TEXAS TECH UNIVERSITY

Department *of* Civil, Environmental & Construction Engineering™

ABOUT THE DEPARTMENT

Undergraduate Students:	306
Master's Students:	47
Doctoral Students:	37
Faculty Members:	28

GRADUATE DEGREES

Doctor of Philosophy:
Civil Engineering

Master of Science:
Civil Engineering

Master of Environmental Engineering

Graduate Certificate
Construction Engineering and Management

CONTACTS

Dr. W. Andrew Jackson
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Dr. Priyantha Jayawickrama
Advisor - Structures/Transport/Geotechnical
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CIVIL, ENVIRONMENTAL, AND CONSTRUCTION ENGINEERING

RESEARCH

Complementing classroom instruction in structural engineering, environmental engineering, geotechnical engineering, transportation engineering, construction engineering, and water resources engineering, Texas Tech faculty conduct research in the department's four research centers and institutes: Center for Multidisciplinary Research in Transportation, Murdough Center for Engineering Professionalism and National Institute for Engineering Ethics, National Wind Institute, and the Water Resources Center.

GRADUATE PROGRAMS

The Department of Civil, Environmental, and Construction Engineering offers four graduate programs. Undergraduate students may enroll in a combined 150-hour program that allows them to earn both a B.S.C.E. and an M.S.C.E.

Doctor of Philosophy (Ph.D.)
Doctoral studies consist of selected courses and independent research culminating in a dissertation. Students with graduate degrees in non-engineering sciences may be accepted initially subject to completing specified leveling courses. Specialties include structural engineering and engineering mechanics, geotechnical and geoenvironmental engineering, environmental engineering, water resources engineering, wind engineering, and computational mechanics.

Master of Science in Civil Engineering (MSCE)
A student specializes in one of the principal subdisciplines of Civil Engineering in this degree program. Two degree options are available: the thesis-option student completes 24 hours of coursework, performs 6 credit hours of independent research, and writes a thesis based on the findings of the research; the report-option student completes 33 hours of coursework and writes a report on a selected topic.

Master of Environmental Engineering (MEnvE)
A unique design-oriented 5-year professional degree program that prepares the graduate to specialize in an Environmental Engineering career. Because students enter this program as undergraduates, the program is administered as an undergraduate offering.

Graduate Certificate in Construction Engineering and Management
The department offers a 12-hour Graduate Certificate in Construction Engineering and Management. The graduate certificate is designed for professionals who have a bachelor's degree in civil engineering, architecture, landscape architecture, interior design, or business and are seeking a senior management position in the construction industry.

TEXAS TECH UNIVERSITY

Department *of* Civil, Environmental & Construction Engineering™

Civil, Environmental, and Construction Engineering Research

Faculty Research Specializations

Dr. Sang-Wook Bae
Assistant Professor
Fiber reinforced polymer comp. mat. in concr. struct., Perf. improv. of reinforced and prestressed concr. struct., Progr. collapse mitigation of concr. struct. under ext. abnormal loads, Adv. repair and str.. mthds. for corrosion-damaged concr. struct.

Dr. Xinzhong Chen
Associate Professor
Bridge/Building Aerodyn., Wind Engr., Fatigue & Extreme Loads & Resp. of Large Wind Turbines, Aeroelastic Instability of On/Offshore Wind Turb., Cable-Suppt. Bridges & Tall Blds., Struct. Dyn. & Rand. Vibr., Struct. Reliability & Perform.-Bsd. Design, Codes & Stds.

Dr. Theodore Cleveland, P.E.
Associate Professor
Hydrologic, Hydraulic, and Contaminant Transport Mod. Water Resource Systems Optimization, Contaminant Transport Mod. Water Resource Systems Optimization, Instrumentation

Dr. Mukaddes Darwish
Associate Professor
Const. Safety and Health, Risk Manag., Engr. Education Dev. Techniques, Increasing Achievements of Under-Represented Groups in Science Tech., Engr., and Math., Green Building Mat. and Techniques, Sust. Dev. and Const.

Dr. Tewodros Ghebrab, P.E.
Assistant Professor and Graduate Advisor: CEM
Perf. of cement bsd. mat. under adverse env., Effect of mineral/chemical admixtures on the struct.-property relat. of cement bsd. mat., Mod. of mech. and physical properties of cementitious mat. cont. nano-size mineral admixtures

Dr. W. Andrew Jackson
Professor and Associate Chair
Occurrence, Impact and Fate of Perchlorate, Biological wastewater pre-treatment for wastewater recycling, Fate of micro-contaminates in the environment, Crude oil fate in wetlands and marshes, Use and dev. of passive samplers for contaminant fate studies

Dr. Priyantha W. Jayawickrama
Associate Professor
Soil/Struct. Inter., Unsat. Soil Behav., Design and Const. of Earth Retaining Struct., Load Response Behav. of Culvert Systems, Design of Bridge Found., Design of Bridge Approach Systems, Improved Quality Control Protocols for Pavement Mat.

