

William J. O'Donnell, Ph.D., P.E.

**O'Donnell Consulting Engineers, Inc.
2940 South Park Road
Bethel Park, Pennsylvania 15102 USA
Phone: (412) 835-5007
Fax: (412) 835-5017**

Dr. W. J. O'Donnell earned a B. S. in Mechanical Engineering from Carnegie-Mellon University where he received Machinery's Award as the outstanding designer in the graduating class. He was selected for the Advanced Mechanics School at the Westinghouse Research Laboratories and the Bettis Doctoral Fellowship Program. He received his M. S. and Ph.D. from the University of Pittsburgh.

Dr. O'Donnell worked in the interdisciplinary areas of metallurgy, engineering mechanics and mechanical design at Westinghouse Bettis Laboratory for twelve years. He assumed the lead role in the evaluation of structural integrity and component failure margins for the Consulting Engineers' Office. He progressed to Senior, Fellow and Advisory Engineer, responsible for the Structural Design Basis, which specified the stress, fatigue and fracture design criteria for power plant components and structures.

In 1970 Dr. O'Donnell founded O'Donnell and Associates, an engineering consulting firm specializing in the design and analysis of structures and components, including components operating at high temperatures. The firm has done extensive work in the evaluation of structural integrity, including corrosion fatigue, flaw sensitivity, crack propagation, creep rupture and brittle fracture analyses. He has published 92 papers in professional journals in the areas of stress analysis methods, elevated temperature design and corrosion fatigue life evaluation methods.

He is active in the development of national consensus standards for the design, fabrication and inspection of equipment and components. As an expert in equipment subjected to cyclic loads, he is Chairman of the Subgroup on Fatigue Strength of the ASME Code. He has published extensively in engineering mechanics, including elastic-plastic fracture mechanics, strain limits and damage evaluation methods. He has patents on mechanical processes and devices and has given invited lectures at conferences, research institutes and universities worldwide.

He is a member of the Society of Experimental Mechanics, The Minerals, Metals & Materials Society (TMS), the Society for Experimental Mechanics, Sigma XI, American Society of Metals, American Society for Testing & Materials, American Association for the Advancement of Science, American Society of Mechanical Engineers, and is a Registered Professional Engineer. He received the National Pi Tau Sigma Gold Medal Award "For Outstanding Achievement in Mechanical Engineering." He received the ASME Award for the "Best Conference Technical Paper" in 1973 and again in 1988. He was named "Engineer of the Year" by the Pittsburgh Section of the ASME in 1988. He was awarded the national PVP Medal by the ASME in 1994. He received the University of Pittsburgh Mechanical Engineering Department's Distinguished Alumni Award in 1996. He is a Fellow of the American Society of Mechanical Engineers and his vitae is listed in the Engineers Joint Council "Engineers of

Distinction" and Marquis "Who's Who in the World."

William J. O'Donnell, Ph.D., P.E.

**O'Donnell Consulting Engineers, Inc.
2940 South Park Road
Bethel Park, Pennsylvania 15102 USA
Phone: (412) 835-5007
Fax: (412) 835-5017**

Current National Consensus Standards Activities

Chairman, ASME Subgroup on Fatigue Strength

Member, ASME Subcommittee on Design

Active in Pressure Vessel Research Committee PVRC:

- Working Group S-N Data Analysis
- Working Group da/dn Data Analysis
- Working Group on Evaluation Methods
- Steering Committee for Cyclic Life and Environmental Effects
- TG Operating Plant Fatigue Assessment
- WG Flaw Evaluation

Honoraria/ Invited Lectures

Advisory Committee on Reactor Safeguards

Argonne National Laboratory

Brown University

Carnegie Mellon University

CEA/ CEN/ Saclay

Ecole Polytechnique, Palaiseau

Electric Power Research Institute

Hanford Engineering Development Laboratory

Idaho National Engineering Laboratory

Liquid Metal Engineering Center

NASA Lewis Research Laboratory

Oak Ridge National Laboratory

Sandia National Laboratory

University of California at Los Angeles

University of London

University of Moscow

University of Pittsburgh

University of Tokyo

U.S. Steel Research Laboratory

U.S. Nuclear Regulatory Commission

Westinghouse Advanced Reactors Division

Honors and Awards

- **Pi Tau Sigma Gold Medal Award for "Outstanding Achievement in Engineering"**
- **1973 ASME PVP Literature Award for Best Conference Paper**
- **1976 Elected Fellow of the American Society of Mechanical Engineers**
- **1988 Engineer of the Year - Pittsburgh Section ASME**
- **1988 ASME PVP Literature Award "Synthesis of S-N and da/dn Life Evaluation Technologies"**
- **1994 ASME PVP Medal Award**
- **1996 University of Pittsburgh Mechanical Engineering Department Distinguished Alumni Award**

Patents

- 1986 Pipelocks on Nuclear Plants, No. 4,572,548 by Janek S. Porowski and W.J. O'Donnell
- 1986 Mechanical Stress Improvement Process, No. 4,612,071 by W.J. O'Donnell and J.S. Porowski
- 1987 Process for Improving Resistance of Split Pins to Stress Corrosion Cracking, No. 4,702,880 by J.S. Porowski and W.J. O'Donnell
- 1987 Mechanical Stress Improvement Process, No. 4,683,014 by J.S. Porowski, W.J. O'Donnell, and E.J. Hampton
- 1989 Process and Apparatus for Obtaining a Gas Sample, No. 4,817,441 by J.S. Porowski, Manu Badlani, E.J. Hampton, and W.J. O'Donnell
- 1989 Process for Improving Resistance of Metal Bodies to Stress Corrosion Cracking, No. 4,842,655 by J.S. Porowski, M. Badlani, E.J. Hampton, and W.J. O'Donnell
- 1993 Apparatus for Annealing Walls of Nuclear Reactor, No. 5,185,123 by J.S. Porowski, Manu Badlani, E.J. Hampton, and W.J. O'Donnell

