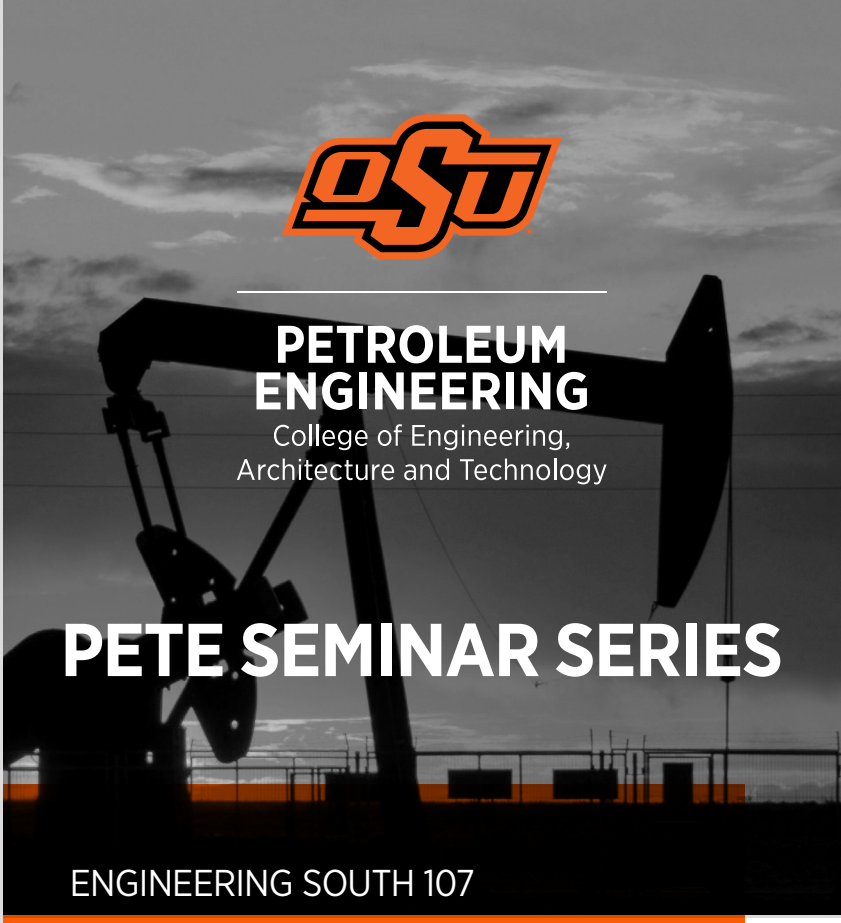

Models for Emerging Enhanced Geothermal System Concepts

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Dr. Christine Ehlig-Economides is an internationally recognized petroleum engineer and academic leader, currently serving as Professor and the Hugh Roy and Lillie Cranz Cullen Distinguished University Chair in the Petroleum Engineering Department at the University of Houston. With a career that spans academia, industry, and national policy advisory roles, she is a prominent voice in both traditional energy systems and the evolving landscape of low-carbon energy transition.

Dr. Ehlig-Economides has held senior academic appointments at Texas A&M University, where she served as Professor and the Albert B. Stevens Endowed Chair, and at the University of Alaska Fairbanks, where she led the Petroleum Engineering Department. Her academic focus includes production and reservoir engineering, carbon management, hydrogen systems, and enhanced geothermal recovery.

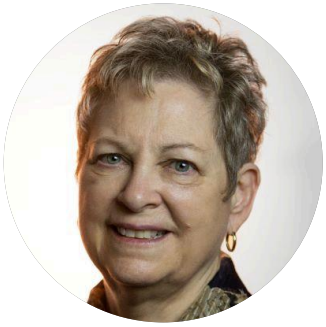
Before entering academia full-time, she spent over 20 years in various global leadership and technical roles at Schlumberger, including assignments in France, Venezuela, and the United States. Her roles ranged from Technical Advisor and Global Account Manager to Project Leader for Reservoir Dynamics and Manager of GeoQuest Reservoir Technologies.

She was elected to the National Academy of Engineering in 2003 and has served on the National Academies' Committee on America's Energy Future and the Board on Energy and Environmental Systems (BEES). She chaired the TAMEST Task Force on the Environmental and Community Impacts of Shale Development and is currently a board member of Quantum Reservoir Impact (QRI) and Omnis Fuel Technologies. Her service also includes former roles on the Board of RPSEA and the NRC Committee on Potential of Energy Production on DOE Lands.

Dr. Ehlig-Economides holds a BA in Math-Science from Rice University, an MAT in Math Education and an MS in Chemical Engineering from the University of Kansas, and a PhD in Petroleum Engineering from Stanford University.

She has authored numerous peer-reviewed publications and technical papers on CO_2 sequestration, blue hydrogen, geothermal recovery, and advanced reservoir modeling. She is co-author of Petroleum Production Systems (Second Edition, Prentice Hall), a widely adopted textbook in the field.

In recognition of her lifelong contributions, she was named an Honorary Member of the Society of Petroleum Engineers in 2018 and will be inducted into the SPE Legion of Honor in August.



The concept of enhanced geothermal systems (EGS) has been explored for decades but has yet to achieve widespread commercial deployment. Today, however, Fervo Energy is demonstrating a downhole engineered heat exchanger (EHE) approach that adapts proven drilling and hydraulic fracturing techniques—originally developed for multi-transverse fracture horizontal wells (MTFHWs) in shale gas formations. These technologies have been applied for more than 10 years in formations with temperatures exceeding 150 °C, qualifying as low-grade geothermal resources.

In high-temperature shale plays like Haynesville and Eagle Ford, once gas production declines below economic thresholds, such wells could potentially be repurposed as geothermal heat exchangers rather than plugged and abandoned.

This seminar will explore insights from field research conducted at Utah FORGE and compare them with reported practical experience from Fervo Energy. We will also examine how closed-loop EGS design models can further inform well construction strategies and help assess the feasibility of converting depleted shale gas wells into productive geothermal power systems.