

Curriculum Vitae



Dr. Mohsen Vafaie-Sefti

Address: Department of Chemical Engineering
Faculty of Technology and Engineering
TARBIAT MODARES UNIVERSITY
P.O. Box 14155-143
Tehran, Islamic Republic of Iran
Telf. +98-21-82883314
Fax: +98-21-82006544
Cell Phone: 912-2975363

Home : Tehran-Iran Address:
Evin
Shahid Dr. Chamran Freeway
Atisaz Living Complex No. 6212
Tehran, Islamic Republic of Iran
Telf. +98-21-2234-1992

EDUCATION

Ph.D., 1985

Faculty of Technology and Engineering
Department of Chemical Engineering
OKLAHOMA STATE UNIVERSITY - USA (Leading top 5% Chemical
Engineering School among American institutions).

Major: Chemical Engineering

Ph.D. Dissertation: "Modification of Heyen Equation of State"

Under the supervision of Dr. John H. Erbar and Dr. Robert M. Maddox pioneer
simulation specialists working mainly in Thermodynamic properties prediction of
fluids and phase equilibria through modeling and development of equation of state.

B.S. and M.S., 1978

Faculty of Technology and Engineering
Department of Chemical Engineering
McNEESE STATE UNIVERSITY, USA
Major: Chemical Engineering

M.S., 1975

Faculty of Arts
School of Social Sciences
TEXAS SOUTHERN UNIVERSITY - USA
Major: Sociology
M.A. Thesis: "Rural Economic Development and Land Reform in Iran".

M.S., 1966

Faculty of Science
School of Chemistry
UNIVERSITY OF TEHRAN
Major: Chemistry

B.S., 1966

Faculty of Science
School of Chemistry
UNIVERSITY OF TEHRAN
Major: Chemistry

Simulation Specialist Training

PRO/II Simulation Program, 1995

Is a comprehensive simulation system for chemical engineers in the chemical, petroleum, natural gas and synthetic fuels industry.

SIMULATION SCIENCES, INC.

PROVISION Simulation Program, 1995

Most powerful and comprehensive simulation program for chemical engineers. Makes it easy to build and modify both complex and simple process models.

SIMULATION SCIENCES, INC.

HEXTRAN Certificate of Achievement, 1993

Successful completion of training in the use of HEXTRAN - Heat Exchanger Network Analysis.

SIMULATION SCIENCES, INC.

PIPEPHASE Certificate of Achievement, 1993

Successful completion of training in the use of PIPEPHASE - Piping Network Simulator. SIMULATION SCIENCES, INC.

ACADEMIC STATUS

2008- To Present Full Professor
Department of Chemical Engineering
TARBIAT MODARES UNIVERSITY

2000 – 2007 Associate Professor
Department of Chemical Engineering
TARBIAT MODARES UNIVERSITY

1988 – 2000 Assistant Professor
Department of Chemical Engineering
TARBIAT MODARES UNIVERSITY

ACADEMIC ADMINISTRATIVE EXPERIENCES

2008-2010 Vice President
Research Affairs Board of Directors
TARBIAT MODARES UNIVERSITY

1998 –1999 University Vice-Chancellor of Student Affairs
TARBIAT MODARES UNIVERSITY

The following grants and acquisitions were obtained while serving in this position:

1. EIGHTEEN-STORY BUILDING ACQUISITION --
PIRUZI BUILDING -- Presently a residential facility for Faculty and Students and evaluated for the amount of US\$ 700'000,000.00. This building Was obtained on a competitive basis with the assistance of the Vice-President to the Iranian Ministry of Housing.
2. DAMOVAND HOTEL ACQUISITION -- Obtained from Boniad Shahid and adapted for single student dormitory. This locality was recently (Year 1385/2006) sold by the University for the amount of US\$ 3'000,000.00.

3. LAND GRANT ACQUISITION FROM MINISTRY OF AGRICULTURE
Appropriated 80 Hectares of land, evaluated in US\$ 3'000,000.00, for the construction of the College of Agriculture Headquarters – Karaj Highway.
4. CONSTRUCTION GRANT FROM THE MINISTRY OF LIGHT INDUSTRY -- Grant for the amount of US\$ 3'000,000.00 made available to Tarbiat Modares University through the Vice Presidency of Student Affairs for construction of the Faculty of Agriculture building – Karaj Highway. The kind assistance of the Vice President to the Minister of Light Industry is appreciated in this project.
5. GHARIB BUILDING ACQUISITION – Presently a married-student housing facility.
6. STUDENT AND FACULTY RESTAURANT INSTALLATION -
At Tarbiat Modares University. The assistance of the Vice President to the Minister of Light Industry is appreciated in the provision of its equipment.
7. GRANTS FROM THE MINISTRY OF HIGHER EDUCATION AND THE MINISTRY OF LIGHT INDUSTRY -- Two residential facilities for Students and Faculty were built on campus based on these grants.
8. GRANTS FROM THE PRESIDENT OF THE I. R. OF IRAN -- Several grants were obtained from this office and utilized in several projects inside campus:
 - a. Construction of Shahid Motahari's Amphitheater.
 - b. Land acquired for the construction of two complex-buildings for the College of Basic Sciences and College of Engineering and Technology.
9. TAMISHAN PALACE ACQUISITION -- Worked in co-operation with the President of Tarbiat Modares University in the appropriation of this locality, presently serving as the site for the College of Natural Resources and also used as an entertainment complex for Faculty Members of Tarbiat Modares University.
10. RESEARCH GRANTS FROM THE NATIONAL IRANIAN OIL COMPANY (N.I.O.C.) – Grants gained on a competitive basis for the amount of US\$ 300,000.00 brought to the University for enhanced oil recovery research projects

1988-2000 Member
Specialized Academic Committee
TARBIAT MODARES UNIVERSITY

1988-2000 Member
Board of Directors
TARBIAT MODARES UNIVERSITY

1988-2000 Member
President's Advisory Committee
TARBIAT MODARES UNIVERSITY

1988-2000 Member
Specialized Research Committee
TARBIAT MODARES UNIVERSITY

1988-2000 Member, Doctoral Committee
TARBIAT MODARES UNIVERSITY

1970-1984 Graduate Research Associate
School of Engineering
OKLAHOMA STATE UNIVERSITY

INDUSTRIAL WORKING AND ADMINISTRATIVE EXPERIENCES

- 1973-1974 Program Planner
Lube Oil Factories
Tehran Refinery
N.I.O.C.
- 1972-1973 Shift Superintendent
Tehran Refineries and Lube Oil Plants
Tehran

CONSULTANCIES

- 1988-2009 N.I.O.C. OPEC Representative in Vienna
Renounced appointment to join Tarbiat Modares
University for the Chemical Engineering-Thermo-
dynamics Chair.
- 2008 Invited Member
Cooperation Committee between National Iranian Oil Company and
Tarbiat Modares University
- 1987-2008 General Manager
Research Center, N.I.O.C.
Renounced appointment to join Tarbiat Modares
University for the Chemical Engineering-Thermodynamics Chair.
- 1988-2003 Member
Entrance Examination Committee - Doctoral and Master's Levels.
Advanced Thermodynamics Entrance Examination
MINISTRY OF HIGHER EDUCATION
- 1991-1993 Supervisor and Coordinator
Student Training Education
Universities Included: Sharif; Tehran;
Amir Kabir; Abanadan Institute of Technology, among others.
Chemical Engineering Services Office, N.I.O.C., Tehran
- 1988 Faculty Member and Head
Process Engineering Department
Research Center
National Iranian Oil Company (N.I.O.C.)
- 1986-1987 Project Manager
Process Engineering Department
Research Center
N.I.O.C.
- 1984-1985 Consultant
Chemical Engineering Consulting Co.
Stillwater, Oklahoma - USA

TEACHING EXPERIENCE

1988 – 2013 The following courses have been taught while serving as an Assistant, Associate and Full Professor at Tarbiat Modares University:

STATISTICAL THERMODYNAMICS

Required Core Chemical Engineering Course for Ph.D. Level

NON-IDEAL THERMODYNAMICS

Elective Chemical Engineering Course for M.S. Level

ADVANCED THERMODYNAMICS

Virtual Chemical Engineering Distance Education Course for M.S. and Ph.D. Levels

THERMODYNAMICS OF MIXTURES

Required Core Chemical Engineering course for Ph.D. Level

TWO-PHASE FLOW (Specially for Pipes)

Required chemical engineering course

ADVANCED THERMODYNAMICS

Required Core Chemical Engineering Course for M.S. Level

PREDICTION OF THERMODYNAMIC PROPERTIES OF FLUIDS

Elective Chemical Engineering Course for M.S. and Ph.D. Levels

ADVANCED THERMODYNAMICS FOR INDUSTRY

Short-term course

TWO-PHASE FLOW (Specially for Pipes)

Required Chemical Engineering Course for M.S. Level

THERMODYNAMICS I

Pre-requisite Course

THERMODYNAMICS II

Pre-requisite Course

1976 –1984 The following course(s) was/were taught while serving as Assistant and Associate Researcher at Oklahoma State University:

HEAT TRANSFER

FLUID MECHANICS

ADVANCED THERMODYNAMICS

1977 –1975 The following course(s) was/were taught while serving as Guest Lecturer at McNeese State University:

ORGANIC CHEMISTRY

INORGANIC CHEMISTRY

1977 –1975 The following courses were taught while serving as Instructor at McNeese State University:

ORGANIC CHEMISTRY LABORATORY I

ORGANIC CHEMISTRY LABORATORY II

RESEARCH AREAS OF SPECIALIZATION

Oil Recovery from Iranian Reservoirs:

I. INTELLIGENT POLYMER GEL INJECTION:

1. In oil reservoirs with radial distribution.
2. Emphasizing permeability effects, adsorption and smart polymer gel swelling on the phenomenon of disproportionate permeability reduction.
3. Emphasizing degelling and decrease of sand production inside oil wells.
4. Emphasizing rheological properties of intelligent polymer gel.

