Mohabbat Ahmadi

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Education

PhD in Petroleum Engineering (2006-2010)
The University of Texas at Austin
GPA 3.7 (out of 4)
Dissertation: "Development of a Chemical Treatment for Condensate and Water Blocking in Carbonate Gas Reservoirs"
Supervisors: Dr. Gary A. Pope and Dr. Mukul M. Sharma

Master of Science in Petroleum Engineering (2000 –2003)
Petroleum University of Technology (PUT), Ahwaz, Iran
GPA 18.3 (out of 20)
Thesis: "Gas Recycling Optimization in Fractured Gas Condensate Reservoirs"
Supervisors: Dr. Shahab S. Hejri and Dr. Riyaz Kharrat

Bachelor of Science in Petroleum Engineering (1997–2000)
Petroleum University of Technology (PUT), Ahwaz, Iran
GPA 18.28 (out of 20)

Employment and Research History

Assistant Professor, Department of Petroleum Engineering, University of Alaska Fairbanks, Since January 2011
Teaching at grad and undergrad level
Supervising three master theses in the areas of shale gas/oil and CO2 EOR/Sequestration, all three students will defend their theses by end of 2012

Graduate Research Assistant, Gas Condensate Project (January 2006–December 2010)
The University of Texas at Austin
Participated in a study on the application of chemical treatments to reduce the impairment due to condensate and/or water blockage in gas wells, under supervision of Dr. Gary A. Pope and Dr. Mukul M. Sharma
Planned, conducted, and analyzed high-pressure high-temperature coreflooding experiments
Conducted solubility and compatibility tests for treatment/brine system
Assisted designing and planning phase behavior study of CO2-Alcohol
Assisted designing and predicting field trails
Simulated the effect of chemical stimulation on final gas and condensate recovery
Assisted other graduate students in the group
Trained and motivated undergraduate members of the team

National Iranian Oil Company, Tehran, Iran (August 2004–December 2005)
Participated in a feasibility study of gas injection into an undersaturated oil reservoir

Designed the PVT experiments to study the effect of injection gas dissolution on the phase behavioral properties of the oil
Supervised the experiments and checked the result
Designed a setup to check the possibility of asphaltene precipitation
Studied injectivity loss in water injection wells
Visited the water injection facilities
Sampled the injection water from different key points in the plant
Conducted the solubility tests of different salts at reservoir temperature and also the compatibility of produced and injection water

Roxar Software Solutions, Dubai, U.A.E. (April 2003–May 2004)
Worked in sales and support department
Participated in presenting MORE simulator to potential clients
Instructed and set up training courses for clients
Provided the development team with comments to enhance the interactivity of the software

Petran Research Company, Tehran, Iran (June 2001–November 2002)
Participated in an ongoing field study of an Iranian offshore field
Gathered wells' perforation and stimulation history
Performed decline curve analysis to predict the future production of the wells in that particular reservoir
Gained experience with a typical team effort in reservoir engineering

Intern in National Iranian Offshore Oil Company (Summer 1999)
Production Operation, Kharg Island, Iran
Obtained first-hand experience with separation processes, especially the possible reasons for malfunction
Spent three weeks in processing units both offshore and onshore

Assistant, Petroleum University of Technology, Ahwaz, Iran (1999–2001)
Assisted a graduate student in a project regarding evaluation of heterogeneity in porous medium at bench-scale using tracer flow
Collected and analyzed the effluent samples for the tracer salt concentration

Peer-Reviewed Publications

Ahmadi, M., Sharma, M.M., Pope, G.A., Torres, D., McCulley, C., and Linnemeyer, H.: "Chemical Treatment to Mitigate Condensate and Water Blocking in Gas Wells in Carbonate Reservoirs," *SPE Production and Operations*, 67-74, February 2011.

Vishal Bang, Gary A. Pope, Mukul M. Sharma, Jimmie R. Baran Jr., and **Mohabbat Ahmadi**: "A New Solution to Restore Productivity of Gas Wells with Condensate and Water Blocks," *SPE Reservoir Evaluation and Engineering,* 323–33, April 2010.

Jamshid Roodsaz, **Mohabbat Ahmadi**, Vali Ahmad Sajjadian, and Saeed Abbasi: "Experimental and Simulation-Assisted Feasibility Study of Gas Injection to Increase Oil Recovery Using a Combination of Semi-VAPEX and GAGD Techniques," *JICCE* 26 (2), 77–84, 2007.

Other Publications

Ikewun, P. O. and **Ahmadi, M.** :" Production Optimization and Forecasting of Shale Gas Wells Using Simulation Models and Decline Curve Analysis," SPE Western North American Regional Meeting, 21-23 March 2012.

Nourpour, V. A. and **Ahmadi, M.** :" Evaluation of CO2-EOR and Sequestration in Alaska West Sak Filed Using 4-Phase Simulation Model," SPE Western North American Regional Meeting, 21-23 March 2012.

Gilani, S. F., Sharma, M.M., Torres, D., **Ahmadi, M.**, Pope, G. A., and Linnemeyer, H.: "Correlating Wettability Alteration with Changes in Relative Permeability of Gas Condensate Reservoirs," paper SPE 141419, International Symposium on Oilfield Chemistry, Woodlands, Texas, 11-13 April 2011.