Dr. William D. Lawson, P.E.
Associate Professor
Expansive/unsaturated soil behav., Soil/struct. inter., Mech.ly stabilized earth retaining walls, Comp. earth blocks, Pavement edge drop-offs, Pavement maint. mthds., Methodology for conducting forensic studies of residential Fnd. failures

Dr. Sang Lee
Assistant Professor
Appl. of emerging tech. for more efficient infrastruct. manag., Sust. const. mthds. and mat. in buildings and infrastruct. systems, Engr. cost analysis of const. proj., Dev. of risk manag. plan, Bidding strategy and bid-markup decision

Dr. Daan Liang, P.E.
Associate Professor and Interim Director, National Wind Institute
Remote-Sensing Imagery, Post Storm Damage Assessment and Recovery, Wind Effects on Buildings and Struct., Wind Storm Damage Assessment Techniques, Agent-bsd. Recovery Mod.

Dr. Hongchao Liu, P.E.
Professor
Traffic operation & control, Dev. & assessing operational & control strategies for optimal control of highway facilities, Intelligent transp. systems, Application of AVL & other advanced tech. to bus transit systems & Fundamental traffic flow theory, Car-following models

Dr. Kishor C. Mehta, P.E.
Horn Professor
Wind loads, damage analysis, Design for tornadoes and hurricanes, Interdisciplinary research and studies, Wind engr.

Dr. Kayleigh Millerick
Assistant Professor
Redox transformation of aquatic organic micropollutants; Treatment of contaminants adsorbed to activated carbon; Microbiology and microbially-mediated transformations; bioremediation

Dr. Audra N. Morse, P.E.
Professor
Water and Wastewater Treatment, Water reclamation systems and Fate of personal products in treatment systems

Dr. Stephen M. Morse
Assistant Professor
Window Glass Str. Design, Wind loads on Struct., Finite Element Mod. of Brittle Mat., Large Scale Data Processing and Data Mining

Dr. Ali Nejat
Assistant Professor
Mod. Dyn. of Post-disaster Recovery, Agent-bsd. Mod., System Dyn., Infrastruct. Manag., Building Information Mod., Transp. Const. Manag.

Dr. H. Scott Norville, P.E.
Professor
Str. & Behav. of Window Glass under Extreme Loading, Blast Resist. Glazing Design, Str. of Heat Treated Glass, Behav. of Triple Glazed Insul. Glass Units, Str. & Behav. of Laminated Glass with High Perf. Interlayers, Dev. of Stds. for Test./Des. Window Glass

Dr. Ken A. Rainwater, P.E., D.W.R.E.
Professor
Water Resources Manag., Groundwater Flow and Contaminant Transport, Groundwater Rights, Remediation of Contaminated Soil, Groundwater and Watershed Manag.

Dr. Danny Reible, P.E.
Donovan Maddox Distinguished Engr. Chair and Professor
Contaminant fate and behav. in the environment, Mod. env. processes, Assessment and manag. of contaminated sediments, Treatment and recycling of produced and flowback waters, Sust. manag. of water resources

Dr. Sanjaya Senadheera
Associate Professor and Interim Director, TechMRT
Pavement Engr., Pavement Preservation, Asphalt-aggregate interaction, Mat. education, Sust. Design, Engr. Education

Dr. Hoyoung Seo, P.E.
Assistant Professor
Fnd. engr., Analytical and numerical mthds. in geomechanics, Geotechnical instrumentation and monitoring, Dev. of in situ-test- and reliability-bsd. design mthds., Rock mechanics and rock engr., Water jet Appl. in const. engr.

Dr. Douglas A. Smith, P.E.
Associate Professor
Bluff body aerodyn., Struct. response to wind induced loading, Atmospheric boundary layer flows, Hurricane wind and surge damage prediction, Papercrete material usage and properties

Dr. Lianfa Song
Professor
Membrane Processes in Water Desalination and Reclamation, Characterization and Mitigation of Membrane Fouling, System Mod. and Optimization of Full-scale reverse osmosis (RO) processes, Membrane Bioreactor (MBR) for wastewater treatment

Dr. Annette Hernandez Uddameri, P.E.
Associate Professor
Sust. watershed manag. through the dev. of scientifically rigorous consensus-driven decision making tools: Role of uncertainty in Climate change & Various model conceptualizations, Tech. Transfer across intl. bounds., Mun. - Ag water resource interactions.

Dr. Venkatesh Uddameri, P.E.
Professor and Interim Director, Water Resources Center
Groundwater Mod., Sust. Water Resources Manag., Conjunctive Surface Water-Groundwater Interactions, Water-Energy Nexus, Decision Support Systems for Water Resources Planning, Climate Change

Dr. Moon Won, P.E.
Professor
Concr. Pavement Design & Perf. Evaluation, Concr. Mat. Characterization, Forensic Investigations of Concr. Pavement Failures, Preservation and Rehabilitation of Rigid Pavement, Pavement Deterioration Mechanisms

Dr. Weile Yan
Assistant Professor
Env. Appl. and implications of nanomat., Surface-mediated reactions and interactions in env. systems, Iron-bsd. nanoparticles for groundwater and hazardous waste remediation

Dr. Delong Zuo
Associate Professor
Struct. Dyn., Wind loading of Struct.

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