	Metcut Research Associates, Inc. Supervisor, X-ray Diffraction Laboratory
1977 to	Lambda Research Inc.
Present	President, Director of Research
2000 to	Surface Enhancement Technologies, LLC
Present	CEO, Director of Engineering

### RESEARCH EXPERIENCE

Mr. Prevéy holds a B.S. degree in Physics from Case Institute of Technology and has studied Material Science, at the graduate level, at the University of Cincinnati. He was employed as a Project Engineer in the Low Cycle Fatigue Lab, and as a Supervisor in the X-ray Diffraction Lab for Metcut Research Associates, Inc. from 1972 to 1977. He has served as President and Director of Research of Lambda Research, Inc. since its formation in 1977.

Mr. Prevéy has designed and conducted numerous automotive and aerospace related high and low cycle fatigue testing programs, including studies of the influence of various methods of machining and the residual stresses produced upon fatigue life. He has over 35 years experience in x-ray diffraction residual stress measurement, conducting thousands of residual stress studies for automotive, aerospace, and nuclear applications. He has developed apparatus, procedures, and software for measuring residual stress, cold work and hardness produced by machining, shot peening and other surface treatments.

Mr. Prevey's contributions to the area of residual stress measurement include original methods of determining x-ray elastic constants, methods of measuring plastic deformation by line broadening, and mathematical procedures and software for diffraction peak location subsurface data correction, as well as methods of precise diffraction peak location. He has authored 31 publications related to

the field of x-ray diffraction, and was elected a Fellow of the American Society for Metals for his contributions.

Low Plasticity Burnishing (LPB) was invented by Mr. Prevey as a cost effective, production compatible alternative to laser shock peening based upon observations of how cold work and residual stress distributions determine fatigue performance. He holds eight US and additional foreign patents related to on surface treatment, and formed Surface Enhancement Technologies, LLC to transition that technology to industrial applications in 2000. Mr. Prevey has authored over 45 technical papers on surface enhancement for the mitigation of fatigue and stress corrosion cracking, twice receiving the John P. Davis Award for LPB applications to gas turbines from the International Gas Turbine Institute of the ASME.

### ENGINEERING SOCIETY AFFILIATIONS

Mr. Prevéy formed and served as Chairman of the Residual Stress Committee of the Society of Experimental Mechanics, and is a fellow of the ASM. He served as a member of ASTM Committee E-9 on Fatigue, Task Group 3 on Residual Stress Effects in Fatigue, and ASTM Committee E28.13 on Measurement Methods for Residual Stress, where he served as the x-ray diffraction Group Chairman and author of ASTM Specification E915-83, "Verifying Alignment of X-ray Diffraction Instrumentation for Residual Stress Measurement."

### PUBLICATIONS

Over 85 publications are available at www.lambdatechs.com