

Paul R. Corder
Mechanical Engineering Department
Lamar University
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EDUCATION

Texas A&M University, College Station, TX **1965 – 1968**
Ph.D. in Mechanical Engineering
Dissertation: "A Compliance Analysis For Symmetrically Loaded Orthotropic and Rib-Reinforced Circular Cylindrical Shells"

Texas A&M University, College Station, TX **1963 – 1965**
M.S. in Mechanical Engineering
Thesis: "Dynamic Response of a Layered Half-Space to a Vibrating Point Load"

Agricultural and Mechanical College of Texas, College Station, TX **1959 – 1963**
B.S. in Mechanical Engineering
Areas of Concentration: Mechanical Design, Stress Analysis

ACADEMIC AWARDS

• NASA Fellowship, Texas A&M University **1965 – 1968**

TEACHING EXPERIENCE

Lamar University, Beaumont, TX **1992 – Present**
Professor – Teaching Mechanical Engineering courses
Developed syllabus and overall course structure, including weekly lab practicum, and administered all grades. Undergraduate courses include Mechanical Design I & II, Computer-Aided Engineering, Mechanical Vibrations. Dynamics. Graduate courses include Theory of Vibrations, Theory of Elasticity, 3-D Solids Modeling, Introduction to Finite Element Analysis

Lamar University, Beaumont, TX **1987 – 1992**
Associate Professor – Teaching Mechanical Engineering courses
In recognition of 19 years of industry experience, joined the faculty at this academic level. Developed syllabus and overall course structure, including weekly lab practicum, and administered all grades. Undergraduate courses include Mechanical Design I & II, Computer-Aided Engineering, Mechanical Vibrations. Dynamics. Graduate courses include Theory of Vibrations, Theory of Elasticity, 3-D Solids Modeling, and Introduction to Finite Element Analysis.

Southern Methodist University, Dallas, TX **Fall 1970**
Adjunct Instructor – Teaching a Mechanical Vibrations Course
Developed syllabus and overall course structure, and administered all grades. Course was taught on the closed-circuit television system to classrooms located in industries throughout North Texas call the TAGER system.

Southern Methodist University, Dallas, TX **Summer 1969**
Adjunct Instructor – Teaching a Mechanical Vibrations Course
Developed syllabus and overall course structure, and administered all grades. Course was taught on the closed-circuit television system to classrooms located in industries throughout North Texas call the TAGER system.

Arlington State College, Arlington, TX **Fall 1968**
Adjunct Instructor – Teaching Statics Course
Developed syllabus and overall course structure, and administered all grades.

ACADEMIC ADMINISTRATIVE & RELATED HIGHER EDUCATION EXPERIENCE

Lamar University, Beaumont, TX **2000 – Present**
Undergraduate Advisor
Provide administrative support for the Mechanical Engineering Department in advising undergraduate junior mechanical engineering students at registration each semester.

Lamar University, Beaumont, TX **1993 – Present**
Faculty Senate
Represented initially the Mechanical Engineering Department on the Faculty Senate, then was asked by the Dean to serve as the College of Engineering's at-large representative.

Lamar University, Beaumont, TX **1990 – Present**
Academic Committees
Served on various department and college academic committees as requested.

Various industries in the Beaumont, Houston Texas region **1990 – Present**
Design Consultant
Provided engineering consulting services to local industries to analyze the performance (stress and/or deflection) of their design.

Various attorneys in Texas, California and Alabama **1990 – Present**
Expert Witness
Provided expert witness services relating to mechanical design issues to attorneys for both Plaintiffs and Defendants.

SIGNIFICANT PROFESSIONAL PUBLICATIONS

Authored/co-authored 7 referred publications, 19 journal publications, 24 conference presentations, 5 research grant reports, 34 company reports, many propriety consultant reports, supervised 6 master's theses, 9 expert witness reports.

“Creation of an International Engineering Student Exchange Program”, co-authored with Chambers, T., Friedman, J., and Roy, G., Proceedings of the ASEE Gulf-Southwest Annual Conference, New Orleans, LA, April 2-4, 2014.

“Improved Lawnmower Blade Design and Optimization.” co-authored with White, R., Seaman, J., Fan, X.J., Proceedings of the 2009 ASME International Mechanical Engineering Congress and Exposition, Paper No.: IMECE2009-11564.

"Incorporating a Teacher's Research Project into an Undergraduate Level Course," co-authored with Dr. Jiang Zhou paper and presentation, Proceedings at the 2009 ASEE Annual Conference, Austin, Texas, June 14-17, 2009.

"Development of Visualization Tools for One and Multiple DOF Dynamic Systems," co-authored with Dr. Jiang Zhou paper and presentation, Proceedings at the 2009 ASEE Annual Conference, Austin, Texas, June 14-17, 2009.

