



TEXAS TECH UNIVERSITY

## Bob L. Herd Department of Petroleum Engineering™



### ABOUT THE DEPARTMENT

|                                |     |
|--------------------------------|-----|
| <b>Undergraduate Students:</b> | 381 |
| <b>Master's Students:</b>      | 43  |
| <b>Doctoral Students:</b>      | 33  |
| <b>Faculty Members:</b>        | 8   |

### GRADUATE DEGREES

**Doctor of Philosophy:**  
Petroleum Engineering

**Master of Science:**  
Petroleum Engineering

**Graduate Certificate:**  
Petroleum Engineering

### CONTACTS

**Dr. Marshall Watson, P.E.**  
Department Chair  
[marshall.watson@ttu.edu](mailto:marshall.watson@ttu.edu)

**Dr. Habib Menouar**  
Graduate Advisor  
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### PETROLEUM ENGINEERING

With an international reputation for preparing students for successful entry into the petroleum industry, the graduate program in petroleum engineering at Texas Tech gives students a competitive edge in the areas of core analysis, advanced core analysis, pressure, volume, temperature (PVT) analysis, pressure transient analysis, well log analysis, natural gas engineering, property evaluation, artificial lift and system analysis, casing design and rheology studies, surface operations and facilities design, and petroleum engineering software.

The department is located in a geographical area that produces 22 percent of the nation's petroleum resources. Sixty eight percent of Texas' petroleum resources lie within a 175-mile radius of the Texas Tech campus. This proximity provides the student with unique opportunities for directly interfacing with industry as well as for first-hand observations of oil field operations.

The department has been consistently ranked in the top 10 petroleum engineering departments nationwide for both the graduate and undergraduate program.

#### Doctor of Philosophy in Petroleum Engineering

The objectives of the Ph.D. program are to provide students opportunities to reach a critical understanding of the basic scientific and engineering principles underlying their fields of interest within the petroleum industry.

#### Master of Science in Petroleum Engineering

The master's program requires a minimum of 33 graduate credit hours above the baccalaureate degree, including 6 credit hours allowed for the thesis. The department also offers a non-thesis master's program that requires a minimum of 33 graduate credit hours approved by the graduate advisor (excluding seminar). The graduate program for nonthesis master's candidate is specifically tailored for that candidate's educational background, industry experience, and interest.

#### Certificate in Petroleum Engineering

The department offers a Graduate Certificate in Petroleum Engineering that is intended to supplement a course of study for the student who possesses an engineering degree other than petroleum engineering. The successful student will complete a minimum of 18 hours as determined by the program and must complete with a B or better. The certificate program is intended to provide the above-average student with basic education in petroleum engineering.



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### Petroleum Engineering Research

#### Faculty Research Specializations



**Dr. Amin Ettehadtavakkol**

*Anadarko Professor in Petroleum Engineering and Assistant Professor*  
Reservoir Engineering, Field-scale modeling of shale reservoirs, CO<sub>2</sub>-EOR and sequestration



**Dr. Ekarit Panacharoensawad**

*Assistant Professor*  
Multiphase flow assurance, Multiphase fluid flow and heat transfer, Wax, hydrate, scale, and asphaltene formation/deposition, High viscosity oil multiphase flow hydrodynamics



**Richard Bateman**

*Associate Professor of Practice*  
Petrophysics, Well-Log Interpretation



**Dr. James Sheng**

*Associate Professor*  
Enhanced Oil Recovery, Development of unconventional resources, Well-Testing Analysis, Reservoir Simulation



**Dr. Lloyd Heinze, P.E.**

*Professor*  
Petroleum Drilling, Production Engineering



**Dr. Mohamed Soliman, P.E.**

*Livermore Chair and Professor*  
Fracturing, Reservoir Engineering, Well Test Analysis, Conformance, Numerical Simulation



**Dr. Habib K. Menouar**

*Associate Professor and Graduate Advisor*  
Reservoir Engineering & Simulation, Production Engineering, Reservoir Characterization & Formation Damage



**Dr. Marshall Watson, P.E.**

*Department Chair, Roy Butler Chair, and Associate Professor*  
Petroleum Reserves Evaluation and Economics, EOR in both New Reservoirs and Brownfields, Unconventional Reservoirs with an Emphasis on Coalbed Methane