II. ASPHALTINE AND WAX DEPOSITION PREVENTION:

1. Experimental investigation of asphaltene deposition kinetics in crude oil.
2. Study of the effects of asphaltene deposition on reservoir stone properties during the process of natural gas injection, nitrogen gas, and CO₂.
3. Experimental investigation on the effects of inhibitors on asphaltene deposition.
4. Determining the kinetics of asphaltene deposition in flowing systems.

III. SIMULATION AND MODELING:

1. Modeling of Iranian Oil Reservoirs.
2. Modeling asphaltene deposition, asphaltene and resin in oil reservoirs and in oil transporting pipelines.
3. Modeling asphaltene deposition in oil reservoirs due to pressure change and gas injection.
4. Modeling water and oil movement in porous environments coated with gel polymer.
5. Modeling fluids reservoirs near critical area.

Keywords: Petroleum Exploitation; Gel Polymer Injection; Iranian Oil Reservoirs; Optimization; Simulation; IOR; EOR.

PROJECTS DIRECTED

- 2016-2017 *« Enshala » "Methodological and Experimental Application of Temporary Gel Plugging in Seventeen (17) Sand and Carbonated Fractured Wells from South Iranian Oil Area Reservoirs "*
NATIONAL IRANIAN SOUTH OIL COMPANY (NIOC)
Project Director
- 2015-2016 *"Testing the Applicability of Injection of Gel Polymer for the Improvement of Oil Production by Reducing Excess Water in Five (5) Sand and Carbonated Fractured Wells from South Iranian Oil Area Reservoirs "*
NATIONAL IRANIAN SOUTH OIL COMPANY (NIOC)
Project Director
- 2011-2015 *"Development and Injection of Gel Polymer for the Improvement of Oil Production by Reducing Excess Water in sand and carbonated fractured South Iranian Oil Area Reservoirs "*
NATIONAL IRANIAN SOUTH OIL COMPANY (NIOC)
Project Director
- 2014-2015 قرارداد سیلاب زنی در بستر شنی آعشته به ژل با شرکت چینی OTS.
- 2008-2010 *"Intelligent Gel Polymer Injection for Reducing Water Production in Vertical Oil Wells from South Iranian Nouruz Area Reservoirs"*
FALAT-E-GHARRE NATIONAL IRANIAN OIL COMPANY
Project Director
- 2007-2009 *"Interruption of Water-flow in Reservoir Oil Producing Wells Through Intelligent Gel Injection in Darkhoin, Ahwaz, I. R. Iran"*
NATIONAL IRANIAN SOUTH OIL COMPANY (NIOC)
Project Director
- 2006-2007 *"Development and Experimental Testing of a Simulation Program for Injection and Analysis of Pressure Drop in Iranian Oil Reservoirs"*
NATIONAL DEVELOPMENT INSTITUTE OF IRANIAN OIL- MATN
Project Director

2005-2006 *"Prediction of Pressure Drop in Producing Wells and Pipelines with Advanced Two-Phase Models"*
NATIONAL DEVELOPMENT INSTITUTE OF IRANIAN OIL- MATN
Project Director

2003-2004 *"Study of Wax Precipitation and Transfer in Oil Well Pipelines to Investigate Production Recovery Equipment Problems"*.
DEVELOPMENT & RESEARCH CENTER, NATIONAL INSTITUTE OF OIL COMPANY
Project Director

DOCTORAL DISSERTATIONS SUPERVISOR

2016 To be Approved Sabzi, Behnam, Ph.D. Dissertation

2016 In Preparation Heidari, Aghdas, Ph.D. Dissertation
"Preparation of Performed Particle Gel with Controllable Swelling Rate and Modeling of Swelling Kinetics : With Application of Reducing Water Production in Oil Wells"

2016 In Preparation Ferasat, Amir, Ph.D. Dissertation
"Experimental Investigation and Modeling of the Behavior of Previously Performed Particle Gel (PPG) in Porous Media"

2016 In Preparation Ahmadi, Saeb, Ph.D. Dissertation
"Experimental and Thermodynamic Study of Nitrate Removal by Microvial Electrolysis Cell"

2016 In Preparation Zaree, Camellia, Ph.D. Dissertation
"A Methodology to Determine Well Temporary Plugging Using Temporary Gel Considering Iranian Reservoir Conditions"

۲۰۱۰ Hajilary, Nasibeh, Ph.D. Dissertation
"Experimental study of the role of gel polymers in the control of water production in radial reservoirs"

۲۰۱۰ Shadman, Mohammad Mehdi, Ph.D. Dissertation
"Experimental study and modelling of the effects of Ph, ions and resins present in oil on asphaltene deposition"

۲۰۱۰ Alai, Mohammad Reza, Ph.D. Dissertation
"Simulation and Up-Grading of Petroleum Reservoirs with Understructured Grid Using Wavelet"

۲۰۱۴ Fasihzadeh, Mariam, Ph.D. Dissertation
"Modelling and simulation of gas transferring networks"

2013 Salimi, Farhad, Ph.D. Dissertation
"Experimental study of kinetics of asphaltene deposition in flow systems"

2013 Baghban Salehi, Mahsa, Ph.D. Dissertation
"Preparation and Production of optimized gel polymer emphasizing rheological characteristics and investigation of its effectiveness on porous media for decreasing water production in reservoirs "

2012 Soroush, Samaneh, Ph.D. Dissertation
"Determination of Asphaltene Deposition Mechanism Due to CO₂ Gas Injection in Rock Well Reservoirs"

2012 Saeedi Deghani, Amir Hossein, Ph.D. Dissertation
"Experimental investigation and modelling of asphaltene-resin deposition in oil reservoirs while injecting CO₂ gas by using association equation of state"

- 2012 Ameri Ghasroldashti, Amin, Ph.D. Dissertation
"Effect of reservoir salinity on enhanced oil recovery"
- 2011 Dadvand Koohi, Ahmad, Ph.D. Dissertation
"Study of the effects of oil reservoir parameters on the effectiveness of gel polymer"
- 2010 Emami Meibodi, Majid, Ph.D. Dissertation
"Experimental study and modelling heat transfer in nano fluids"
- 2010 Masoudi, Shahram, Ph.D. Dissertation
"Theoretical and experimental study of wax precipitation in pipes"
- 2008 Mirzai, Behruz, Ph.D. Dissertation
"The effects of asphaltene deposition on unconsolidated porous media properties during miscible natural gas flooding"
- " 2006 Izadpanah, Amir Abbas, Ph.D. Dissertation
"Kinetics of Hydrate Formation Based on Thermodynamic Natural Path to Chemical Reaction Kinetics"
- 2004 Mousavi-Dehghani, Seyyed Ali, Ph.D.
"Experimental Study and Modeling of Asphaltene Deposition Amount in Oil Reservoirs due to Pressure Change and Gas Injection "

MASTERS' THESES SUPERVISOR

- 2016 To be Approved Safarian, Amir
- 2016 To be Approved Najafi, Hossein
- 2016 To be Approved Joukar, Said
- 2016 To be Approved Gholami, Valiolah
- 2016 To be Approved Rahimi, Reza
- 2016 To be Approved Azimi, Zahra
- 2016 To be Approved Farahani, Razi
- 2016 In Preparation Heidari, Puria
"Experimental Study of Smart Water Using Surfactant in Sandstone"
- 2016 In Preparation Chinifurushian, Ghazaleh
"Modeling for Wax Appearance Temperature in Crude Oil with PC-SAFT EOS"
- 2016 In Preparation Taheri, Zeinab
"Study and Modeling of Asphaltene Deposition Using Modified CPA Equation of State"
- 2016 In Preparation Veisi, Mozghan
"Omission of Asphaltene Deposition from Solute with Absorption on Mineral Absorbents like Bentonite, Terlic, and Lika"
- 2016 In Preparation Heidari, Mozghan
"Experimental Investigation of Asphaltene Absorption from Heavy Oil Using Nano Particles"
- 2016 In Preparation Zahedi, Ehson
"Experimental Investigation of the Effects of Solvent on Levels of Asphaltene Deposition in Dead and Live Oils"

- 2016 In Preparation Abedi, Mohammad
"Investigation of Dynamic Surface Absorption of Acrylamide Polymer in Porous Media"
- 2016 In Preparation Hajipour, Arvyn
"Design and Construction of Temporary Gel for Well Plugging"
- 2016 In Preparation Assaf, Mohammad Ali
"Experimental Investigation and Modeling of Different Inhibitors on Asphaltene Deposition Using PC-SAFT EOS"
- 2016 In preparation Nourdust, Erfan, M.S. Thesis
"Simulation and Modeling of Gel Polymer to Reduce Water Production in Oil Reservoirs Based on Laboratory Results"
- 2016 In preparation Tavakoli, Ahmad Reza, M.S. Thesis
"An Experimental Study of Silicate Polymer Initiator Gel System for Water Shutoff and Permeability Reduction in Iranian Oil Reservoirs"
- ۲۰۱۰ Tangestani, M.S. Thesis
"Experimental Study of Smart Water with Nano-Particle Injection in Sandstone"
- 2015 Serajian, Ali Reza, M.S. Thesis
"Experimental Investigation and Asphaltene Deposition Modeling from Diluted Crude Oil with Different Normal Alkalines Using PC-SAFT EOS"
- 2015 Zanganeh, Mohammad Reza M.S. Thesis
"Experimental Investigation of the Effects of Gas Injection on Synthesis of Asphaltene Deposition in Live Oil"
- 2015 Mohajeri, Amin, M.S. Thesis
"Investigation and Study of Previously Prepared Particle Gel (PPG) in Oil Enhancing"
- ۲۰۱۰ Shahmohamadi, Ali, M.S. Thesis
"Modelling gel polymers in radial reservoirs"
- ۲۰۱۰ Rajaii, Samira, M.S. Thesis
"Study the effects of surface absorption on gel polymer effectiveness in porous media and the effects of nano material on it"
- ۲۰۱۳ Mohammadi, Shabnam, M.S. Thesis
"Study of gel polymer swelling and its effects on porous media"
- 2012 Abedi, Majid, M.S. Thesis
"Study of network building factors on chemical properties of gel polymers"
- 2012 Shadman, Mohammad Mehdi, M.S. Thesis
"Study of asphaltene deposition inhibitors and investigation of deposition viscosity at incipient deposition"
- 2012 Dehghani Zadeh, Mostafa, M.S. Thesis
"Study and modelling of the inhibitory effects of asphaltene deposition"
- 2012 Seifi Marzaenou, Maasumeh, M.S. Thesis
"Study of the kinetics of H-structure hydrate"
- 2012 Soleimani, Mina, M.S. Thesis
"Study of the effects of gel polymer permeability on DPR phenomena"