"One Mechanical Design Teacher's FEA Challenge," paper presented at the 2009 Virtual Product Development Conference in Phoenix, AZ April 20-22, 2009.

"Characteristics of Cooling of the Leading Edge with a Row of Dual Impinging Jets," co-authored with Dr. X. Chang Li, paper published in the Proceedings of the ASME 2008 Summer Heat Transfer Conference, Jacksonville, Florida, August 10-14.
(A technical discussion of using jet impingement to cool hot surfaces.)

"Senior Design and the US Space Program," co-authored with Drs. Jiang Zhou and Ken Aung, paper and presentation, Proceedings of the July 2007 Annual Meeting of the ASEE, Honolulu, Hawaii.
(A discussion of three senior design space-based projects suggested by and mentored by NASA JSC personnel.)

"Block-Diagram Based SIMULINK Analysis for the Drop Impact Response of a Mobile Electronic System," co-authored with Dr. Jiang Zhou and Ratna Niraula (Grad Student), paper, Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in Micro-Electronics and Micro-Systems (EuroSimE), 2007.
(A technical discussion of using simulation to study vibration problems.)

"Numerical Study on Heat Transfer of Inclined Jet Impingement with Explicit Crossflow," co-authored with Drs. X.Chang Li and Wei-Huang Zhu, paper to be submitted to the ASME Heat Transfer Conference 2007.
(A technical discussion of using jet impingement to cool hot surfaces.)

"A Mechanical Design Teacher's Challenge," paper and presentation, Proceedings of the Spring 2005 Meeting of the ASEE, Corpus Christi, Texas.
(A discussion of this teacher's challenge to getting students to not accept computer output blindly.)

"Industry Participation in Engineering Design Projects at Lamar University," co-authored with Dr. W.E. Simmon, Proceedings of the 1995 Annual Meeting of the Gulf-Southwest Section of ASEE, Beaumont, Texas.
(A discussion of how the ME Department interacts with local industry.)

"PhotoAir," a community service concept evolved from a Texas Space Grant Consortium-funded project involving Civil Air Patrol providing aerial photography to school groups doing field studies.
(A feasibility project demonstrated the potential for encouraging the study of mathematics and science in schools.)

"Transient Dynamic Response of a Whip Antenna to a Simulated Nuclear Event," a paper presented at and published in the proceedings of the symposium on Dynamics and Vibrations of Time-Varying Systems and Structures at the 14th ASME Biennial Conference on Mechanical Vibration and Noise, Albuquerque, New Mexico, Sept. 19-22, '93.
(Combined the topic into one paper and emphasized how the FEA model was derived and how it responded to the shock wave produced by a 4 KT, 7 psi nuclear blast; new information and data were included; funded research)

"A Study of the Influence of Motion on the Eigenvalues for Rotating Flexible Structures," a report to the NASA Johnson Space Center, Houston, TX, August, 1993.
(Based on NASA-funded research grant through Lamar University.)

"Transient Dynamic Response of a Whip Antenna to a Transverse Shock Loading," a paper presented at and published in the Proceedings of the ASME Energy-Sources Technology Conference and Exhibition, Jan., 1993, Houston, Tx.
(Emphasized the dynamic loads definition and dynamic response analysis using MSC/NASTRAN; funded research)

"Castigliano and Symbolic Programming in Finite Element Analysis," a paper presented at and published in the Proceedings of the ASME Energy-Sources Technology Conference and Exhibition, January '93, Houston, Tx.
(Emphasized the static loads analysis with respect to how the FEA model stiffness was determined.)

"Non-Linear Finite Element Analysis of the Composite Ice Wall," a paper presented at the ASME Energy-Sources Technology Conference and Exhibition, January 1993, Houston, Tx (with D. Ramnath, Graduate student).
(Non-funded research for thesis at Lamar University.)

"Effects of Vapor Covers on Evaporation Rates of Solvents," a series of monthly reports to Tankology International, Inc., Houston, Tx, Spring, 1992 as part of a sponsored student research project.
(Undergraduate research grant for experiment monitoring and data collection at Lamar University, consulting arrangement for interpretation of the data.)

"Static Response of a 36' Whip Antenna," a report to the Naval Surface Warfare Center, Silver Spring, Md, May 1992 (consultant report).
(Emphasized the static loads analysis with respect to how the stiffness of the finite element analysis model was determined. The report contained non-public data.)

"Transient Dynamic Response of a Whip Antenna," a report to the Naval Surface Warfare Center, Silver Spring, Md, May, 1992 (consultant report).
(Emphasized the dynamic loads application and dynamic response analysis using MSC/NASTRAN. The report contained non-public data.)
