ENGINEER: MECHANICAL

ROGER DEAN HARRIS, M.E., P.E.
Engineering Design & Testing Corporation
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EDUCATION:

1992	Master of Engineering, Mechanical Engineering University of South Carolina, Columbia, South Carolina
1976	Bachelor of Science, Mechanical Engineering, Cum Laude University of South Carolina, Columbia, South Carolina

EXPERIENCE:

April 1988 to Present — **Engineering Design & Testing Corp., Columbia, South Carolina**

Consulting Engineer, Associate Chief Engineer, District Engineering Manager (November 2010 – Present). Responsibilities: Consultation with insurance, manufacturing, and legal industries. Specific areas of expertise include: Fracture and other failure analysis, metallurgical analysis, pressure vessel and piping design and analysis, design and fabrication of custom machines, design, specification, and analysis of chemical process equipment, heavy steel design and analysis, structural analysis, materials selection, paint and protective coatings, corrosion analysis and control, assessment of damages and repair costs.

May 1980 to April 1988 — **Ethyl Corporation, Orangeburg, South Carolina**

Maintenance Engineer. Specialty chemicals manufacture. Responsibilities include failure analysis and trouble shooting of all in-plant rotating and stationary process equipment, design, specification, purchase, and installation of replacement equipment, specification of materials and welding processes for corrosive environments, mechanical review and approval of all new project designs and installations, initiation and enforcement of plant design and maintenance standards, development and operation of plant maintenance programs, source and in-plant equipment inspection, disposition of repairs, field supervision and budget responsibility for plant-wide contract maintenance. Additional activities involve acting as mechanical design consultant to chemical engineering based Project Engineering Group.

January 1982 to April 1988 — Part-time private engineering Consultant. Experience with gas utility pipeline design and analysis. Development of CAD programs.

December 1977 to May 1980 — **Applied Engineering Co., Orangeburg, South Carolina**
Design/Development/Project Engineer, Engineering services and heavy steel fabrication. Design - Preparation of design reports for customer approval on design and design/fabrication contracts. Experience includes A.S.M.E. B & PV Code, finite element computer modeling, seismic structural analysis. Development - Design and development of systems and hardware for process to convert wood chips to gaseous fuel. Operation of experimental prototype. Project - Overall control from estimate and quotation through fabrication and shipment of heavy steel design and fabrication contracts.

June 1976 to December 1977 — **Union Carbide Corporation, Linde Div., Tonawanda, New York**
Research Center. Design/Development Engineer, Design and development of systems and hardware for PUROX process to convert municipal solid waste to gaseous fuel. Assist operation of pilot facility.

PROFESSIONAL ORGANIZATIONS AND HONORARY SOCIETIES:

American Society of Mechanical Engineers
American Society for Metals
Tau Beta Pi (Engineering Honor Society)
Phi Eta Sigma (Freshman Honor Fraternity)

SPECIALIZED TRAINING:

Pressure Vessel Design and Application; A.S.M.E.
Buffalo, New York, November 22, 1976

Corrosion Prevention and Control, Carboline Corp.
St. Louis, Missouri, October 5, 1981

Modern Welding Processes & Technology, Center for Professional Advancement
Houston, Texas, March 10, 1982

Mechanical Seal School, Chesterton Corp.
Florence, South Carolina, September 13, 1984

Materials and Processes for Medical Devices, A.S.M.
Fracture, Fatigue, and Corrosion for Medical Devices
Miami, Florida, December 6, 2006
Failure Analysis for Medical Devices
Miami, Florida, December 7, 2006

REGISTRATIONS:

Registered Professional Engineer in South Carolina (#8407)
Registered Professional Engineer in Georgia (#20173)
Registered Professional Engineer in North Carolina (#18864)
Registered Professional Engineer in Alabama (#23933)
Registered Professional Engineer in Michigan (#47130)
Registered Professional Engineer with the National Council of Examiners for Engineering and Surveying (#18496)
Registered Professional Engineer in Ohio (#69046)
Registered Professional Engineer in Pennsylvania (#PE071623)
Registered Professional Engineer in Illinois (#062-059791)
Registered Professional Engineer in Mississippi (#18037)
Registered Professional Engineer in Florida (#70100)
Registered Professional Engineer in Texas (#108228)

INVITED LECTURES, TUTORIALS AND PRESENTATIONS

"Designing Against Fatigue Failure", with T. A. Jur, Session No. D9, National Design Engineering Show and Conference, Chicago, Illinois, March 1994.

"Designing Against Fatigue Failure", with T. A. Jur, Session No. 16-2T, National Manufacturing Week Conference, Chicago, Illinois, March 1998; Session No. B-09, March 1999.

"Fatigue Failure - Overcome Challenges Through Design and Analysis", with Michael Pratt, Session No. 1L, National Manufacturing Week Conference, Chicago, Illinois, March 2000.

"Advanced Subrogation", participated as expert panelist in workshop session for insurance professionals, Sessions TAPNL and WAPNL, Property Loss Research Bureau Claims Conference, March 2000; March 2001; July 2001.

"Mega-Losses - First Party Litigation"; Participated as co-instructor in training session for insurance professionals, Property Loss Research Bureau Claims Conference, April 2002, Anaheim, California.

"Mega-Losses - First Party Litigation"; Participated as co-instructor in training session for insurance professionals, Property Loss Research Bureau Claims Conference, April 2003, Orlando, Florida.

PUBLICATIONS:

"Failure Analysis of a Large Dryer Shaft", co-authored with T. A. Jur, Proceedings from A.S.M.E. Winter Meeting, Paper No. 93-WA/DE-12, 1993.

"Fracture Analysis of a Tumbler Mechanism", co-authored with Glenn Stewart and Joseph C. Jur, Proceedings from A.S.M.E. Winter Meeting, Paper No. 95-WA/DE-26, 1995.

"Fracture Analysis of a Forging Anvil", Proceedings from A.S.M.E. Winter Meeting, Paper No. 98-WA/DE-13, 1998

"Analysis of Transport Trailer Front End Structures", with Perry Young, Materials Science & Technology 2007 Conference, September 2007, Detroit, Michigan.

"Classical Fatigue Design Techniques as a Fracture Analytical Tool" co-authored with T. A. Jur, Materials Science & Technology 2008 Conference and Exhibition, October 2008, Pittsburgh, Pennsylvania.

"Classical Fatigue Design Techniques as a Fracture Analytical Tool", co-authored with T. A. Jur, Journal of Failure Analysis and Prevention, Springer Boston, Volume 9, Number 1, February 2009.

"Structural Steel and Fire Damage Assessment", co-authored with Glenn Stewart, Materials Science & Technology 2010 Conference and Exhibition, October 2010, Houston, Texas.

OTHER:

Former Chairman, A.S.M.E. Design Education Committee National Session on Failure Analysis and Prevention.

Former Chairman, A.S.M.E., National Design Education Committee.