E. TERENCE FOSTER

tplus@cox.net
go.unl.edu/tfoster

education:

Ph.D. Engineering, University of California, Berkeley, California, 1967.

Dissertation, "Statistical Prediction of Wave-Induced Responses in Deep-Ocean Tower Structures." Advisor: Professor Joseph Penzien, Sc.D., P.E.

Course work in Advanced Structural Analysis, Advanced Engineering Mechanics, Theory of Plates, Theory of Shells, Structural Dynamics, Random Vibrations, Steel Structural Design, Concrete Structural Design, Matrix Methods in Structures, Finite Element Method, and Higher Mathematics for Engineers & Scientists.

S.M. Nuclear Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts, 1964.

Thesis, "Prediction of Contact Population in Bimetallic Surface Junctions." Advisor: Associate Professor Henri Fenech, Ph.D.

Course work in Nuclear Physics, Fission Reactor Theory, Fusion Theory, Nuclear Reactor Design, Heat Transfer, and Nuclear Reactor Laboratory.

S.B. Civil Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts, 1963.

Thesis, "Development of an Infantile Servorespirator Control System." Advisor: Assistant Professor Philip A. Drinker, Ph.D.

Course work in Classical Physics, Modern Physics, Chemistry, Calculus, Differential Equations, Probability and Statistics, Engineering Mechanics, Structural Analysis and Design, Thermodynamics and Fluids, Engineering Projects, Economics, Humanities, and Art & Architecture.

experience:

TECHNOLOGY PLUS **1990 - Present**
Omaha, Nebraska

This organization focuses on advanced technology applications in the information and physical sciences.

Principal

- Submitted engineering report on structural analysis of installed sculpture in U.S. Capitol Building, Washington, D.C. (Alston) 2020.

- Forensic consultant on personal injury due to bicycle and hiking trail accident [Hinrichs/Welsh], 2020.

- Provided expert testimony on personal injury leading to death due to exiting auditorium seat. Deposition: September 9, 2020 [Sivadge/Welsh], 2020.

- Forensic consultant on personal injury leading to death due to fall in dismount from medical office weighing station [Beare/Welsh], 2020.

- Forensic consultant on personal injury involving broken neck due to fall from elevated walkway at apartment complex [Evert/Welsh], 2019-2020.

- Provided expert testimony on personal injury arising from interaction with chipped concrete step. Deposition: February 6, 2019 [Hook/Welsh], 2016-2019.

- Forensic consultant on personal injury resulting from loaded shopping cart interaction with area drain grating [Edington/Zeilinger, Wurl], 2016-2018.

- Provided expert testimony on causes of fall resulting from repair of cracked sidewalk. Deposition: June 6, 2016 [Carter/Welsh], 2016.

- Provided expert testimony on causes of cracked sidewalk leading to pedestrian injury. Deposition: August 19, 2015 [Beck/Welsh], 2015.

- Forensic consultant on personal injury resulting from

barricaded sidewalk [White/Zeilinger] 2013.

- Forensic consultant on semitrailer wheel malfunction and related automobile accident [Miller/Wolf], 2012-2016.

- Provided expert testimony on causes of irregular sidewalk elevations contributing to pedestrian accident. Deposition: April 25, 2012 [Walgenbach/Welsh], 2012.

- Forensic consultant on safety of exercise equipment [Mundy/Bruno], 2008-2010.

- Computation of natural frequencies for pump tubes for manufacturer [Puritan], 2006.

- Structural design and construction supervision for aluminum sculpture and foundation exposed to outdoor wind forces [Ferguson], 2002-2003.

- Consultant on development and installation (hardware in new construction and software) for psychologist practices [PhD-PC] 1994-2019.

- Consultant to financial services firm on computer network and operation strategy for normal and disaster recovery situations including Year 2000 transitions [Weitz], 1998.

- Consultant to legal counsel regarding validity of insurance claims for reconstruction of a fire damaged structure [Wells Fargo/Kutak-Rock], 1995.

- Provided expert testimony concerning structural flood protection systems. Deposition: January 24, 1994 [Archibald/Mock] 1994.

- Analyzed emergency procedures for aircraft owner association concerned about performance of single engine, piston powered aircraft [UAA-NIFA], 1993.

- Advised regional jewelry distributor on strategic computer policy to implement LAN technologies internally with EDI to customers [Bergman], 1993.

- Established criteria for steel manufacturers' association to offer software conforming to Systems

Application Architecture (SAA) and association database standards [AISC], 1991.

UNIVERSITY OF NEBRASKA **1991 - 2016**
Lincoln and Omaha, Nebraska

The University has within its full range of colleges, schools, and departments the Durham School of Architectural Engineering and Construction and the Aviation Institute.

Professor, College of Engineering and Aviation Institute, Graduate Faculty

- Durham School of Architectural Engineering and Construction Associate Director, 2010 – 2016.

- Completed transfer of Fire Protection Program from College of Engineering to College of Public Affairs and Community Service, 2015.

- Led project for engineering education reform (EnginEER), 2010-2016.