- 2011 Zargari, Samira, M.S. Thesis
"Study of the used gel polymer degradation process in water reduction operation "
- 2011 Gholami, Hedieh, M.S. Thesis
"Control of sand production using gel polymer"
- 2011 Ahmadi, Saeb, M.S. Thesis
"Oil enhanced recovery applying intelligent water technique"
- 2010 Jamshidi Shafagh, Mohsen, M.S. Thesis
"Study of the performance of active surface material in oil recovery reservoirs"
- 2010 Jarrahan, Khosro, M.S. Thesis
"Wettability alteration of carbonate rocks by surfactants considering the effects of temperature, salinity and pH parameters"
- 2010 Khoshbazzam Narimani, Sadra, M.S. Thesis
"Experimental study and modelling of wax precipitation in oil pipes"
- 2010 Jaafari Anzorudi, Hamid Reza, M.S. Thesis
"Study of the morphology of wax crystals deposition in oil pipes"
- 2010 Asar, Mandana, M.S. Thesis
"Study and modelling of initial speed of hydrate formation for Methane, Propane, and CO₂ gases"
- 2009 Parvizi, Behnaz, M.S. Thesis
"Study of the effects of additive substance on storing gas in H-hydrate structure "
- 2009 Hosseini Nasab, Seyyed Ali, M.S. Thesis
"Measurement and prediction of hydrate formation conditions in presence and absence of inhibitors using a thermodynamic model"
- 2008 Mousavi Moghaddam, Asefe Sadaat, M.S. Thesis.
"Review and Study of application of gel polymer in preventing water production in wells producing oil "
- 2008 Zanjani Sabet, Saira, M.S. Thesis
"Study of gel polymer applicability in blocking high-permeability layers to increase volume recovery"
- 2009 Amjadian, Ali, M.S. Thesis.
"Micro-model development and study of the performance of gel polymer polyacrylamine as a reducer factor of water in porous media "
- 2008 Rafiipour, Majid, M.S.
"Scrutiny of Rheological Properties of Polyacrylamide Polymer Gels and Presentation of a Suitable Model for Gelation Time Under One of the Iranian South Oil Reservoir Conditions"
- 2008 Salimi, Farhad, M.S.
"Preparation and Study of Gel Composite (Polyacrylamide-Montmorillonite and Kaolinite) for Reducing Water Cut in Production Well"
- 2008 Saeedi-Dehghani, Amir Hossein, M.S.
"Modeling of Asphaltene-Resine Precipitation in Hydrocarbon Reservoirs by Using Association Equation of State (AEOS)"
- 2008 Alai, Mohammad, M.S.
"Evaluation of Performance of EOS's Gas Condensate Reservoirs at High Pressure and High Temperature Conditions"

- 2007 Ameri Ghasroldashti, Amin, M.S.
"Modeling Multiple Contact in Gas Injection Processes to Calculate Minimum Miscibility Pressure"
- 2007 Mehdizadeh, Hamid, M.S.
"Modeling of Wax Precipitation Using Solid Equation of State"
- 2007 Javidnia, Asghar, M.S.
"Experimental Study and Modeling of Hydrate Formation Conditions in the Presence of Inhibitors"
- 2006 Azhdari-Tafti, Somaye, M.S.
"Modeling of Oil Gas Lift Process by Gas Injection in Petroleum Well"
- 2006 Kazemi, Mahsa, M.S.
"Modeling of Separators for the Increase of Oil in Oil Fields of Iran"
- 2006 Baghban-Salehi, Mahsa, M.S.
"Examination of Water Production Rate Reduction in Oil Reservoirs Using Gel Polymer Injection Modeling"
- 2006 Soroush, Samaneh, M.S.
"Experimental Investigation and Phase Behavior Modeling of Asphaltene Precipitation in One of Iranian Oil Reservoir"
- 2006 Ostadroo, Mohammad, M.S.
"A New Generalized Alpha Function for Patel-Teja Cubic Equation of State"
- 2005 Faghinezhad, Ali, M.S.
"Modeling of Minimum Miscibility Pressure (MMP) Prediction"
- 2006 Dadvand-Koochi, Ahmad, M.S.
"Evaluation and Simulation of Water Conning in Fractured Reservoirs"
- 2005 Nasiri-Fatideh, Javad, M.S.
"Development of UNIFAC-NRF Model"
- 2005 Emami-Meibodi, Majid, M.S.
"Modeling Asphaltene Precipitation in Oil Reservoirs using AEOS Theory"
- 2004 Tavallali, Mohammad, M.S.
"Evaluation and Modeling of Gravity Drainage in Fractured Reservoirs"
- 2004 Ismaeli, Mehdi, M.S.
"Modeling Water and Gas (VAG) Injection in Iranian Fractured Reservoirs for Enhanced Oil Recovery"
- 2004 Motalebinezhad, Ali Reza, M.S.
"Modeling of Miscible Displacement Mechanism in Porous Media"
- 2004 Heidari, Shahram, M.S.
"Dynamic Modeling of Wax Deposition in Pipeline and Oil Reservoir"
- 2003 Mirzania, Mehrdad, M.S.
"Modeling Two-Phase Flow Pressure Drop in Well and Inclined Pipes by Developing a Dynamic Model based on Drift-Flux Theory"

- 2003 Yusefzadeh, Ali Reza, M.S.
"Design and Modeling of a Computer Program for Distribution of Gas City Network"
- 2003 Behname-Niku, Mehrdokht, M.S.
"Study of Water and Alcohol Absorption Inside Fibrous Membranes"
- 2002 Fasihzadeh, Mariam, M.S.
"General Analysis and Modeling of Phase Behavior of Near-Critical Reservoirs Fluids"
- 2002 Nezhad-Kord, Mohammad Taghi, M.S.
"Prediction of Wax Precipitation by Using Non-Classic Mixing Rules"
- 2002 Kheyraani, Amir, M.S.
"Thermodynamic Modeling of Supercritical Fluids Systems, (Solid-Fluid), and (Liquid-Fluid) by New Three Parametric Covolume-Dependent Mixing Rule"
- 2001 Mirzai, Behruz, M.S.
"Modeling of Phase Behavior Near Critical Gas Reservoirs Fluids"
- 2001 Sheikhzadeh, Ali Reza, M.S.
"Thermodynamic Modeling Prediction of Asphaltene Precipitation"
- 2001 Moini, Hassan, M.S.
"Modeling of Heavy Oil Recovery by Steam Injection"
- 2000 Zaman, Nahid, M.S.
"Presentation of Hydrodynamic Model for Prediction of Oil Recovery in Polymer Flooding"
- 2000 Mokhatab, Said, M.S.
"Modeling of Gas Transmission Three-Phase Flow Pipelines of Oil and Gas Fields"
- 1999 Izadpanah, Amir Abbas, M.S.
"Phase Equilibria Calculation by Means of a New Alpha Model in the Heyen Equation of State and Calculation of Thermodynamic Properties"
- 1999 Niazi, Mohammad, M.S.
"Modeling and Simulation of Transient Two-Phase Flow of Gas-Liquid in Pipelines"
- 1998 Mousavi-Deghani, Seyyed Ali, M.S.
"Representation of a Computerized Model for Prediction of Wax Precipitation in Petroleum Mixtures"
- 1998 Dalvand, Dariush, M.S.
"Multiple Modeling of Hydrate Formation in Natural Gas Pipeline"
- 1997 Afchangi, Ali Akbar, M.S.
"The Study of Prediction of Hydrate Formation in the Gas Transferring Pipeline"
- 1998 Yazdankia, Amir Masoud, M.S.
"Modeling Two-Phase Flow in Kangan Pipeline of Gas-Condensate"
- 1997 Alaei, Reza Mohammad, M.S.
"Evaluation of Performance of EOS's for Gas Condensate Reservoirs at High Pressure and High Temperature Conditions"

PUBLICATIONS

BOOKS AND BOOK CHAPTERS

- Vafaie, M. (2013). MOLECULAR THERMODYNAMICS OF FLUID PHASE EQUILIBRIA (3rd Edition). Vol. 1, Tehran, I. R. Iran: Tarbiat Modares University Press.
- Vafaie, M. (2013). MOLECULAR THERMODYNAMICS OF FLUID PHASE EQUILIBRIA (3rd Edition). Vol. 2, Tehran, I. R. Iran: Tarbiat Modares University Press.
- Vafaie, M. (2000). MOLECULAR THERMODYNAMICS OF FLUID PHASE EQUILIBRIA (2nd Edition). Vol. 1, Tehran, I. R. Iran: Tarbiat Modares University Press.
- Vafaie, M. (2000). MOLECULAR THERMODYNAMICS OF FLUID PHASE EQUILIBRIA (2nd Edition). Vol. 2, Tehran, I. R. Iran: Tarbiat Modares University Press.
- Vafaie, M., Yazdankia, A. M., Vatani, A., & Mokhtab, S. (2013). PRINCIPLES OF OPTIMAL DESIGN OF TWO-PHASE FLOW PIPELINES (3rd Edition). Tehran, I. R. Iran: Tarbiat Modares University Press.

