



Michael J. Clemens, P.E.

Mechanical Engineering

Mr. Clemens is a mechanical engineer with more than thirty four years of experience in design, analysis, and testing of mechanical systems and is a registered Professional Engineer in the State of Illinois.

Employment History

1997-Present Principal, Unified Engineering, Inc.

Mr. Clemens concentrates on both litigation and industrial projects. Accident reconstruction, low speed impact, patent infringement, product liability, railroad accidents, cause and origin of fires and explosions, diesel engine design, chemical plant accidents, residential heating accidents, and general insurance investigations represent exemplar litigation projects. Mr. Clemens consults industrial clients in the area of applied mechanics relating to mechanical design, stress analysis, heat transfer, flow, finite element analysis, piping analysis, fracture analysis, linear and torsional vibrations, computer-aided engineering, welding, material evaluation, failure analysis, and mechanical testing (both fatigue, static, and dynamic).

1985-1997 Senior Scientist, Packer Engineering, Inc

Mr. Clemens was involved in automotive crash projects, fatigue analysis and testing, vehicle dynamic studies, and various litigation projects. He specialized in the area of applied mechanics relating to structural analysis, vibrations, computer-aided engineering, and mechanical testing.

1978-1985 Senior Project Engineer - Electro-Motive Division of General Motors

Mr. Clemens was a member of an advanced diesel engine design group within the Engineering Department. Project responsibilities included the design, fabrication, and testing program for a new highly efficient turbocharger. Diesel engine and turbocharger performance simulation experience had also been included in this project. Other activities included diesel engine lubrication design, structural testing, stress analysis, selection and management of general purpose finite element system, vibration testing, and vibration analysis. Extensive understanding was achieved in testing instrumentation, modal testing, the VAX computer systems, and hands on field testing of end products.

1976-1978 Research Engineer - General Motors Research Laboratory

As a member of the Engineering Mechanics Department activities included the generation and management of the corporation's latest computer tool for the simulation of automotive impact events. This research was being used to assist in the design of the Corvette frame to meet 30 mph front barrier impact standards. Technical understanding was gained in nonlinear dynamics, plasticity, energy management, interactive graphics, and the IBM computer system.

1975-1976 Senior Professional Services Analyst - Control Data Corporation

Responsibilities included the project management and analysis for various engineering consulting contracts. Contracts ranged in scope from the analysis of nuclear power plant containment and piping systems, to determining the response of a cargo liner of a liquid natural gas tanker ship. An in depth knowledge of applying the finite element method in solving general engineering problems was attained. Additional experience in project managing, proposal writing, and report documentation were gained from consulting assignments. Mr. Clemens became very familiar with several CDC/CYBERNET structural application programs and the CDC computer system.

1972-1975 Strength Analyst - Lockheed Missiles and Space Co.

Job duties included the structural analysis of re-entry bodies for the Polaris/Poseidon missiles. Analysis included the static, dynamic, transient response, and stability of re-entry body shell structures and components. Considerable experience in the finite element method and computer technology was gained from job assignments.

1970-1972 Research Assistant - University of Illinois, Department of Theoretical and Applied Mechanics

Mr. Clemens Worked part-time under a researching professor on the non-linear response of a class of thin plates to varying loads.

Educational Record

- 1974 Stanford University, Stanford, California - College of Engineering, M. S. Degree in Aeronautical and Astronautics.
Funded by Lockheed Missiles and Space Co. graduate study program. Emphasized structural analysis through the use of matrix and numerical methods.
- 1972 University of Illinois, Urbana, Illinois - College of Engineering, B.S. Degree in Aeronautical and Astronautical Engineering.
Graduated with Highest Honors.

Teaching Positions

Former staff instructor at the Illinois Institute of Technology, Mechanical Engineering Department, Chicago, Illinois.

Honorary and Technical Societies

Registered Professional Engineer - State of Illinois
Society of Automotive Engineers (reviewer of SAE technical articles on testing)
American Society of Mechanical Engineers
National Fire Protection Association (NFPA)
National Society of Professional Engineers
Illinois Society of Professional Engineers
James Scholar in Engineering at the University of Illinois
Graduated with Highest Honors from the University of Illinois
Sigma Gamma Tau, Sigma Tau, and Tau Beta Pi - National Engineering Honor Societies