- Durham School of Architectural Engineering and Construction Program Coordinator of Construction Engineering, 2010.

- Durham School of Architectural Engineering and Construction Interim Director, Construction Systems Department, 2009 – 2010. Winner of J. E. Lagerstrom Award for best College of Engineering department.

- Durham School of Architectural Engineering and Construction Program Coordinator, Construction Engineering, 2006 – 2008. Led successful Construction Engineering self study project resulting in EAC-ABET accreditation.

- Taught courses in computer assisted design (CAD), computational analysis, construction methods, engineering economics, statics, dynamics, mechanics and strength of materials, materials science, structural design, fluid mechanics, thermodynamics, aviation introduction, and aerodynamics.

- Member, College Committee to Improve Teaching and Learning for Accreditation, 2012 – 2014.

- Member. College Curriculum Committee, 2010 – 2012.

- Chair, College Promotion and Tenure Committee, 2007 – 2008, Member of College Promotion and Tenure Committee, 1998 – 2000, 2002 – 2008.

- Co-Chair, Unit Promotion and Tenure Committee, 2007 – 2008.

- Durham School of Architectural Engineering and Construction *Ad Hoc* Promotion and Tenure Bylaw Committee Chair, 2006.

- Co-Chair, College of Engineering Unified Ph.D. Committee (Construction Field), 2006 – 2008.

- Chair, Construction Systems Graduate Committee, 2004 – 2008.

- Member, UNL Academic Senate, 2001 – 2003.

- Member, College of Engineering and Technology Master of Engineering Graduate Board, 2002 – 2004.

- Departmental Representative to Peter Kiewit Academy of Excellence, Summer, 2000.

- External Faculty Representative, UNO Faculty Senate, 1998 - 2001.

- Member of Admissions Committee, Master of Engineering in Construction Program, 2000 – 2005.

- Developed curriculum proposals submitted for the B.S., M.S., and Ph.D. degrees in Construction Engineering, 2003 – 2005.

- Chair, Construction Systems Construction Engineering Faculty Search Committee, 2004 – 2005.

- Member of Construction Systems Department Executive Committee, 1996 - 1998.

- Member of UNO Honors Program Committee, 1998 - 2008.

- Led Construction Systems Department presenters in Summer Workshop for Omaha Area Secondary School Teachers, 1997 - 1998.

- Construction Systems Department Industry Advisory Council Curriculum Committee, 2000 - 2010.

- Faculty Research Advisory Committee, 1994 - 1996, 1998 - 2000.

- UNO Office of Sponsored Projects & Research *Ad Hoc* Advisory Committee, 1998 - 1999.

- College Faculty Bylaws Committee, 1996 - 2001.

- Developed standards for materials used in Department accreditation process, 1992.

- Served on Mechanical Engineering Task Force, 1995 - 1996.

- Planned department's role in multicampus deployment of engineering education (Engineering 2000), 1992 - 1993.

- Led interdepartmental study to recommend organization of Construction Systems, Construction Management, and Civil Engineering Departments, 1993 - 1994.

- Summer faculty investigator in software development project for international construction firm, 1994.

- Participated in Intensive Grant-Writing Seminar, 1993.

- Installed department computer laboratories, local area networks, and interfaces to wide area networks, 1994 - 1999.

- Served as member of UNO High Technology Classroom Committee, 1993 - 1995.

- NASA-EPSCoR UNL Campus Coordinator ($3 million in research grants), 1995 – 2002.

- Proposed alternative equipment management strategies for

the acquisition, maintenance, and deacquisition processes as a member of the School Computer Advisory Committee, 1992.

- Member of the Center for Infrastructure Research, 1992 - 2000.

- Faculty adviser for UNL and UNL merged chapters Omicron and Chi III into Omicron Chapter of Sigma Lambda Chi Construction Honorary, 2014-2016.

- Faculty adviser for UNO students in the Nebraska Alpha Chapter of the Tau Beta Pi Engineering Honorary, 1999 - 2001.

- Faculty adviser for the UNO Nebraska Alpha Chapter of the Tau Alpha Pi Engineering Technology Honorary, 1998 - 2000.

- Served as faculty adviser for the Omaha Student Chapter of the Associated General Contractors, 1992 - 1995.

- Served as faculty technical adviser for the Aviation Institute Flight Team in National Intercollegiate Flying Team competitions, 1994 - 1995.

- Developed aircraft aerodynamics and performance course curriculum in conjunction with the Aviation Institute, 1995.

UNION PACIFIC CORP. **1988 - 1990**
St. Louis, Missouri

Union Pacific Technologies (now the Transentric subsidiary of Union Pacific's Fenix) was the information systems subsidiary of Union Pacific Corporation (a Fortune 100 Company) that owns Union Pacific Railroad, and other logistics subsidiaries.

Assistant Vice President, Advanced Technologies Department

A department that brings logistics related information technologies to Union Pacific Corporation and responds to corporate information systems requirements.

- Selected $1.5 million artificial intelligence/expert system software for the corporate mainframe and personal computer network that saved the corporation at least $34 million during the next five years.

