Farid Tayari

www.faridtayari.com

131 Hosler Building
Department of Energy & Mineral Engneering
The Pennsylvania State University

Education

Pennsylvania State University
    Ph.D., Energy Management and Policy   Jan. 2011 – July 2014
    M.A., Finance
    M.A., Applied Statistics

University of Tehran
    MBA, Marketing   Sep. 2006 – Sep. 2009

Sharif University of Technology
    B.S., Chemical Engineering   Sep. 2000 – Sep. 2005

Fields of interest

- Energy economics and Energy Policy
- Quantitative and mathematical modeling
- Risk and Decision Analysis
- Energy Market modeling
- Techno-economic Assessment
- Energy System Simulations

- Computational finance
- Fintech
- Machine learning
- Deep learning
- Data products
- Monte Carlo and Stochastic simulation

Work Experience

Pennsylvania State University
Assistant Teaching Professor of Energy Business Finance   Aug. 2018 – now
- Teaching undergraduate economics and finance courses
- Conducting collaborative research on energy market equilibrium model
- Participating in collaborative research power grid resilience under extreme weather events
- Developing automated quantitative financial models

Pennsylvania State University
Instructor/Research Assistant/Postdoc   Aug. 2014 – Aug. 2018
- Taught undergraduate courses in the Energy Business Finance program
- Conducted research on economic value of surfactant for Enhanced Oil Recovery via CO_2 flooding under different economic and geologic scenarios
- Created a detailed stochastic CO_2 Enhanced Oil Recovery techno-economic model

Pennsylvania State University
Research Assistant   Jan. 2011 – July 2014
- Conducted research on economics of CO_2 sequestration in depleted Shale formations
- Developed an interactive detailed stochastic techno-economic model for industrial CO_2 sequestration in depleted Shale gas formations
- Conducted research on using household water heaters as distributed energy storage
- Created a quantitative model to simulate the utilization of household water heaters as distributed energy storage units to decrease Variability Cost of wind power

KPICo Investment Consulting
- Senior Economic and Market Analyst   Jan. 2008 – Oct. 2010

Sepahan Oil Company
- R&D engineer   Oct. 2004 – Dec. 2005

Publications

- F. Tayari & S. Blumsack, "*A real options approach to production and injection timing under uncertainty for CO2 sequestration in depleted shale gas reservoirs*", Applied Energy, Volume 263, April 2020.
- F. Tayari; S. Blumsack; R. T. Johns; S. Tham; S. Ghosh, "*Techno-economic assessment of reservoir heterogeneity and permeability variation on economic value of enhanced oil recovery by gas and foam flooding*", JPSE, Volume 166, July 2018, Pages 913-923
- F. Tayari; S. Blumsack; R. Dilmore; S. D. Mohaghegh, "*Techno-economic Assessment of Industrial CO2 Storage in Depleted Shale Gas Reservoirs*", JUOGR, Volume 11, September 2015, Pages 82-94
- F. Tayari, "*Techno-economic Assessment of CO2 Storage in Shale*", Ph.D. Dissertation, Department of Energy and Mineral Engineering, Pennsylvania State University, 2014
- B. Kulga, T. Ertekin, A. Kalantari Dahaghi, S. Mohaghegh, R. Gondle, S. Varre, H. Siriwardane, F. Tayari, S. Blumsack, E. Myshakin, R. Dilmore, C. Wyatt, and J. Siegel, "*Industrial Carbon Management Initiative (ICMI), Shale Modeling Report*", 2013, URS Co., Research and Eng. Services, prepared for DOE, NETL
- F. Tayari & S. Blumsack, "*Analyzing the Use of Household Water Heaters to Decrease Variability Cost of Wind Power as a Load Management Policy*", working paper; Ph.D. Dissertation, Chapter 2.
- F. Tayari, "*Measuring the Impact of Word of Mouth on Brand Selection*", Master's Thesis (in Farsi), Faculty of Management, University of Tehran, 2009
- F. Tayari, "*Technical and Economic Study of Producing Membrane Module*", Bachelor's Thesis (in Farsi), Department of Petroleum and Chemical Engineering, Sharif University of Technology, 2005

Teaching

- Instructor, EME 460, Geo-Resources Evaluation and Investment Analysis — 2015-present
- Instructor, EBF 301, Global Finance for the Earth, Energy, and Materials Industries — 2016-Present
- Instructor, EBF 304, Environmental Management for the Earth, Energy and Mineral Ind. — 2016-Present
- Instructor, EBF 200, Introduction to Energy and Earth Sciences Economics — 2015-Present
- Co-Author, EME 200, Introduction to Energy and Earth Sciences Economic — 2019
- Co-Author, EME 301, Global Finance for the Earth, Energy, and Materials Industries — 2018
- Author, EME 460, Geo-Resources Evaluation and Investment Analysis — 2016

Developed Software and Quantitative Models

- Financial data analysis — 2020-now
- Natural Language Processing (NLP) — 2020
- Techno-economic model for evaluation CO2 EOR, GoldSim — 2014 – 15
- Techno-economic assessment of CO2 sequestration, GoldSim — 2012 – 13
- System of Water Heaters and Wind Farms, quantitative model simulation, MATLAB — 2011
- Quantitative methods in Multi Criteria Decision Making, Delphi — 2007
- Heat Exchanger design, Two Phase Distillation Column design excel, VBA — 2004

Awards and other activities

- Referee, IAAP-PSU scholarship — 2015-Present
- Peer reviewer, Journal of Unconventional Oil and Gas Resources — 2014
- Peer reviewer, Hawaii International Conference on System Sciences — 2013
- Presentation, Energy and Environmental Economics and Policy Seminar — 2014
- Presentation, Carbon Capture Utilization and Storage Conference — 2013, 2014
- Presentation, United States Association for Energy Economics Conference — 2013
- Award, Graduate Assistantship — Spring 2011 – Summer 2014
- Award, Energy and Environmental Economics and Policy Travel grant — 2012
- Languages: Persian (native), English (fluent), German (basic), Arabic (familiar)

Volunteer work

President, Iranian Student Association, Penn State University — May 2013 – May 2014