

Frank C. Owen

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PROFILE

- **Engineering Generalist:** Technically competent over a broad range of Mechanical Engineering fields, primarily Control Theory, System and Product Design, Machine Dynamics and Vibrations, Dynamics/Modeling/Simulation of Physical Systems
- **Engineering Software Applications:** Adept at the application and use of a wide variety of engineering software design and analysis tools, including dynamic systems modeling and control software, control software for machine control, finite element software, solid modeling software, spreadsheets for engineering applications, general computer programming tools
- **Modeling and simulation:** Hydraulic, pneumatic, mechanical, and hybrid systems
- **Life-Long Learning:** I enjoy new learning challenges and broadening my engineering knowledge and skills
- **Foreign languages:** Fluent in German, good knowledge of French, reading capability in Spanish
- **Aviation:** Licensed private and commercial glider pilot

EXPERIENCE

- **Computer Simulation and Control of Machines:** Simulation and control of hydraulic and pneumatic servo control systems, programming in LabVIEW, simulation and control in Matlab/Simulink
- **Robotics Control:** Control and end-effector path management of a large, hydraulically-actuated robot, programming in C++
- **Steam Power Plant Simulation:** Simulation of a large, coal-fired, steam power generation station
- **Steam Turbine Design via Computer:** Development of finite element model generation for steam turbine design, programming in IDEAS, Fortran, and Excel
- **Ship Stability via Spreadsheets:** Development of spreadsheet-based ship loading, trim and stability system
- **International Training:** Mission to Nigeria to teach Nigerian National Petroleum Co. executives the use of software tools for logistics and management. Three years of teaching ME in German at German universities.
- **Forensic Engineering:** Expert witness investigation for product liability/personal injury. In depth understanding of dynamics at work in vehicular collisions.

EMPLOYMENT

- **President, Alpha Omega, San Luis Obispo, California, 2011-Present**
Engineering consultant in system dynamics, control, design, and forensic engineering
- **Mechanical Engineering Professor, California Polytechnic State University, San Luis Obispo, California, 1998-Present**
Teach classes in Control Systems, Design, Vibrations, Dynamics, Machine Design and have managed countless industrial design projects
- **Mechanical Engineering Guest Professor, Hochschule Karlsruhe – Technik und Wirtschaft, Karlsruhe, Germany, 2009-2010**
Taught classes in Technical Dynamics, Control Systems, and Simulation
- **Mechanical Engineering Professor, Fachhochschule München, Munich, Germany, 2005-2007**
Taught classes in Technical Dynamics and Control Systems and manage design projects in English and in German
- **Consultant, 1998-Present**
Various industrial clients, improvement of manufacturing methods, destructive testing of prototype products, analysis of hydraulic control system for oil well drilling operation, engineering analysis and design of injury prevention systems for elderly people prone to falling
- **Software Development/Test Engineer, Fisher Rosemount, Inc., Austin, Texas, 1997-8**
HAWK Site, DeltaV process control system, responsible for analyzing and testing DeltaV Function Blocks
- **Mechanical Engineering Professor, Maine Maritime Academy, Castine, Maine, 1989-1995**
Taught classes in Power Plant Systems, Software Tools for Engineering Design, Thermodynamics, Ship Design, Yacht Design
- **Project Manager for Project Probe, American Electric Power, Columbus, Ohio, Summer 1995**
Managed design projects for senior engineering students at Gavin Station, Cheshire, Ohio
- **Senior Software Engineer, Computervision Corp., Bedford, Massachusetts, 1986-7**
Programmed special applications for state-of-the-art CAD system, programming in Fortran and C
- **Rotor Design Engineer, General Electric Co., Medium Steam Turbines, Lynn, Massachusetts, 1984-6**
Design of steam turbine rotors for industrial and shipboard applications, development of computer software for turbine design



- **Senior Structural/Software Engineer, Advanced Marine Enterprises, Arlington, Virginia, 1984-6**
Developed software for ship hull design, also FE analysis of shipboard structures
- **Mechanical Design Engineer, J. Ray McDermott & Co., New Orleans, Louisiana, 1978-80**
Design of engineering systems for offshore oil production, field engineer for construction and installation of oil platform in Dubai and Bombay High North oilfield



EDUCATION

- **PhD Mechanical Engineering**, University of Texas at Austin, 1998
- **MS Mechanical Engineering**, Oregon State University, Corvallis, 1984
- **BS Mechanical Engineering**, Mississippi State University, Starkville, 1978
- **BA History**, Duke University, Durham, North Carolina, 1975



PROFESSIONAL AFFILIATIONS

- **Licensed Professional Engineer** – California license M35733, Maine license 6250
- **Society of Automotive Engineers**
- **Verein Deutscher Ingenieure**
- **California Association of Accident Reconstruction Specialists** – Newsletter editor
- **ACTAR Accreditation** – Full accreditation (#2619) as a Traffic Accident Reconstructionist by The Accreditation Commission for Traffic Accident Reconstruction (ACTAR)

References available upon request