- Developed innovative marketing strategies aimed at securing commercial and government computer business such as 800 number information services and the U.S. Air Force international parts support program.

- Researched and evaluated potential technology acquisitions that enhanced corporate computer capabilities.

- Pioneered computer speech recognition technology that eliminated keyboard operations and streamlines telephone transactions to the point of full input automation.

- Introduced the concept of using paper-like devices for text, graphic, and image processing which increase efficiency for data acquisition and subsequent processing.

- Established Advanced Technologies Laboratory and Library to focus corporate research and development activities.

- Designed a Five Year Strategic Plan system that facilitated the production of instantaneous corporate planning reports.

- Established pilot studies to test hand held computers in the Overnite Transportation motor freight subsidiary.

- Integrated professional and desktop publishing that improved the consistency and quality of written corporate communications.

- Encouraged interaction between academic and corporate sectors by establishing the Union Pacific Council of Academic Relations.

MULTITEC, INC. **1976 - 1987**
Omaha, Nebraska

This holding company operated subsidiaries (Foster Western,

Inc.; Nicholas Construction, Inc.; CMax, Inc.; and Rentex, Inc.) involved in engineering, construction, real estate development, and equipment leasing.

President, MultiTec, Inc.; President, Rentex, Inc.; and Board Chairman, CMax, Inc. (1984 - 1987)

Senior Vice President, Foster Western, Inc.; and President, Nicholas Construction, Inc. (1976 - 1984)

- Gathered loosely affiliated group of companies into a mid-sized organization with common administrative, marketing, and financial functions.

- Set pace for corporate computer policy by first installing midrange computer for business data processing and using remote supercomputer vendors for engineering; later installed personal computer network to integrate communication among customers, vendors, and branch offices.

- Established successful Denver branch office that added $5 million per year of profitable construction work.

- Procured nuclear power plant maintenance work, the most profitable portion of the construction activities.

- Established building rehabilitation capability that successfully developed and operated facilities that needed extensive renovation to become revenue producing.

- Initiated the computer rental concept through successful operation of CompuRent, a trade name of Rentex.

- Developed computerized project management and estimating systems that were integrated with financial systems and the PC network.

- Offered construction management (through CMax) as an alternative relationship between owners, designers, and constructors.

HENNINGSON, DURHAM & RICHARDSON, INC. **1970 - 1975**
Omaha, Nebraska

This engineering/architecture design firm ranked by volume in the top twenty firms of its type in the U.S. for the past thirty years.

Vice President/General Manager, HDR Systems, Inc.
(1972 - 1975)

Department Manager, Systems (1970 - 1971)

- Originated operations research/systems analysis in the engineering/architecture industry by developing HDR Systems into a subsidiary that brought over $1 million annual revenues in technical analysis and computer services.

- Selected, trained, and managed staff of twenty computer professionals in marketing/sales, analysis/development, and computer operations.

- Established the firm's cold weather engineering capability by writing the book *Civil Engineering in Alaska*, which permitted corporate licensing in the state of Alaska.

- Put HDR, Inc., into a position of computer technology supremacy within its industrial sector by introducing timesharing, which capitalized on paperless, cardless input and soft/hard copy output in standard sizes. All HDR, Inc., prior generation engineering software was converted to this environment.

- Executed COMPOSE software project from concept to completion for organizational structured document processing in a computer timesharing environment. The COMPOSE package was sold to other sites using Control Data equipment

U.S. ARMY MILITARY INTELLIGENCE CORPS **1968 - 1969**
Washington, D.C., and Pasadena, California

These are significant technology oriented assignments in the U.S. Army.

Captain/Operations Research Analyst;
Army Chief of Staff Force Planning Analysis Directorate

(1969)
Pentagon Building

First Lieutenant/Senior Research Engineer
NASA Unmanned Spacecraft Program (1968)
California Institute of Technology Jet Propulsion Laboratory

- Awarded Army Commendation Medal for work with McKinsey & Co. in the Project to Improve Management of Army Resources (PRIMAR) by applying mathematical programming techniques for optimum allocation of human and material resources.

- Simplified Army General Staff computer analysis procedures by conversion from batch to timesharing.

- Performed random vibration analysis of spacecraft structures during launch and deployment such that behavior of solar array systems could be predicted prior to fabrication, thereby avoiding costly trial-and-error design procedures.

professional licenses and certificates:

Certified Structural Engineer, Structural Engineering Certification Board Certificate Number 1165-0705 (July 1, 2005)

American Institute of Constructors, Construction Certification Commission Certified Professional Constructor Certificate Number 590 (November 11, 1998)

United States Council for International Engineering Practice, Certificate Number IR140 (August 11, 2006 – Current)

National Council of Examiners in Engineering and Surveying Certificate Number 4431 (January 19, 1976 - Current)

Alaska Professional Engineer (Civil) Registration Number 2217-E (July 12, 1971)

California Professional Engineer (Civil) Registration Number C20074 (October 21, 1970)

