



Ilham EL MONIER

Home Country
Egypt

Degree
PhD in Petroleum
Engineering

Expertise
Petroleum
Engineering

Research Focus
Multi-Stage
Hydraulically
Fractured Horizontal
Gas Wells

Host University
Texas A&M University,
United States

Fellowship Awarded
2006

Ilham El Monier was born and raised in Giza, Egypt. Married with one child, she has one sister and four brothers. After graduating from the petroleum engineering department in Cairo University in 2004, Ilham obtained her master's degree in petroleum engineering and worked as a teaching assistant for three years. She is now a PhD candidate in petroleum engineering at Texas A&M University in the United States.

Ilham's research focus is on multi-stage hydraulically fractured horizontal gas wells in the Barnett shale area of the Fort Worth Basin. Natural gas demand in the United States is expected to increase from the current level of 23 tcf/year to more than 30 tcf/year by 2025. To satisfy this demand, natural gas production in the United States is expected to increase from 19.5 tcf/year in 2004 to more than 25 tcf/year by 2020. Because conventional gas sources such as sandstone reservoirs will not be able to satisfy this demand, unconventional gas sources such as tight gas, shale gas and coalbed methane are expected to be a major component of the production.

The Barnett shale in the Fort Worth Basin is by far the most active shale gas play in the United States. Horizontal wells producing gas in the Barnett shale are typically multi-stage hydraulically fractured, but transient linear flows in hydraulically fractured horizontal wells need more study before engineers and researchers will be able to properly analyze them. This is the focus of Ilham's research.

When she completes her PhD, Ilham plans to teach at the University of Cairo Faculty of Engineering. While there are currently no female faculty members in the petroleum department at the University of Cairo, Ilham hopes to help other women obtain academic positions in petroleum-related fields – and with three universities for petroleum engineering in Egypt, she feels that she will be able to assist other women in this area.