PUBLISHED REFEREED ARTICLES IN INTERNATIONAL SCIENTIFIC JOURNALS

- Hajilary, N., Vafaie Sefti, M., Shahmohammadi, A., Dadvand Koochi, A., & Mohajeri, A. (2015). Development of a novel water shut-off test method: experimental study of polymer gel in porous media with radial flow. *Canadian Journal of Chemical Engineering*, 93, 1957–1964.
- Hajilary, N., Vafaie Sefti, M., Dadvand Koochi, A. (2015). Experimental study of water shutoff gel system field parameters in multi-zone unfractured gas-condensate reservoirs. *Journal of Natural Gas Science and Engineering*, 27, 926-933.
- Rajaei, S., Vafaie Sefti, M., Mousavi Moghadam, A., Baghban Salehi, M., & Naderi, H. (2015). The Adsorption of Polyacrylamide Nanocomposite Hydrogels on Sandstone. *Journal of Oil, Gas and Petrochemical Technology*, 2(1), 1-13.
- Shahmohammadi, Sh., Vafaie Sefti, M., Baghban Salehi, M., Mousavi Moghadam, A., Rajaei, S. & Naderi, H. (2015). Hydrogel swelling properties: comparison between conventional and nanocomposite hydrogels for water shutoff treatment. *Asia-Pacific Journal of Chemical Engineering*, 10, 743-753. DOI: 10.1002/apj.1912
- Baghban Salehi, M., Vasheghani-Farahani, E., Vafaie-Sefti, M., Mousavi Moghadam, A. (2014). Rheological and Transport Properties of Sulfonated Polyacrylamide Hydrogels for Water shutoff in Porous Media. *Polymers for Advanced Technologies*. DOI: 10.1002/pat.3254 [in press].
- Baghban Salehi, M., Vafaie Sefti, M., Vasheghani-Farahani, E., Mousavi Moghadam, A. (2014). Effect of Process Variable on the Gelation Time of Sulfonated Polyacrylamide Nanocomposite Hydrogel. *Journal of Dispersion Science and Technology*, 35(5), 663-671. DOI: 10.1080/01932691.2013.803929
- Fasihzadeh, M., Vafaie-Sefti, M., Torbati, H.M. (2014). Improving gas transmission networks operation using simulation algorithms: Case study of the National Iranian Gas Network. *Journal of Natural Gas Science and Engineering*, 20, 319-327.
- Jarrahan, Kh., Rafipour, M., Vafaie Sefti, M., Salimi, F., & Ghoreishi, S. S. (2014). Investigation of Rheological Properties of Polyacrylamide/Chromium tiacetate Hydrogels Performed for Water Shutoff Treatment in Oil Reservoirs. *Journal of Dispersion Science and Technology*,
- Khoshbazzam, S., Farimani, M., Vafaie-Sefti, M., Masoudi, S. (2014). Wax deposition modeling in oil pipelines combined with the wax precipitation kinetics. *Petroleum Research*, 24(77), 89-99.

- Mousavi Moghadam, A., Vafaie Sefti, M., Baghban Salehi, M., Naderi, N. (2014). Bulk and Rheological Properties of Hydrogels used for Water Shutoff Treatment, *Korean Journal of Chemical Engineering*, 31(3), 532-539. DOI: 10.1007/s11814-013-0242-1
- Rafipoor, M., Vafaie Sefti, M., Salimi, F., Jarrahan, Kh., Ghorashi, S. S. (2014). Investigation of rheological properties of Polyacrylamine/Chromium triacetate hydrogels performed for water shutoff treatment in oil reservoirs. *Journal of Dispersion Science and Technology*, 35(1), 56-63. DOI: 10.1080/01932691.2013.773446.
- Salimi, F., Vafaie-Sefti, M., Jarrahan, Kh., Rafipoor, M., Seyyed Ghorashi, S. (2014). Preparation and investigation of the physical and chemical properties of clay-based polyacrylamide/Cr (III) hydrogels as a water shutoff agent in oil reservoirs. *Korean Journal of Chemical Engineering*, 31(6), 986-993. DOI: 10.1007/s11814-014-0023-5
- Soroush, S., Straver, E., Rudolph, S., Peters, C., deLoos, Th., Zitha, P., Vafaie-Sefti, M. (2014). Phase behavior of the ternary system carbon dioxide + toluene + asphaltene. *Fuel*, 137, 405-411.
- Soroush, S., Vafaie Sefti, M., Pourafshari, P. (2014). Experimental investigation of the effects of sweet and sour gas injection based on different asphaltene deposition levels in one oil sample from one Iranian oil reservoir. *Fuel* 29(2), 77-83.
- Ahmadi, S., Sardari, E., Javadian, H. R., Katal, R., & Vafaie Sefti, M. (2013). Removal of oil from biodiesel wastewater by electrocoagulation method. *Korean Journal of Chemical Engineering*, 36(3), 634-641.
- Hosseini-Nasab, S. M. & Vafaie-Sefti, M. (2013). The development of a new empirical correlation for predicting hydrate formation conditions. *Petroleum Science and Technology*, 30, 1755-1767.
- Hosseini-Nasab, S. M., Manteghian, M., Vafaie-Sefti, M., Izadpanah, A. A., & Zare, M. (2013). A neuro-fuzzy model as a predictive tool for the vapor-liquid equilibrium of binary mixtures. *Petroleum Science and Technology*, 31(68), 68-79.
- Jafari Ansaroudi, H. R., Vafaie Sefti, M., Masoudi, Sh., Jafari Behbahani, T., & Jafari, H. (2013). Study of the morphology of wax crystals in the presence of ethylene-co-vinyl acetate copolymer. *Petroleum Science and Technology*, 31(6), 643-651.
- Hosseini-Nasab, S. M. & Vafaie-Sefti, M. (2013). Experimental data and prediction of dissociation conditions for carbon dioxide simple hydrates in the presence of mon-ethylene glycol (MEG) and diethylene glycol (DEG) aqueous solutions. *Petroleum Science and Technology*.
- Hosseini-Nasab, S. M. & Vafaie-Sefti, M. (2013). Equilibrium data and thermodynamic modeling of hydrate formation for CO₂ and mixtures of CO₂ and mixtures of CO₂ and CH₄ in the presence of methanol. *Petroleum Science and Technology*.
- Hoseini Nasab, S. M., Vafaie Sefti, M., & Izadpanah, A. A. (2013). Measurement and prediction of hydrate formation conditions with mixed inhibitors and modeling by thermodynamics model of Heriot-Watt University. *Petroleum Research*.
- Mazraeno, M.S., Varaminian, F., Vafaie-Sefti, M. (2013). Experimental and modeling investigation on structure Hydrate formation kinetics. *Energy Conversion and Management*, 76, 1-7.
- Parvizi, B., Varaminian, F., Vafaie-Sefti, M. (2013). Formation kinetics of structure H gas hydrate. *Gas Processing Journal*, 1(1), 1-8.
- Salimi, F., Vafaie Sefti, M. & Ayatollahi, Sh. (2013). Experimental Investigation of the Effects of Different Parameters on the Rate of Asphaltene Deposition in Laminar Flow and Its Prediction Using Heat Transfer Approach. *Journal of Dispersion Science and Technology*, 34(12), 1690-1696. DOI: 10.1080/01932691.2013.763729
- Abedi Lenji, M., Vafaie Sefti, M., Baghban Salehi, M., Mousavi Moghadam, A., & Naderi, H. (2012). Gelation time of Hexamethylenetetramine polymer gels used in water shutoff treatment. *Journal of Petroleum Science*, 2 (2), 3-11.

- Baghban Salehi, M., Vafaie Sefti, M., Mousavi Moghadam, A., & Dadvand Koochi, A. (2012). Study of salinity and pH effects on gelation time of a polymer gel using in water shutoff with central composite design method. *Journal of Macromolecular Science, Part B: Physics*, 51(3), 438-451.
- Hosseini-Nasab, S. M. & Vafaie-Sefti, M., Mohammadi, A. (2012). The development of a new empirical correlation for predicting hydrate formation conditions. *Petroleum Science and Technology*, 30, 1755-1767.
- Hosseini Nasab, S. M., Vafaie Sefti, M. & Izadpanah, A. A. (2012). Simulation of gaseous hydrate formation conditions in the presence and absence of thermodynamic inhibitors using mathematical relationships. *Petroleum Research Journal*, 21(65), 82-97.
- Jarrahan, Kh., Saeidi, O., Sheykhani, M., Vafaie Sefti, M., & Ayatollahi, Sh. (2012). Wettability alteration of carbonate rocks by surfactants: A mechanistic study. *Colloids and Surfaces A: Physicochemical Engineering Aspects*, 410, 1-10.
- Katal, R., Vafaie-Sefti, M., Jafari, M., Saeedi Dehghani, A. H., Sharifian, S.M., Ghayyem, M. A. (2012). Study effect of different parameters on the sulphate sorption onto nano alumina. *Journal of Industrial and Engineering Chemistry*, 18, 230-236. Doi:10.1016/j.jiec.2011.11.012.
- Mousavi Moghadam, A., Vafaie-Sefti, M., Baghban Salehi, M., Dadvant Koochi, A. & Sheikhan, M. (2012). Effect of nanoclay along with other effective parameters on gelation time of hydro polymer gels. *Journal of Macromolecular Science, Part B*, 51(10), 2015-2025.
- Mousavi Moghadam, A., Vafaie-Sefti, M., Baghban Salehi, M., & Dadvant Koochi, A. (2012). Preformed particle gel: Evaluation and optimization of salinity and pH on equilibrium swelling ratio. *Journal of Petroleum Exploration and Production Technology*, 2, 85-91. Doi: 10.1007/s13202-012-0024-z
- Saeedi-Dehghani, A. H., Vafaie-Sefti, M., & Ameri Ghasradashti, A. (2012). The application of a new association equation of state (EOS) for prediction of asphaltenes and resins deposition during CO₂ gas Injection. *Petroleum Science and Technology*, 29(18), 1548-1561.
- Shadman, M. M., Vafaie-Sefti, M., Saeedi Dehghani, A. H., & Dehghanizadeh, M. (2012). The effect of inhibitors on asphaltene precipitation in crude oil using the viscometric method. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, 34(9), 827-38.
- Saeedi-Dehghani, A. H., Vafaie-Sefti, M., Emami-Meibodi, M., & Fallahnezhad, M. (2011). Modeling of coprecipitation of resin and asphaltene in crude oil by association equation of state. *Petroleum Science and Technology*, 29(18), 1932-1947.
- Dadvand Khoohi, A.D., Vafaie-Sefti, M., Zarrin Ghalam, A., Mousavi Moghadam, A., & Naderi, H. (2011). Performance of sulfonated polyacrylamide/Chromium triacetate hydrogels for water shut-off treatment. *Journal of Petroleum Science and Technology*, 1(2), 10-18.
- Dadvand Khoohi, A.D., Zarrin Ghalam Moghadam, A., Mousavi Moghadam, A., & Vafaie-Sefti, M. (2011). Swelling and gelation time behavior of sulfonated polyacrylamide/chromium triacetate hydrogels. *Journal of Macromolecular Science, Part B: Physics*, 50(10), 1905-1920.
- Soroush, S., M. Vafaie Sefti, P. Pourafshary (2010). Experimental investigation of sweet and sour gas injection effects on the amount of asphaltene precipitation in an Iranian oil reservoir. *Iranian Journal of Chemistry and Chemical Engineering*, 29(2), 77-83.
- Emami-Meibodi, M., Vafaie-Sefti, M., Rashidi, A. M., Amrollahi, A., Tabasi, M., & Sid-Kalal, H. (2010). A model for thermal conductivity for nanofluids. *Materials Chemistry and Physics*, 123, 639-643.
- Masoudi, Sh., Vafaie-Sefti, M., Jafari, H., & Modares, H. (2010). The hardening process and morphology of a wax deposit in a pipe flow. *Petroleum Science and Technology*, 28, 1598-1610.
- Emami-Meibodi, M., Vafaie-Sefti, M., Rashidi, A. M., Amrollahi, A., Tabasi, M., & Sid-Kalal, H. (2010). The role of different parameters on the stability and thermal conductivity of carbon nanotube/water nanofluids. *International Communication in Heat and Mass Transfer*, 37, 319-323.