Colorado Professional Engineer Registration Number 17297 (August 28, 1980)

Florida Professional Engineer, Registration Number 23891 (October 1, 1976)

Iowa Professional Engineer (Structural) Registration Number 6931 (January 25, 1973 - Current)

Missouri Professional Engineer, Registration Number E-23230 (August 1, 1988 - Current)

Nebraska Professional Engineer (Civil, Nuclear, Structural) Registration Number E-3374 (March 6, 1971 - Current)

New York Professional Engineer, Registration Number PE 45473 (January 30, 1970 - Current)

South Dakota Professional Engineer (C.E.-Structural) Registration Number 2677 (May 28, 1976)

West Virginia Professional Engineer, Registration Number 20213 (May 14, 2013)

Wyoming Professional Engineer (Structural) Registration Number 3377 (February 15, 1980 - Current)

computer certification:

Institute for Certification of Computer Professionals: Certified Computing Professional (CCP - formerly called Certificate in Data Processing (CDP)) Number 013410(09-72) 720963-508505104 (February 19, 1972) by examinations in Computer Hardware, Computer Software, Systems Analysis, Mathematics, and Management Theory

Novell, Inc.: Certified Novell Engineer (CNE) (December 18, 1995) by examinations in Microcomputer Concepts, Networking Technologies, Network Administration, Advanced Network Administration, NetWare Update, Service and Support, and Installation and Configuration; Master Certified Novell Engineer (MCNE) (October 24, 1997) by CNE plus examinations in Internetwork Technology, Network Printing, Intranets, and Internetwork Management

Microsoft, Inc., Microsoft Certified Systems Engineer (MCSE) (October 4, 1998) by MCNE plus examinations in Computer Workstations, Network Servers, Enterprise Servers, TCP/IP, and Internet Information Servers

academic instructional and research certification:

International Board of Standards for Training, Performance, and Instruction (IBSTPI), Certified Technical Trainer (CTT) in the Scientific Related Specialty (November 11, 1999) through Chauncey Group International, Ltd., affiliate of Educational Testing Service, by written examination and classroom demonstration

Collaborative IRB Training Initiative (CITI), Training in Protection of Human Research Subjects, required by the University of Nebraska Institutional Review Board, National Institutes of Health, and National Science Foundation (April 6, 2001) by completion of on-line testing.

aviation certificates (Federal Aviation Administration):

Commercial Pilot Certificate Number 2453053 (February 8, 1992)

Certificated Flight Instructor (Airplane Single Engine, Multiengine, Instrument) Certificate Number 2453053CFI (July 13, 1995)

Advanced Instrument Ground Instructor Certificate Number 2515220 (August 10, 1993)

Instrument Rating, Airplane (June 7, 1991)

Airplane Single Engine Land and Sea Ratings

Airplane Multiengine Land Rating

Conventional (Tailwheel) Aircraft Endorsement

Complex Aircraft Endorsement

High Performance Aircraft Endorsement

High Altitude Endorsement

Phase X Pilot Proficiency

awards:

Engineering Education Excellence Award from National Society of Professional Engineers (2014).

Who's Who in America (2010).

W. A. Klinger Construction Education Award from American Institute of Constructors (2009).

Who's Who Among America's Teachers (2005).

Outstanding Service Award from National Society of Professional Engineers Practice Division for Professional Engineers in Construction (2004).

University of Nebraska College of Engineering Service Award, Professor Level (2003).

Tau Alpha Pi Engineering Technology Honorary (1999).

Sigma Lambda Chi Construction Honorary (1998).

Who's Who in the Midwest (1989).

Outstanding Engineering Achievement Award from National Society of Professional Engineers, Nebraska Society of Professional Engineers, Eastern Chapter (1984).

Who's Who in Finance and Industry (1983).

Who's Who in Engineering (1980).

Outstanding Young Engineer Award from National Society of Professional Engineers, Nebraska Society of Professional Engineers (1973).

Fulbright-Hays Visiting Professorship (Courses taught: Finite Element Method, Random Vibrations), Institute of Seismology, Skopje, Macedonia (formerly Yugoslavia); Guest

Lecturer in Yugoslavia, Italy, and Portugal (1971).

Sigma Xi Scientific Honorary (1967).

Graduate Fellowship, American Institute of Steel Construction (1966 - 1967).

Graduate Fellowship, U.S. Nuclear Regulatory Commission (formerly U.S. Atomic Energy Commission) (1964).

Tau Beta Pi Engineering Honorary (1963).

Chi Epsilon Civil Engineering Honorary - Chapter Vice President (1962).

boards:

American Institute of Constructors National Board of Directors, Alexandria, Virginia (2005 – Present).

Tau Alpha Pi (Engineering Technology Honorary) Board of Directors, Zone 3 Representative, Washington, D.C. (2004 – 2005).

National Institute for Certification in Engineering Technologies (NICET) Board of Governors, Washington, D.C. – Chair, 2004 – 2005 (2001 – 2007).

