



TEXAS TECH UNIVERSITY
National Wind Institute™

PH.D. DEGREE PROGRAM IN WIND SCIENCE & ENGINEERING

A multidisciplinary program

A photograph showing a brick wall being struck by a high-speed wind tunnel test. Large pieces of wood are being blown through the air, hitting the wall and creating a cloud of debris. The scene is set in a laboratory environment with a red wall in the background.

TEXAS TECH UNIVERSITY HAS A WORLD-RENOWNED WIND SCIENCE AND ENGINEERING RESEARCH CENTER

With over four decades of research in wind science and engineering, the National Wind Institute (NWI) of Texas Tech University advances knowledge and innovation in renewable energy and wind hazard mitigation. Playing a leadership role, the NWI has developed nationally accepted standards, invented cutting-edge technologies, and produced alumni who are becoming leaders in industry, government, and academia.

The National Wind Institute offers world-renowned faculty, and advanced facilities including one of the world's largest tornado vortex simulators, a 67-acre dedicated field site, a 200M meteorological tower and state-of-the art radars.

THE PROGRAM

The Ph.D. program in Wind Science and Engineering is the country's only interdisciplinary doctoral program.

Our program seeks students who have a passion to explore new and exciting ideas.

Current doctoral students are pursuing research in these areas:

- Wind Energy
- Wind Engineering
- Severe Storms
- Windstorm Mitigation

Each incoming student is matched with a faculty mentor to guide their academic journey which is usually completed within 4-5 years, depending on his or her educational background and individual progress.

COURSEWORK REQUIREMENTS:

The Wind Science and Engineering Ph.D. program's required core courses include the following:

- ATMO 5319 - Boundary Layer Meteorology
- CE 5348 - Wind Engineering
- BECO 5310 - Economic Analysis for Business
- MGT 5372 - Leadership and Ethics
- STAT 5384 - Statistics for Engineers and Scientists I
- STAT 5385 - Statistics for Engineers and Scientists II

Coursework for students is tailored with the advice and consent of their faculty mentor to provide background for multidisciplinary dissertation research. Students are also required to complete 6-credit hours of a summer off-campus external internship at an academic institution, in a governmental or private laboratory, or with a private company. Opportunities are also available to complete this internship requirement abroad.



THE PARTICULARS

Students in the wind doctoral program are financially supported (up to \$25,000/yr in stipend) with the expectation that rigorous academic and professional standards are maintained. Outstanding students have the potential of receiving a Presidential Fellowship with a stipend of \$33,000. Most students work as teaching or research assistants. The doctorate curriculum requires at least 60 semester hours of graduate studies in addition to a dissertation. These 60 hours include core courses, field of emphasis courses, internship, and approved transfer credits.

Program applications usually require a Master's degree, but some students are considered with a Bachelor's degree in special cases. This is a highly selective program searching for students with backgrounds in engineering, economics, or physical/atmospheric sciences with innovative ideas.

Program graduates work in the wind energy industry, in consulting companies, at national laboratories, government agencies, and in academia. Our placement rate is 100% upon graduation.



THE PLACE

Lubbock, Texas, is a mid-sized city (population of 225,000) growing in size, industry and opportunities. As a university town, you can find activities and leisure opportunities ranging from Red Raider college sports to a thriving art and music scene. Just a half-day's drive to the Dallas-Fort Worth metroplex and to Austin, Lubbock offers all the conveniences of a major city without the hassles, and our airport provides an efficient gateway to other destinations. For more information, please check the Lubbock Visitor's Bureau website.

visitolubbock.org



IN OUR STUDENTS WORDS



Maribel Martinez, Ph.D.

Assistant Emergency Management Coordinator,
City of Amarillo, Texas.

“My multidisciplinary WISE education has proven to be beneficial in my career in emergency management...”



Franklin Lombardo, Ph.D.

Assistant Professor, Civil Engineering
University of Illinois-UC

“The WiSE Ph.D. program was and still is ahead of its time in providing well-rounded multidisciplinary education and training.”



Kevin R. Walter, Ph.D.

Director of Meteorology, TradeWind Energy, Kansas.

“For me, the interdisciplinary aspect of the program is a huge asset. It’s rare to find people that can speak the languages of multiple subjects well enough to span the gaps found in most organizations.”



Tanya Brown-Giammanco, Ph.D.

Lead Research Engineer and Director of Hail Research
Institute Insurance for Business & Home Safety

“The internship requirement for the PhD has helped many of us make connections to quickly find successful employment upon graduation, because people value the real-world experience that comes with it.”

Current Faculty Affiliates:

Geosciences

Brian Ancell, Ph.D.
Eric Bruning, Ph.D.
Guofeng Cao, Ph.D.
John Schroeder, Ph.D.
Christopher Weiss, Ph.D.

Business:

Bradley Ewing, Ph.D.

Civil, Environmental and Construction Engineering

Xinzhong Chen, Ph.D.
Daan Liang, Ph.D., P.E.
Kishor C. Mehta, Ph.D., P.E.
Ali Nejat, Ph.D.
Ken Rainwater, Ph.D. P.E.,
D.W.R.E.
Douglas A. Smith, Ph.D., P.E.
Andrew Swift, Sc.D., P.E.
DeLong Zuo, Ph.D.
Kevin Mulligan, Ph.D.

Economics

Robert McComb, Ph.D.
Misak Avetisyan, Ph.D.

Electrical and Computer Engineering

Stephen Bayne, Ph.D.
Michael Giesselmann, Ph.D.
Miao He, Ph.D.
Vittal Rao, Ph.D.
Changzhi Li, Ph.D.

Industrial Engineering

Mario Beruvides, Ph.D., P.E.
Milton Smith, Ph.D.

Law

Vickie Sutton, Ph.D., J.D., P.W.

Mathematics

Kathleen Gilliam, Ph.D.

Mechanical Engineering

Stephen Ekwaro-Osire, Ph.D.
Darryl James, Ph.D.
Siva Parameswaran, Ph.D.
Beibei Ren, Ph.D.
Jingzhou James Yang, Ph.D.

Natural Resources Management

Clint Boal, Ph.D.

NWI Research Faculty

Jerry Guynes, P.E.
Brian Hirth, Ph.D.
Larry Tanner, P.E., R.A.
Ernst Kiesling, Ph.D.
Anna Thomas, Ph.D.

Computer Science

Yong Chen, Ph.D.

Human Development and Family Studies

Zhen Cong, Ph.D.



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Questions regarding this program
should be directed to:
Ph.D. Coordinator at NWI

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