- Emami-Meibodi, M., Vafaie-Sefti, M., Rashidi, A. M., Amrollahi, A., Tabasi, M., & Sid-Kalal, H. (2010). Simple model for thermal conductivity of nanofluids using resistance model approach. *International Communication in Heat and Mass Transfer*, 37, 555-559.
- Emami-Meibodi, M., Vafaie-Sefti, M., Rashidi, A. M., Amrollahi, A., Tabasi, M., & Sid-Kalal, H. (2010). An estimation for velocity and temperature profiles of nanofluids in fully developed turbulent flow conditions. *International Communication in Heat and Mass Transfer*, 37, 895-900.
- Mousavi-Dehghani, S. A., Mirzayi, B., & Vafaie-Sefti, M. (2008). Polymer Solution and Lattice Theory Applications for Modeling of Asphaltene Precipitation in Petroleum Mixtures. *Brazilian Journal of Chemical Engineering*, Vol. 25,(3), 523 - 534
- Mousavi-Dehghani, S. A., Vafaie-Sefti, M., Ameri, A., & Shojai Kaveh, N. (2008). Minimum miscibility pressure prediction based on a hybrid neural genetic algorithm. *Chemical Engineering Research and Design*, 86, 173 – 185.
- Mirzayi, B., Vafaie-Sefti, M., Mousavi-Dehghani, S.A., Fasih, M., & Mansoori, G. A. (2008). The effects of asphaltene deposition on unconsolidated porous media properties during miscible natural gas flooding. *Petroleum Science and Technology*, 26, 231-243.
- Emami-Meibodi, M., Vafaie-Sefti, M., & Modares, H. (2007). Association equation of state for hydrogen bonded substances. *Canadian Journal of Chemical Engineering*, 84, 1-10.
- Mousavi-Dehghani, S.A., Vafaie-Sefti, M., & Mansoori, G. A. (2007). Simulation of natural depletion and miscible gas injection effects on asphaltene stability in petroleum reservoir fluids. *Petroleum Science and Technology*, 25(4), 1435-1446.
- Vafaie-Sefti, M. & Mousavi-Dehghani, S.A. (2006). Application of association theory to the prediction asphaltene deposition : Deposition due to natural depletion and miscible gas injection processes. *Fluid Phase Equilibria*, 247(1-2), 182-189.
- Mousavi-Dehghani, S.A., Riazi, M.R., Vafaie-Sefti, M., & Mansoori, G.A. (2004). An analysis of methods for determination of onsets of asphaltene phase separations. *Journal of Petroleum Science and Engineering*, 42, 145-156.
- Vafaie, M., Mousavi-Dehghani, S.A., & Mohammad-Zadeh Bahar, M. (2003). A simple model for asphaltene deposition in petroleum mixtures. *Fluid Phase Equilibria*, 206, 1-11.
- Vafaie, M., Mousavi-Dehghani, S.A., & Mohammad-Zadeh Bahar, M. (2001). Compositional modeling of wax formation in petroleum mixtures. *International Journal of Engineering*, 14(4), 303-312.
- Vafaie, M., Mousavi, S. A., & Mohammad Zadeh, B. (2000). Modification of multisolid phase model for prediction of wax precipitation: A new and effective solution method. *Fluid Phase Equilibria*, 173, 65-80.
- Vafaie, M. (1996). Prediction of thermodynamic properties of fluids and phase equilibria through modeling and developing and modification of Heyen equation of state, *Scientia Iranica*, 3(1, 2.3), 49-56.
- Maddox, R.N. & Vafaie-Safti, M. (1985). Slip Velocity Added to Two-Phase Pipeline Calculations. *Gas and Oil Journal*, June 17, 94-96.

PUBLISHED REFEREED ARTICLES IN IRANIAN SCIENTIFIC JOURNALS

- Mousavi, A., Vafaie Sefti, M., Baghban Salehi, M., Naderi, H., Dadvand Koochi, A. (2015). Modeling of hydrogel Polyacrylamide/ Sulfonate Chromium Acetate (III) based on screening of effective parameters. *Modeling in Engineering Journal*, 41, 160-172.
- Shadman, M.M., Dehghani Zadeh, M., Saeedi Dehghani, A.H., Vafaie Sefti, M., & Mokhtarian, N. (2014). An investigation of the effect of aromatic, anionic and nonionic inhibitors on the onset of asphaltene precipitation. *Journal of Oil, Gas and Petrochemical Technology*,

- Khoshvazm Farimani, S., Vafaie Sefti, M., Masoudi, Sh. (2014). Modeling of asphaltene deposition in oil transporting pipelines considering the kinetics of asphaltene deposition. *Petroleum Research*, 24(77), 89-99.
- Ahmadi, S., Vafaie Sefti, M., Bahramian, A., Rastegar, A., Jarrahan, Kh. (2014). Optimization and modeling of Contact angle via response surface methodology in wettability alteration process of carbonate rock by smart water. *Petroleum Research*, 39, 159-170.
- Jarrahan, Kh., Seiedi, O., Vafaie Sefti, M., Ayatollahi, Sh., Ghorashi, S.S. & Ahmadi, S. (2014). Mechanistic study of interaction between surfactant and carbonate surface for enhancing oil recovery. Research Manuscript prepared at the Polymer Science and Technology Division, Research Institute of Petroleum Industry (RIPI), Tehran, Iran.
- Mousavi Moghadam, A., Vafaie Sefti, M., Baghban Salehi, M., Dadvand Koochi, A., Naderi, H. (2014). Screening of Effective Factors on Gelation Time of a Polymer Gels Using Fractional Factorial Design Method. *Journal of Modeling in Engineering* [in press].
- Jamshidi Shafagh, M., Vafaie Sefti, M., Jarrahan, Kh., Seyyed Ghorashi, S., Davoodi, A. (2014). Experimental investigation of the effects of sulphactant on wettability changes of carbonated stone. *Petroleum Research* [in press].
- Shadman, M. M., Vafaie Sefti, M., Saeedi Dehghani, A.H. (2014). Effects of linear and Nonlinear inhibitors in the prevention of Asphaltene particle accumulation in crude oil using the viscometry method. *Petroleum Research* [in press].
- Vafaie-Sefti, M., Jamshidi Shefgh., M., Jarrahan, Kh., Ghoreishi, S. S., & Davoodi, A.A. (2014). Experimental Study of the Effects of Active Surfactant Material on Wettability Changes in Carbonated Rocks. *Pazhuhesh Naft*, 80, 23-36.
- Ahmadi, S., Vafaie Sefti, M., Bahramian, A., Rastegar, A., Jarrahan, Kh. (2013). Experimental investigation of the effects of ions' concentration, aging temperature, and pH, on wettability alteration process in carbonate rocks by contact angle measurement. *Applied Chemistry Journal* [in press].
- Shadman, M., Vafaie Sefti, M., Saeedi Dehghani, A. (2013). Study of the effects of linear and branched inhibitors for prevention of association of asphaltene molecules in crude oil using viscometry method. *Petroleum Research*, 23(75), 30-39.
- Hosseini Nasab, S. M., Vafaie Sefti, M. & Izadpanah, A. A. (2012). Simulation of gaseous hydrate formation conditions in the presence and absence of thermodynamic inhibitors using mathematical relationships. *Petroleum Research Journal*, 21(65), 82-97.
- Vafaie Sefti, M., Rafihpour, S. M., Haghtalab, A., Razzaghi Kashani, M., & Salimi, F. (2012). Investigation of rheological properties and performance of Polymeric gel systems in high temperature reservoirs. *Petroleum Research*, 22(69), 3-16.
- Dadvand-Khoohi, A., Vafaie Sefti, M., Zarringhalam Moghadam, A., Mousavi Moghadam, A., Naderi, H. (2011). Performance of sulfonated polyacrylamide/cromium triacetate hydrogels. *Pazhuhesh Naft*,
- Hosseini Nasab, S.M., Vafaie Sefti, M., Izadpanah, A. A. (2011). Measurement and prediction of hydrate formation conditions for Methane and CO₂ in the presence of thermodynamic inhibitors. *Petroleum Research Journal*, 68(18), 18-29.
- Masoudi, Sh., Vafaie Sefti, M., & Heidarnia, A. (2011). Study of crystallized paraffin mixtures in an oil flow model and data centered model in cold pipes. *Iranian Journal of Chemistry & Chemical Engineering*, 30(1), 85-89
- Manteghian, M., Vafaie Sefti, M., Safavi, S. M., (2011). Investigation of methane stability in different temperature and pressure conditons. *Iranian Journal of Chemistry & Chemical Engineering*, 30(1), 63-70.
- Masoudi, Sh., Vafaie Sefti, M., Jaafari, H. R. (2011). Study of paraffin mixtures in the modeling of oil flow in cold pipes. *Iranian Journal of Chemistry & Chemical Engineering*, 30(1), 89-85.