Laborers Union Scholarship Committee for Higher Education (Administered Omaha-Council Bluffs Holiday Fund Scholarship Program), Omaha, Nebraska (1995 - 1999).

Nebraska Society of Professional Engineers Education Foundation, Lincoln, Nebraska - President, 1998 - 1999 (1993 - 1999).

Nebraska Board of Engineers and Architects, Lincoln, Nebraska - Chair, 1986 (1983 - 1988).

Delta Futures Discount Brokerage, Omaha, Nebraska - Member of Board of Directors, Corporate Secretary, and Information Technology Consultant (1983 - 1986).

Omaha Builders' Exchange, Omaha, Nebraska - Secretary/Treasurer, 1983 (1982 - 1984).

Iowa Western Community College, Council Bluffs, Iowa - Advisory Board (1981 - 1986).

U.S. Bank, Omaha, Nebraska - Member of Board of Directors and Information Technology Consultant (1978 - 1985).

societies:

Structural Engineers Association of Nebraska, affiliate of National Council of Structural Engineers Associations, Chicago, Illinois, 2003 – Present).

American Institute of Constructors, Alexandria, Virginia – Fellow, 2010 – Present; Constructor, 1999 – 2010; Board of Directors, 2005 – Present; National Secretary, 2016 - Present (1999 - Present).

American Society for Engineering Education, Washington, D.C. – Midwest Section 2000 Conference Chair, 1998 - 2000 (1998 - Present).

Order of the Engineer, New York, New York, (1981 – Present).

American Institute for Certification of Computer Professionals, Des Plaines, Illinois - State Coordinator, 1978 - 1979 (1977 - 2003).

Association for Computing Machinery, New York, New York – Midlands Chapter President, 1976 - 1977 (1975 - 2003).

National Society of Professional Engineers, Alexandria, Virginia – Fellow, 2001 – Present; Member, 1970 – 2001; National Delegate, 2006 - 2007; National Vice President, Practice Divisions, 2005 - 2006; National Director, 1999 - 2000; State President, 1985 - 1986; Chapter President, 1981 - 1982 (1970 - Present).

American Institute of Aeronautics and Astronautics, Washington, D.C. – Associate Fellow, 2008 – Present, Sr. Member, 2001 – 2008; Member, 1970 – 1973, 1993 – 2001; Regional Council, 1997 - 2001 (1970 - 1973, 1993 - Present).

American Society of Civil Engineers, Reston, Virginia - Fellow, 1983 - Present; Member, 1970 - 1983, Associate Member, 1963 – 1970; Construction Institute, 2000 – Present; Structural Engineering Institute, 1999 – Present (1963 - Present).

civic associations:

Mid-America Council of Boy Scouts of America Eagle Scout Association (2014 – Present).

Optimist Club of Aviation, Omaha, Nebraska - President, 1998 - 1999 (1993 – 2004).

Omaha Symphony Council, Omaha, Nebraska (1998 - 2000).

Landmarks, Inc., Omaha, Nebraska - Board of Directors (1985 - 1987).

Western Heritage Museum, Omaha, Nebraska - Board of Directors; Vice President, 1982 - 1985 (1982 - 1987).

Opera/Omaha, Omaha, Nebraska - Board of Directors (1982 - 1985).

research, presentations, and publications: ([R] denotes refereed.)

"Optimal Labor Productivity: A Case Study in a Sheet Metal Bending Task," *Proceedings of the 2018 Construction Research Congress*, New Orleans, Louisiana (co-authors: K. P. Kisi, N. Mani, E. M. Rojas), April 2-5, 2018 [R].

"Multi-level Hierarchical Analysis for Productivity Frontier Estimation," *Proceedings of the 2018 Construction Research Congress,* New Orleans, Louisiana (co-authors: N. Mani, K. P. Kisi, E. M. Rojas), April 2-5, 2018 [R].

"Estimation of Optimal Productivity in Labor-Intensive Construction Operations: Advanced Study," *Journal of Construction Engineering and Management, ASCE*, p.144 (10): 04018097 (co-authors: K. P. Kisi, N. Mani, E. M. Rojas) 2018 [R].

"Labor Productivity Frontier: A Case Study of Two Crews," *Proceedings of the 53rd ASC Annual International Conference*, Associated Schools of Construction, Seattle, Washington (co-authors: N. Mani, K. P. Kisi, E.M. Rojas) April 5-8, 2017 [R].

"Estimating Construction Labor Productivity Frontier: Pilot Study," *Journal of Construction Engineering and Management*, ASCE, p.143 (10): 04017077 (co-authors: N. Mani, K.P. Kisi, E. M. Rojas) 2017 [R].

"Optimal Productivity in Labor-Intensive Construction Operations: Pilot Study," *Journal of Construction Engineering and Management*, ASCE, p.143 (3): 04016107 (co-authors: K. P. Kisi, N. Mani, E. M. Rojas) 2017 [R].

"A Case Study on Estimating Optimal Productivity," *Proceedings, Construction Research Congress, ASCE,* Reston, Virginia, pp. 1762-1711 (co-authors: N. Mani, K. P. Kisi, E. M. Rojas), 2016 [R].