D. E. Torres, M. M. Sharma, G. A. Pope, **M. Ahmadi**, C. A. McCulley, H. Linnemeyer, and S. Gilani: "A Novel Chemical Treatment to Enhance Well Productivity in Volatile Oil Reservoirs," paper CSUG/SPE 138124, Canadian Unconventional Resources & International Petroleum Conference, Calgary, Alberta, Canada, 19–21 October 2010.

Jimmie R. Baran, Jr., John D. Skildum, Gary A. Pope, Mukul M. Sharma, Vishal Bang, Harry Linnemeyer, and **Mohabbat Ahmadi**: "Chemical Stimulation of Gas Condensate Wells," paper IPTC 11648, International Petroleum Technology Conference, Dubai, U.A.E., 4–6 December 2007.

Vahid Atashbari and **Mohabbat Ahmadi**: "Subsidence Due to Fluid Withdrawal in Fractured Reservoirs", paper SPE 107024-MS, SPE Production and Operation Symposium, Oklahoma City, Oklahoma, 31 March–3 April 2007.

Under Review

Ahmadi, M., and Yuan, C.: " Gas Wells Chemical Stimulation – Experimental Design and Field Optimization,"

Submitted to *SPE Production and Operations* for peer-review, September 2011.

Teaching Experience

Instructor - UAF:

Petroleum Reservoir Engineering – Spring 2012
Natural Gas Engineering – Fall 2011
Senior Design Project – Fall 2011
Natural Gas Processing and Engineering – Spring 2011

Teaching Assistant – PUT:

I was a teaching assistant (TA) for several courses during the time I was in PUT. The course materials were from textbooks which I still remember, though I am not sure about the edition we used. My duties included designing homework and quizzes and grading them as well as solving problems during the two hours per week of TA time in the classroom. I was so interested that I spent the whole two hours most of the time, even though often only one or two students would attend my TA class. I remember one of the students in my Thermodynamics TA class saying that he would not have been able to pass the Thermodynamics course without my help. Here are the courses:

Phase Behavior. The textbook was *The Properties of Petroleum Fluids*, by William D. McCain. We went through all chapters.

Reservoir Engineering I & II. The textbook was *Applied Petroleum Reservoir Engineering*, by B.C. Craft and M. Hawkins. We went through all chapters.

Pressure Transient Analysis. The textbook was *Well Testing*, by John Lee, SPE Monograph. We went through all chapters.

Thermodynamics. The textbook was *Fundamentals of Thermodynamics*, by Gordon J. van Wylen. We went through first eight chapters.

Material and Energy Balance. The textbook was *Basic Principles and Calculations for Chemical Engineers*, by David M. Himmelblau.

Differential Equations. The textbook was *Advanced Engineering Mathematics*, by Erwin Kreyszig. We covered the first six chapters (in new editions, the first five chapters).

General Mathematics I. The textbook was *Calculus and Analytical Geometry*, by George B. Thomas and Ross L. Finny. We covered the first twelve chapters.

General Mathematics II. The textbooks were *Calculus and Analytical Geometry*, by George B. Thomas and Ross L. Finny (Chapters 13–18) and *Advanced Engineering Mathematics*, by Erwin Kreyszig (Chapters 7–8).

Presentations

Mohabbat Ahmadi: "Gas well Chemical Stimulation-Experimental Design and Field Optimization," Kansas University and Louisiana State University, Spring 2012.

Ahmadi, M., Sharma, M.M., Pope, G.A., Torres, D., McCulley, C., and Linnemeyer, H.: "Chemical Treatment to Mitigate Condensate and Water Blocking in Gas Wells in Carbonate Reservoirs," SPE Western North America Region, Anaheim, California, 26-30 May 2010.

Mohabbat Ahmadi: "Chemical Stimulation for Liquid Blocking in Gas Wells," Soane Energy, Cambridge, Massachusetts, November 2009.

Mohabbat Ahmadi, Mukul M. Sharma, and Gary A. Pope: "Chemical Treatment for Water Blocking in Carbonates," Gas Condensate JIP, University of Texas at Austin, Spring 2009.

Mohabbat Ahmadi, Gary A. Pope, and Mukul M. Sharma: "Removal of Water Blocks in Gas Wells," Gas Condensate JIP, University of Texas at Austin, Spring 2008.

Mohabbat Ahmadi and Shahab S. Hejri: "Optimization of Gas Recycling in an Iranian Fractured Gas Condensate Reservoir," NISOC, Summer, 2003.

Mohabbat Ahmadi: "An Introduction to the Problem of Asphaltene Precipitation," Class presentation, PUT, Ahwaz, Iran, November 2000.

Skills

Professional user of Windows and Microsoft Office
Familiar with some technical softwares such as PVTsim, ECLIPSE, CMG, and MORE
Skilled in laboratory works
Excellent team and interpersonal skills
Good communication skills
A good sense of programming and a good programmer in writing excel macros

Honors

First rank M.Sc. graduate from PUT (2003)
First rank among 500 competitors in M.Sc. entrance examination in Iran (2000)
First rank B.S. graduate from PUT (2000)
Student advisor—one of three elected from among 400 students in the Petroleum Department at PUT (1999)

Membership

Member of the Society of Petroleum Engineers