- Saeedi Dehghani, A. H., Vafaie Sefti, M. (2010). Computation of asphaltene-resin deposition using association equation of state (AEOS) based on Soave-Redlich-Kwong (SRK) equation of state. *Petroleum Research Journal*, 20(61), 3-15.
- Saeedi Dehghani, A. H., Vafaie Sefti, M., Mousavi Dehghani, S. A., & Emami Meibodi, M. (2010). Modeling resin deposition accompanied by asphaltene in CO₂ gas injection using association Equation of state (AEOS). *Iranian Journal of Chemistry & Chemical Engineering*, 29(3), 133-146.
- Vafaie Sefti, M., & Hosseini Nasab, S. M. (2010). Experimental investigation of sweet and brine gas injection on asphaltene deposition levels in one oil Iranian reservoir. *Iranian Journal of Chemistry and Chemical Engineering*, 29(2), 77-83.
- Saeedi Dehgani, A.H., Vafaie Sefti, M. (2010). Calculation of asphaltene-resin deposition with an association equation of state. *Petroleum Research Journal*, 61(20), 3-15.
- Dadvand Koochi, A., Vafaie-Sefti, M., Zarrin Ghalam, A. Mousavi Moghaddam, A. & Zanjani, S. (2010). Rheological characteristics of Suphonated Polyacrylamide/Chromium Triacetate hydrogels desinged for water shut-off. *Iranian Polymer Journal*, 19(10), 757-770.
- Vafaie Sefti, M., Soroush, S., Pourafshar, Ch. P. (2010). Experimental investigation of the effects of sweet and sour gas injection on oil asphaltene deposition levels in one Iranian reservoir. *Iranian Journal of Chemistry and Chemical Engineering*,
- Salimi, F., Vafaie Sefti, M., Razagghi Kashani, F., Rafipour, M. (2009). Development of a nano-composite hydro-gel based on Polyacrylamide and its performance in reservoir conditions. *Journal of Polymer Science and Technology*, 22(2), 87-95.
- Javidnia, A., Vafaie Sefti, M., Izadpanah, A. A., & Varaminian, F. (2009). Equilibrium data and thermodynamic modelling of hydrate formation conditions for CO₂, CO₂ mixtures, and Methane with Methanol. *Iranian Journal of Chemistry & Chemical Engineering*, 27(4), 93-103.
- Vafaie Sefti, M., Naderi, H., Baghban Salehi, M., Hashemi Nasab Zavare, S. R., Sajjadian V. A., Hosseini, A., Dadvand Koochi, A., & Saeedi Dehghani, A. H. (2009). Experimental study on gel polymer performance for stopping water production in petroleum production oil wells. *Iranian Journal of Chemistry & Chemical Engineering*, 27(2), 21-30.
- Saeedi Dehghani, A.H., Vafaie Sefti, M., & Mohammad Zadeh, B. (2009). Solid phase state application for wax formation prediction in oil mixtures and study the effects of pressure and oil mixture on produced solid wax temperature. *Iranian Journal Chemistry & Chemical Engineering*, 5(2), 23-33.
- Javidnia, A., Vafaie Sefti, M., Izadpanah, A. A., & Varaminian, F. (2009). Equilibrium data and modelling of hydrate formation thermodynamic conditions for CO₂ and Methane and CO₂ mixtures in the presence of relation to Methanol. *Iranian Journal of Chemistry & Chemical Engineering*, 27(3), 93-103.
- Salimi, F., Vafaie Sefti, M., Razzaghi Kashani, S.R. (2009). Preparation of hydro-gel composite based on polyacrylamide and investigation of the effects of Kaolinite on this composite considering reservoir conditions. *Polymer Science and Technology Journal*, 22(2), 1-9. <http://jips.ipi.ac.ir>
- Vafaie Sefti, M., Baghbah Salehi, M., Naderi, H., & Simjoo, M. (2009). Modeling and Investigation of Gel Polymer performance in motakhalkhel conditions. *Modeling in Engineering Journal*, 7(16), Spring 1388, 55-70.
- Naderi, H., Hashemi-Nasab Zavvare, S. R., Vafaie Sefti, M., Sajjadian, S. R. & Saeedi Dehghani, A. H. (2008). Experimental study of wax deposition in oil pipes for the study of the effects of various parameters. *Iranian Journal of Chemistry & Chemical Engineering*, 27(1), 123-131.
- Dadvand Koochi, A., Vafaie Sefti, M., Naderi, H. (2008). Study and modelling of water coning phenomenon in fractured reservoirs. *Iranian Journal of Chemistry & Chemical Engineering*, 26(3), 93-104.
- Mousavi-Dehghani, S. A., Vafaie-Sefti, M., Mehdizadeh, M., & ShirKhanloo, A. (2008). Solid Phase Equation of State Application for Wax Formation Prediction in Petroleum Mixtures. *Iranian Journal of Chemistry & Chemical Engineering*, 2(5), 23-33.

- Vafaie-Sefti, M., Baghban-Salehi, M., Naderi, H., & Hashemi-Nasab, S. R. (2008). Modeling and Investigation of the Effects of Gel Polymer Injection on Indices of One Iranian Oil Reservoir. *Iranian Journal of Chemistry and Chemical Engineering*, 26(4), 51-61.
- Mousavi-Dehghani, S.A., Vafaie-Sefti, M., Ameri, A., & Shojai Kaveh, N. (2008). Minimum miscibility pressure prediction based on a hybrid neural genetic algorithm. *Chemical Engineering Research and Design*, 86, 173-185.
- Soroush, S., Vafaie Sefti, M., Masoudi, R. (2007). Modelling of asphaltene deposition using Soave-Redlich-Kwong (SRK) Equation of State and investigation of the effect of gas injection on asphaltene formation. *Iranian Journal of Chemical Engineering*, 29(3), 25-35.
- Soroush, S., M. Vafaie Sefti, & R. Masoudi (2007). Applying the PR-EOS to Predict the Onset of Asphaltene Prediction from n-Alkane Diluted Bitumens, *Iranian Journal of Chemistry and Chemical Engineering*, 29(3), 111-119.
- Vafaie, M., Simjoo, M., Dadvand-Kuhi, A., & Sajjadian, V. M. (2007). Polyacrylamide Gel Polymers Water Shut-Off System: Preparation and Investigation of Physical and Chemical Properties in one of the Iranian Oil Reservoirs. *Iranian J. chem. & Chem. Eng.*, 26(4), 99-108.
- Vafaie-Sefti, M., Soroush, S., & Masoudi, R. (2007). Applying the PR-EOS to Predict the Onset of Asphaltene Precipitation from n-Alkane Diluted Bitumens. *Iranian J. Chem. & Chem. Eng.*, 26 (3), 111-119.
- Mousavi-Dehghani, S. A., Vafaie-Sefti, M., Mirzai, B., & Fasih, M. (2007). Experimental investigation on asphaltene deposition in porous during miscible gas injection. *Iranian Journal Chemistry & Chemical Engineering*, 26(4), 39-48.
- Vafaie-Sefti, M., Izadpanah, A. A., & Varaminian, F. (2007). Driving Force for Nucleation of Multi-Component Gas Hydrate. *Iranian Journal Chemistry & Chemical Engineering*, 26(2), 1-7.
- Vafaie-Sefti, M., Naderi, H., Hashemi-Nasab, S. R., Sajjadian, V. A., & Saidi-Dehghani, A. H. (2007). Experimental Study of Parameters Associated with Wax Deposition in Iranian Petroleum Oilducts. *Iranian Journal of Chemistry and Chemical Engineering*, 27.
- Vafaie-Sefti, M., Mousavi-Dehghani, S. A., Ameri, Gh. A. & Shoja, K. (2007). A hybrid neuro-genetic algorithm for predicting pure and impure CO₂ minimum miscibility pressure. *Iranian Journal Chemistry & Chemical Engineering*, 3(4), 44-59.
- Vafaie-Sefti, M., Naderi, H., Baghban-Salehi, M., Hashemi-Nasab, S. R., & Sajjadian, V. A. (2007). Modeling and study of the effects of polymer gel injection to one kind of Iranian reservoir. *Iranian Journal Chemistry & Chemical Engineering*, 26(4), 51-61.
- Motalebinezhad, A.R., Vafaie-Sefti, M., & Naderi, H. (2007). Determination of Minimum Miscibility Pressure by Analytical Method. *Iranian Journal of Chemistry and Chemical Engineering*, 26(3), 11-17.
- Simjoo, M., Vafaie, M., Dadvand-Kuhi, A., & Sajjadian, V. M. (2007). Polyacrylamide Gel Polymers Water Shut-Off System: Preparation and Investigation of Physical and Chemical Properties in one of the Iranian Oil Reservoirs. *Iranian J. Chem. & Chem. Eng.*, 26(4), 99-108.
- Mousavi-Dehghani, S. A., Vafaie-Sefti, M., Mirzai, B., & Fasih, M. (2007). Experimental investigation on asphaltene deposition in porous during miscible gas injection. *Iranian Journal Chemistry & Chemical Engineering*, 26(4), 29-48.
- Izadpanah, A. A., Vafaie-Sefti, M., & Varaminian, F. (2007). Driving Force for Nucleation of Multi-Component Gas Hydrate. *Iranian Journal Chemistry & Chemical Engineering*, 26(2), 1-7.
- Izadpanah, A. A., Vafaie-Sefti, M., & Varaminian, F. & (2007). Experimental investigation and modeling of synthetic hydrate formation from propane. *Iranian Journal Chemistry & Chemical Engineering*, 26(1), 1-8.
- Izadpanah, A. A., Vafaie-Sefti, M., & Varaminian, F. & (2007). Experimental investigation and modeling of synthetic methane hydrate formation in a process of stable volume based on natural thermodynamic path in the synetics of chemical reactions. *Iranian Journal Chemistry & Chemical Engineering*, 25(3), 87-95.