"A Case Study on Estimating Labor Productivity Frontier," Associated Schools of Construction 52nd Annual International Conference, Provo, Utah, April 13-16, 2016 (co-authors: N. Mani, K. P. Kisi, E. M. Rojas) [R].

"Discoveries and Conjectures about Stress Reversal in a General Cross Section," presented to the Durham School 2nd Annual Faculty Research Symposium, January 8, 2016.

"A Case Study on Estimating Optimal Labor Productivity," accepted for publication in ASCE Construction Research Congress *Proceedings*, September 18, 2015 (co-authors: K. P. Kisi, N. Mani, E. M. Rojas) [R].

"Beam Design Envelope: Transition between Governing Strength Equations," presented to the Durham School 1st Annual Faculty Research Symposium, January 8, 2015.

"Automated Tool Tracking on the Construction Site," *International Journal of Construction Education and Research*, Vol. 5, No. 1 pp. 12-23, March 2009 (co-authors: J. D. Goedert, J. Jewell, J. Bartek) [R].

"Construction Engineering, The Newest Engineering Program Offered at the University of Nebraska Peter Kiewit

Institute," Part Two of the Peter Kiewit Institute Series, *The Nebraska Engineer*, Vol. 35, No. 1, October 2008, pp. 11, 12.

"Cutting Edge Research for the Design/Build Construction Industry," presented DBIA-MAR February 28, 2008 (co-authors: J. D. Goedert, A. D. Schwer, Y. K. Cho, G. Morcous, T. R. Norton, K. E. Pedersen).

"Research in University of Nebraska Construction Systems," presented to Local AGC, Mechanical Contractors of Omaha, Local National Electrical Contractors Association, December 14, 2007 (co-authors: J. D. Goedert, A. D. Schwer, Y. K. Cho, G. Morcous, T. R. Norton, K. E. Pedersen).

"Natural Frequencies of a Vibrating Uniform Cantilever with a Concentrated End Mass," presented to Nebraska Academy of Sciences Annual Meeting, April 21, 2006, abstracted in conference proceedings (co-authors: B. N. Skourup, W. J. Waters).

"Trends in Construction Professionalism," webinar for National Society of Professional Engineers series, *ResPECt for Construction*, April 19, 2006.

"Construction Engineering: an Integrative Branch of Engineering," presented and included in conference proceedings of the 2005 ASEE Annual Conference, June 13, 2005 (co-author: J. D. Goedert) [R].

"A Template for the Exploration of Chaotic Locomotive Patterns," *Chaos, Solitons, and Fractals*, Elsevier, Vol. 23, pp. 485-493, 2005 (co-authors: M. J. Kurz, N. Stergiou, J. Heidel) [R].

"Three-Dimensional Barrier Impact Response Modeling (BIRM3D)," presented at the Second International Structural Engineering, Mechanics, and Computation Conference, July 5-7, 2004, Cape Town, South Africa, published in conference proceedings (co-authors: R. D. Sarmah, C. Y. Tuan) [R].

"Component Identification System in the Construction Project," presented to Nebraska Academy of Sciences Annual Meeting, April 16, 2004, abstract and poster (co-author: F. F. Samura).

"National Institute for Certification in Engineering Technologies (NICET), the Professional Engineer's Working Partner," presented to the North Dakota Society of Professional Engineers Annual Meeting, Grand Forks, North Dakota, March 26, 2004.

"Precast Concrete Residential Building Envelope," presented to Ninth Arab Structural Engineering Conference, November 30, 2003, Abu Dhabi, United Arab Emirates, published in conference proceedings (co-authors: M. K. Tadros, D. Kusolthamarat, W. W. Holmes) [R].

"Controlling Bifurcations and Chaotic Gait with Hip Joint Actuation in a Simple Walking Model," presented at the American Society of Biomechanics Annual Meeting, September 25, 2003 (co-authors: M. J. Kurz, N. Stergiou) [R].

"Application of Radio Frequency Identification in the Aerospace Environment," presented to Nebraska Academy of Sciences Annual Meeting, April 25, 2003, abstracted in conference proceedings (co-author: F. F. Samura).

"A Precast Post-tensioned Segmental Pole System," presented to ASCE-SEI Conference, September 10, 2002, published in conference proceedings, *Electrical Transmission in a New Age*, 2002, pp.318-324 (co-authors: S. A. Yehia, M. K. Tadros) [R].

"Radial Symmetry Effects in Area Moments of Inertia," presented to ASCE-SEI Conference, September 10, 2002, published in conference proceedings, *Electrical Transmission in a New Age*, 2002, pp.325-330 [R].

"Utilization of Coal Ash in Concrete Products Used by OPPD," report submitted to Omaha Public Power District February 1, 2002.

"Cutting Airport Paving Materials: An Examination of Experimental and Traditional Technologies," presented to Nebraska Academy of Sciences Annual Meeting, April 20, 2001, abstracted in conference proceedings.

"A Critical Look at Contemporary Engineering Education – The Challenges and the Solutions," position paper for conference entitled "The 21st Century Engineering Student: Profiles in Diverse Opportunities," ASEE Midwest Section

Meeting as Conference Chair, April 5-7, 2000 (facilitated with B. M. Forinash).

"Standardized Design of Double Tees with Large Web Openings," *PCI Journal*, Vol. 44, No. 6, November-December 1999, pp. 68-78 (co-authors: M. Saleh, M. K. Tadros, A. Einea, L. G. Fischer) [R].

"Selected Aircraft Operating Handbook Supplements to Optimize Performance," poster presentation to Nebraska Academy of Sciences Annual Meeting, April 23, 1999.

"Computational Preprocessing Aspects of Unmasking Temperature Data for Circadian Rhythmicity in Aerospace Activities," presented to Nebraska Academy of Sciences Annual Meeting, April 24, 1998, abstracted in conference proceedings (co-author: L. A. Farr).

"How Much Does Activity Affect Temperature? A Comparison of Activity with Axillary and Rectal Circadian Temperature Rhythms," presented to The XXI Annual Meeting of the Midwest Nursing Research Society, Columbus, Ohio, March 29-30, 1998 (co-authors: L. A. Farr, L. M. Boen).

"Testing of a De-masking Algorithm for Temperature Circadian Rhythm Data in Studies of Airline Pilots, Astronauts, and Mission Ground Crews," presented to and published in proceedings of the NASA Space Grant Aeronautics Working Group Conference at Dryden Air Force Base, Edwards, California, October 15-19, 1997 (co-authors: L. A. Farr, L. M. Boen) [R].

"Parametric Depreciation of Large-Scale Airline Assets," presented to Nebraska Academy of Sciences Annual Meeting, April 25, 1997, abstracted in conference proceedings.

"Statistical Prediction of Airline Quality," presented to Nebraska Academy of Sciences Annual Meeting, April 26, 1996, abstracted in conference proceedings, funded by NASA Nebraska Space Grant.

"Fundamentals of Engineering Examination, November, 1993, Solution Manual," University of Nebraska College of Engineering and Technology and College of Continuing Studies, January 5, 1996.

"Analytical Solution of Aircraft Endurance and Range Equations," presented to Nebraska Academy of Sciences Annual Meeting, April 28, 1995, abstracted in conference proceedings, funded by NASA Nebraska Space Grant.

"Paperless Electronic Education in Engineering," presented to ASEE Midwest Section Meeting, March 29-31, 1995, published in conference proceedings.

"The Graduate Professional Degree in Engineering: Dream or Necessity?," presented to ASEE Midwest Section Meeting, April 1, 1994, published in conference proceedings.

"Cyclic Student Evaluation Procedures in Higher Education for Aviation," presented to NAEA Annual meeting, January 26, 1994, published in conference proceedings.

"Alternative Student Evaluation Procedures in Engineering," awarded Third Place in conference and presented to ASEE Midwest Section Meeting, April 1, 1993, published in conference proceedings.

Civil Engineering in Alaska, copyrighted text issued through Duplicating Services, Omaha, Nebraska, October 1973.

"Improved River Basin Utilization Through Systems Analysis," presented to the Seventh Annual American Water Resources Conference, October 25-28, 1971, published in *Water Resources Bulletin*, Vol. 8, No. 5, Paper 72079, October, 1972, pp. 865-872 (co-authors: T. C. Chen, J. P. Newton, E. O. Isu) [R].

"Model for Nonlinear Dynamics of Offshore Towers," *Journal of the Engineering Mechanics Division, ASCE*, Vol. 96, No. EM1, Proc. Paper 7093, February 1970, pp. 41-67 [R].

"Modeling Wave-Induced Tower Response Statistics," presented to ASCE Annual Meeting and Environmental Engineering Conference, October 17, 1969, published as Conference Preprint 999, 1969 [R].

"Semilinear Random Vibrations in Discrete Systems," *Journal of Applied Mechanics*, Vol. 35 (Series E), No. 3, September 1968, pp. 560-564 [R].

"Predicting Wave Response of Deep-Ocean Towers," presented to ASCE-CERC Conference, September 6, 1967, published in conference proceedings, *Civil Engineering in the Oceans*, 1968, pp. 75-98 [R].

"Statistical Prediction of Wave-Induced Responses in Deep-Ocean Tower Structures," Wave Research Project HEL 9-14, Hydraulic Engineering Laboratory, University of California at Berkeley, California, 1967.

student work supervised:

Hazrati, A., Ph.D. Dissertation (committee chair), "Predicting Construction Labor Productivity with Bayesian Belief Networks," May, 2016.

Kisi, K. P., Ph.D. Dissertation (committee chair), "Estimation of Optimal Productivity in Labor-Intensive Construction Operations," August, 2015.

Mani, N., Ph.D. Dissertation (committee chair), "A Framework for Estimating Labor Productivity," May, 2015.

Moore, P. J., II, M.S. Thesis (committee member), "Tsunami Damage and Debris Assessment of Residential Structures along the Coast of California," December, 2014.