- Izadpanah, A. A., Vafaie-Sefti, M., & Varaminian, F. & (2007). Multi component- Multiphase flash calculation for systems Containing Gas Hydrates by Direct Minimization of Gibbs Free Energy. *Iranian Journal Chemistry & Chemical Engineering*, 25(3), 1-8.
- Vafaie-Sefti, M., Naderi, H., & Dadvand-Kuhi, A. (2006). Investigation and Modeling of the Phenomenon of Water Conning in Fractured Iranian Oil Reservoirs. *Iranian Journal of Chemistry and Chemical Engineering*, 26(3), 153-164.
- Vafaie, M., Mousavi-Dehghani, S. A., Mohammad-Zadeh Bahar, M., 2001, Compositional modeling of wax formation in petroleum mixtures, *International Journal of Engineering*, 14(4), 303-312.
- Vafaie, M., Izadpanah, A.A., & Mohammad-Zadeh Bahar, M. (1379/2000). Modification of Heyen EOS by proposing a better Alpha function. *Iranian Journal Chemistry & Chemical Engineering*, 19(1 & 2), 45-55.
- Vafaie-Sefti, M., Haghtalab, A., Nezhad-Kord, M.A. (2000). Generalization of Whitson's model for heavy components of crude oil, *Tarbiat Modares Journal of Engineering*.
- Vafaie, M., Mousavi Dehghani, S. A., & Mohammad Zadeh, B. (1999). Modelling of solid wax and paraffin precipitation in oil compositions and the effects of pressure and composition on solid wax formation. *Iranian Journal of Chemistry and Chemical Engineering*, 18, No. 1 & 2, 48-55.
- Vafaie, M., Yazdankia, A. M. & Milani, S. M. M. (1997). Modelling gas condensate two-phase flow transmission pipeline. *Bavar Quarterly Journal of Engineering and Technology*, Summer, No. 4 .
- Vafaie, M. (1375/1996). Prediction of thermodynamic properties of fluids and phase equilibria through modeling and developing and modification of Heyen equation of state, *Sciencia Iranica*, Vol. 3, No. 1, 2, 3, 49-56.
- Nikzad, H. & Vafaie, M. (1994) Modification of Peng-Robinson and Van der Waals EOS, *The Journal of Iranian Petroleum Institute*, No. 37-38, Spring-Summer.
- Vafaie, M., & AghaSadeghi, P. (1993). Modeling of Behavior of Hydrocarbon Systems through Peng-Robinson Equation of State, *Chemical Engineering Quarterly*, Spring-Summer.
- Vafaie, M., Yazdankia, A. M. & Milani, S. M. M. (1376/1997). Modelling gas condensate two-phase flow transmission pipeline. *Bavar Quarterly Journal of Engineering and Technology*, Summer, No. 4 .
- Nikzad, H. & Vafaie, M. (1373/1994) Modification of Peng-Robinson and Van der Waals EOS, *The Journal of Iranian Petroleum Institute*, No. 37-38, Spring-Summer.
- Vafaie, M., & AghaSadeghi, P. (1372/1993). Modeling of Behavior of Hydrocarbon Systems through Peng-Robinson Equation of State, *Chemical Engineering Quarterly*, Spring-Summer.

III. PUBLISHED CONFERENCE PROCEEDINGS OF SPEECHES AND POSTER PRESENTATIONS IN REFEREED INTERNATIONAL AND IRANIAN CONFERENCES

2015

- Ali Reza Serajian, Mohsen Vafaie-Sefti, Mohammad Mahdi Shadman, Mohammad Ali Assaf, "Estimation of Asphaltene precipitation from n-alkane diluted heavy oil using the PC-SAFT EoS", *The 9th International Chemical Engineering Congress & Exhibition (IChEC 2015)*, Shiraz, Iran, 26-28 December, 2015.
- Amir Farasat, Mohsen Vafaie Sefti, Saeid Sadeghnejad, Hamid Reza Saghafi, "Experimental Evaluation of the Effects of Temperature and Water Salinity on the Swelling Ratio of Performed Particle Gels", *The 9th International Chemical Engineering Congress & Exhibition (IChEC 2015)*, Shiraz, Iran, 26-28 December, 2015.

Aghdas Heidari, Mohsen Vafaie Sefti, & Ebrahim Vasheghani Farahani, "The Effect of Polyacrylamide-Chromium Acetate Particle Gel Composition on Swelling Kinetic Parameters", *The 9th International Chemical Engineering Congress & Exhibition (IChEC 2015)*, Shiraz, Iran, 26-28 December, 2015.

2014

Mahsa Baghban Salehi, Mohsen Vafaie Sefti, Ebrahim Vasheghani-Farahani, Asefe Mousavi Moghadam, Hasan Naderi, "Swelling and Rheological Relationships of Polyacrylamide Hydrogels", *The 8th International Chemical Engineering Congress & Exhibition (IChEC)*, Kish, Iran, February 2014.

Samira Rajaei, Mohsen Vafaie Sefti, Asefe Mousavi Moghadam, Mahsa Baghban Salehi, Shabnam Mohammadi, Hasan Naderi, "Adsorption Behavior of Polyacrylamide Nanocomposite Hydrogels on Carbonate Reservoir Rock", *The 5th International Conference on the Nanostructures (ICNS5)*, Kish, Iran, March 2014.

Samira Rajaei, Mohsen Vafaie Sefti, Asefe Mousavi Moghadam, Mahsa Baghban Salehi, Shabnam Mohammadi, Hasan Naderi, "Effect of Reservoir Pressure on Static Adsorption of Hydrogels on Carbonate Reservoir Rock", *The 8th International Chemical Engineering Congress & Exhibition (IChEC)*, Kish, Iran, February 2014.

Shabnam Mohammadi, Mohsen Vafaie Sefti, Mahsa Baghban Salehi, Asefe Mousavi Moghadam, Samira Rajaei, Hasan Naderi, "The Relationship between Swelling and Salt Sensitivity Factor of Hydrogels and Improvement with Nanocomposite", *The 8th International Chemical Engineering Congress & Exhibition (IChEC)*, Kish, Iran, February 2014.

2013

Mahsa Baghban Salehi, Mohsen Vafaie Sefti, Ebrahim Vasheghani-Farahani, Asefe Mousavi Moghadam, Zohreh Sarreshteh Dari. Z. Dynamic Rheological Behavior Of A Hydrogel For Water Shutoff Treatments. *Proceedings of the Polymer Processing Society 29th Annual Meeting*, Nuremberg, Germany, 15-19 July, 2013.

Majid Abedi Lenji, Mohsen Vafaie Sefti, Asefe Mousavi Moghadam, Mahsa Baghban Salehi, Hasan Naderi, Study The Effect of Sodium Montmorillonite Nanoclay on the Swelling of Polyacrylamide Hydrogel. *First National Congress and Workshop on Nanoscience and Nanotechnology*, Tehran, Iran, 5-6 May, 2013.

Majid Abedi Lenji, Mohsen Vafaie Sefti, Asefe Mousavi Moghadam, Mahsa Baghban Salehi, Hasan Naderi, "Experimental Study of The Effect of Montmorillonite Nanoclay on The Syneresis of 3d Network Of Polyacrylamide ", *Sixteenth International Chemical Engineering Congress*, Yazd, Iran, 2013.

Samira Rajaei, Mohsen Vafaie Sefti, Mahsa Baghban Salehi, Asefe Mousavi Moghadam, Shabnam Mohammadi. Polymer Gel Adsorption Effect on Relative Permeability Modification for Water Shutoff Treatment. *First National Conference of New technologies in Chemical and Chemical Engineering*, Tehran, Iran, 5-6 May, 2013.

Asefe Mousavi Moghadam, Mohsen Vafaie Sefti, Mahsa Baghban Salehi, Hasan Naderi, "Preparation an Optimal Hydrogel of Water Shutoff for Iranian Oil Field", *Second Iraq Oil and Gas Conference, IOGC*, Iraq, Baghdad, October, 2013.

2012

Majid Abedi Lenji, Mohsen Vafaie Sefti, Asefe Mousavi Moghadam, Mahsa Baghban Salehi, Hasan Naderi, Zohreh Sarreshteh Dari, Evaluation and Optimization of Various Applicable Crosslinkers on Gelation Time of Polyacrylamide Gel. *Fourth EuCheMS Chemistry Congress*, Prague, 26-30 August, 2012.

Mahsa Baghban Salehi, Mohsen Vafaie Sefti, Ebrahim Vasheghani-Farahani, Asefe Mousavi Moghadam, Zohreh Sarreshteh Dari. Estimation of Kinetics Parameters for Ionic Gelation of Polyacrylamide in Different Media. *Fourth EuCheMS Chemistry Congress*, Prague, 26-30 August, 2012.

Asefe Mousavi Moghadam, Mahsa Baghban Salehi, Mohsen Vafaie Sefti, Ahmad Dadvand Koochi, Hasan Naderi. Screening of Effective Factors on Gelation Time of Hydrogels. *The 1th International Conference of Oil, Gas, Petrochemical and Power Plant*, Tehran, Iran, 5-6 June, 2012.

Majid Abedi Lenji, Mohsen Vafaie Sefti, Asefe Mousavi Moghadam, Mahsa Baghban Salehi, Hasan Naderi. Effect of Hexamethylenetetramine on Gelation Time of Polymer Gels by Response Surface Methodology. *The Third National Congress of Iranian Oil Engineering*, Tehran, Iran, 2012.