Shane, A., M.S. Thesis (committee member), "Numerical Assessment of Phased Constructed Steel Girder Bridges," December, 2014.

Armwood, C. K., Ph.D. Dissertation (committee member), "Behavior of Fiber Reinforced Mortar Joints in Masonry Walls Subjected to In-plane Shear and Out-of-plane Bending," August, 2014.

Lashgari, M., Ph.D. Dissertation (committee member), "Comparative Study of Base-isolated and Fixed-base Buildings Using a Damage/Cost Approach," May, 2014

Bode, T. A., M.S. Thesis (committee member), "An Analysis of the Impacts of Temperature Segregation on Hot Mix Asphalt Pavements and the Variables that Contribute to It," August 2011.

Kabassi, K. A., M.S. Thesis (committee member), "Effectiveness Study on Temporary Pavement Marking Removal Methods," June 2011.

Simons, K. J., M.S. Thesis (committee co-chair), "Affordable Lightweight High Performance Concrete (ALWHPC) – Expanding the Envelope of Concrete Mix Design," May 2010.

Sorenson, A. D., Ph.D. Dissertation (committee member), "Decomposing a Timbrel Dome: Understanding the Role of the Structural Elements of a Complex Masonry System," June, 2009.

Meadati, P. K., Ph.D. Dissertation (committee member), "Integration of Construction Process Documents into Building Information Modeling," December 2007.

Kurz, M. J., Ph.D. Dissertation (committee member), "Chaos in Gait," May 2006.

El Touny, S. Y., M.S. Thesis (committee member), "Prediction of Concrete Strength for Various Mixture Designs," December 2005.

Torres, A., M.S. Thesis (committee member), "Durability Evaluation of the "Bruner" Side Bearing," May 2005.

Bowers, J. A., M.S. Thesis (committee member), "Investigation of and Innovative Arch Bridge System," December 2004.

Lorimor, A. L., M.S. Thesis (committee member), "An Innovative Static Cast High Performance Concrete Pole System," December 2003.

Kusolthamarat, D., M.S. Thesis (committee member), "Innovative Precast Concrete for Residential Application," August 2003.

Sarmah, R. D., M.S. Thesis (committee member), "Three-Dimensional Barrier Impact Response Modeling (BIRM3D)," April 2003.

Carrillo, L. K., M.S. Thesis (committee chair), "Optimization of Concrete Mixes with High Volumes of Fly Ash," April 2002.

Lowndes, J. P., Special Projects in Construction Engineering Technology, "Research on New Methods of Depreciation," April 30, 1996.

Queen, J. A., Honors in Engineering Statics, "A Simplified Method for Determining Equivalent Forces Due to Positive n^{th} Degree Beam Loadings," December 7, 1999.

Ewing, E. W., Honors in Engineering Statics, "Reduction of a Given Force and Couple to a Wrench," April 5, 2000.

Queen, J. A., Honors in Engineering Dynamics, "Trajectory of a Particle Under a Central Force," April 18, 2000.

Jarzobski, A. J., Special Projects in Construction Engineering Technology, "OPPD – University of Nebraska Fly Ash Research," April 26, 2001.

Paulson, L. M., Special Topics in Civil Engineering, "Steel Fastening Systems that Measure Bolt Tension," May 5, 2001.

Carrillo, L. K., Special Topics in Civil Engineering, Investigation of Ultimate Tensile Strength of the One-sided Bolted Reusable Moment-resisting Fastener System," July 2, 2002.

Sanders, R. T., Special Projects in Construction Engineering Technology, "Engineering Marketing," November 17, 2003.

Samura, F. F., Special Projects in Construction Engineering Technology, "Project Management Practicum," November 5, 2004.

Karki, R., Special Projects in Construction Engineering Technology, "Project Management Practicum," October 28, 2005.

review boards and panels:

The American Professional Constructor, American Institute of Constructors, Alexandria, Virginia, 2005 – Present.

Journal of Air Transportation World Wide, University of

Nebraska at Omaha Aviation Institute, Omaha, Nebraska, 1996 - Present.

Public Works Management & Policy, The American University, Washington, D.C., 1997 - Present.

American Institute of Constructors Construction Certification Commission, St. Petersburg, Florida, Grader for Written Portion of Construction Fundamentals Examination, 1998 - 2000.

American Institute of Aeronautics and Astronautics Region V, Iowa State University, Ames, Iowa, Student Paper Competition, Judge, April 19 and 20, 2001.

Reviewer by invitation for selected articles in the following Journals: *American Concrete Institute Journal*, *Canadian Journal of Civil Engineering*, 1999 - Present.

Invited reviewer for Prentice Hall Fifth Edition of *Reinforced Concrete Design* by L. Spiegel and G. F. Limbrunner, 2001.

inventions/patents

Precast Post-tensioned Segmental Pole System, U.S. Patent Number 6,851,231, February 8, 2005 (co-inventors: M. K. Tadros, S. A. Yehia, A. L. Hansen).

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