Ahmadi, Saeb; Bahramian, A.R.; Vafaie Sefti, M. & Jarrahan, Kh. (2012). Change of Carbonate Stone Resistance with Use of Intelligent Water : Investigation of the Effects of Mg., SO₄, Ca, pH Ions. *Third National Engineering Petroleum Congress, Tehran University Petroleum Institute*, Tehran, I R Iran, October, 2012.

Zargari, S.; Vafaie Sefti, M.; Mahsa Baghban Salehi; Gholami Sarvi, H. (2012). Effects of Polymer Acryl-Amid Gel Injection for Decrease of Sand Production. *Fourth EuCheMS Chemistry Congress*, Prague, 26-30 August, 2012.

Seifi, M. ; Varaminian, F. & Vafaie Sefti, M. (2012). Experimental Investigation of Kinetics Hydrate H Chrystal Formation from Methyl Cyclo Hexan. *Fourth National Chemical Engineering Congress*, Tehran, Aban, 25, 2012.

Dehghani Zadeh, M. ; Lotfali, M.N. ; Vafaie Sefti, M. ; Shadman, M.M. & Saeedi Dehghani, A.H. (2012). Experimental Investigation of Inhibitors' Power for Preventing Asphaltene Formation. *Fourth National Chemical Engineering Congress*, Tehran, Aban, 25, 2012.

Zargari, S.; Vafaie Sefti, M.; Mahsa Baghban Salehi; Gholami Sarvi, H., Effects of Polymer Acryl-Amid Gel Injection for Decrease of Sand Production. *Fourteenth Iranian National Chemical Engineering Congress*, 25-27 Aban, Tehran, Iran, 2012.

2011

Hosseini Nasab, S. M., Vafaie Sefti, M., Izadpanah, A. A. Measurement of equilibrium data and estimation of methane hydrate conditions in the presence of thermodynamic mixed-inhibitors. *Proceedings of the 7th International Conference on Gas Hydrates –ICGH*, Edinburgh, Scotland, United Kingdom, July 17-21, 2011.

Hosseini Nasab, S. M., Vafaie Sefti, M., Mohammadi, A., & Izadpanah, A. A. Development of new empirical correlation for predicting hydrate formation conditons. *Proceedings of the 7th International Conference on Gas Hydrates –ICGH*, Edinburgh, Scotland, United Kingdom, July 17-21, 2011.

Soroush, S., M. Vafaie Sefti, M. Jamialahmadi, P. Pourafshary, P.L.J. Zitha, E.S.J. Rudolph, Y. Fallahzadeh, *Study of Asphaltene Deposition in Porous Media due to Carbon Dioxide Injection*, 73rd EAGE Conference and Exhibition incorporating SPE EUROPEC, Vienna, Austria, 23-26 May 2011.

Salimi, F., Vafaie Sefti, M., Razzaghi Kashani, S.R. Study of effects of Kaolinite on gel polyacrylamide properties in reservoir conditions. *Proceedings of the Eleventh National Chemical Engineering Congress and First Chemical Engineering and Oil Middle East Congress*, Kermansha, Iran, Jan, 2011.

Vafaie Sefti M., Gholami H., Baghban Salehi M. Using Central Composite Design Method to Optimizing Gelation Time of Polymer Gels for Water Shut-off Operation in Oil Well. *Proceedings of the Seventh International Chemical Engineering Congress & Exhibition*, Kish, Iran, 21-24 November, 2011.

Dadvand Koochi A., Vafaie Sefti M., Zarrin Ghalam Moghadam A., Mousavi A., Naderi H. Disproportional Permeability Reduction behavior of Hydrogels, *Seventh International Chemical Engineering Congress & Exhibition*, Kish, Iran, 21-24 November, 2011.

Abedi Lenji, M., Vafaie Sefti, M., Mousavi Moghadam, A., Baghban Salehi, M., & Naderi, H. Investigation of Hexamethylenetetramine on Polymer Gels Used in Water Shutoff Treatment by Central Composite Design. *Seventh International Chemical Engineering Congress & Exhibition*, Kish, Iran, 21-24 November, 2011.

- Mousavi A., Vafaie Sefti M., Baghban Salehi M., Dadvand Koochi A. Preformed Particle Gel: Effects of Calcium Chloride and pH on Equilibrium Swelling Ratio by Using. *Seventh International Chemical Engineering Congress & Exhibition*, Kish, Iran, 21-24 November, 2011.
- Jarrahian Kh., Seiedi, O., Vafaie Sefti M., Ayatollahi S. Sh., Ghoreishi S. S., Ahmadi S. Wettability alteration of carbonate rocks during surfactant flooding, *Seventh International Chemical Engineering Congress & Exhibition*, Kish, Iran, 21-24 November, 2011.
- Baghban Salehi M., Vafaie Sefti M., Vasheghani Farahani E., Mousavi A. The Effect of Process Variable on the Gelation Time of Sulfonated Polyacrylamide Gel. *Seventh International Chemical Engineering Congress & Exhibition*, Kish, Iran, 21-24 November, 2011.
- Baghban Salehi M., Vafaie Sefti M., Mousavi A., Dadvand Koochi A., Jarrahian Kh. (2011). The Effect of salinity and Ph on gelation time of polymer gels using a statistical technique. *Proceedings of the International Symposium of the Society of Core Analysts*, Austin, Texas, USA, 18-21 September, 2011.
- Emami Meibodi, M., Vafaie Sefti, M., Rashidi, A.M., Amrollahi, A., Tabbasi, M., Kalal, H.S. Experimental study and modelling of nano fluids temperature change. *Fifth Joint Conference of the Iranian Metallurgical Engineering Society and Iranian Melting Scientific Society*, Isfahan, Iran, 25-26 October, 2011.
- Hediyeh Gholami Saravi, Mohsen Vafaie Sefti, Mahsa Baghban Salehi, "Investigation of Degelling Process of Polymer Gels using Central Composite Design", *Seventh International Chemical Engineering Congress & Exhibition*, Kish, Iran, 21-24 November, 2011.
- Majid Abedi Lenji, Mohsen Vafaie Sefti, Asefe Mousavi Moghadam, Mahsa Baghban Salehi, Hasan Naderi, "Study of Hexamethylenetetramine on Polymer Gels Used in Water Shutoff Treatment by Central Composite Design ", *Seventh International Chemical Engineering Congress & Exhibition*, Kish, Iran, 21-24 November, 2011.
- Mahsa Baghban Salehi, Mohsen Vafaie Sefti, Asefe Mousavi Moghadam, Ahmad Dadvand Koochi, Khosrow Jarrahian, "The Effect of Salinity and pH on Gelation Time of Polymer Gels Using Central Composite Design Method", *International Symposium of the Society of Core Analysts*, Austin, Texas, 18-21 September, 2011.
- Mahsa Baghban Salehi, Mohsen Vafaie Sefti, Asefe Mousavi Moghadam, Ahmad Dadvand Koochi, Hasan Naderi, "Using Central Composite Design Method to Optimizing Gelation Time of Polymer Gels for Water Shut-off Operation in Oil Wells", *The First National Conference for Technology Development in Oil, Gas and Petrochemical Industries*, Ahvaz, Iran, 19-20 May, 2011.
- 2010
- A. Dadvand Koochi, M. Vafaie Sefti, A. Zarrin Ghalam, A. Mousavi Moghadam, H. Naderi, "Experimental Study of Sulfonated Polyacrylamide/Chromium Triacetate Hydrogels for Water Shutoff", *Fourteenth International Oil, Gas & Petrochemical Congress*, 19-20 May, Tehran, Iran, 2010.
- Kh.Jarrahian, M. Vafie-Sefti, Sh.Ayatollahi, F.Moghadam, A.Mousavi Moghadam, "Study of wettability alteration mechanisms by surfactants", *International Symposium of the Society of Core Analysts*, Halifax, Nova Scotia, Canada, 4-7 October, 2010.
- Vafaie Sefti M., Nazeri K., Etemad GH. R. (2010). The effect of $\text{-Al}_2\text{O}_3$ nanoparticles concentration on specific heat of nanofluids. *Thirteenth Iranian National Chemical Engineering Congress and First International Regional Chemical and Petroleum Engineering Conference*, Razi University, Kermanshah, Iran, 25-28 October, 2010.
- Dadvand Koochi A., Vafaie Sefti M., Zarrin Ghalam A., Mousavi A., Zargari S., Naderi H. Experimental study of sulfonated polyacrylamide/chromium triacetate hydrogels for water shutoff. *Thirteenth Iranian National Chemical Engineering Congress and First International Regional Chemical and Petroleum Engineering Conference*, Razi University, Kermanshah, Iran, 25-28 October, 2010.
- Gholami H., Vafaie Sefti M., Mousavi A., Zargari S., Dadvand Koochi A., Degelation of Cr^{+3} – Polyacrylamide Gel by Complexing Agents. *Thirteenth Iranian National Chemical Engineering Congress and First International Regional Chemical and Petroleum Engineering Conference*, Razi University, Kermanshah, Iran, 25-28 October, 2010.

Vafaie Sefti M., Hosseini Nasab M., Izadpanah A., Zare M. Measurement of equilibrium data and estimation of methane hydrate conditions in the presence. *Thirteenth Iranian National Chemical Engineering Congress and First International Regional Chemical and Petroleum Engineering Conference*, Razi University, Kermanshah, Iran, 25-28 October, 2010.

Vafaie Sefti M., Hosseini Nasab M., Mohammadi A., Zare M. Prediction of hydrate formation pressure using Neuro- Fuzzy system and artificial neural network. *Thirteenth Iranian National Chemical Engineering Congress and First International Regional Chemical and Petroleum Engineering Conference*, Razi University, Kermanshah, Iran, 25-28 October, 2010.

Jarrahian, A., Vafaie Sefti, M., Study of wettability alteration mechanism using surface active substances in fractures carbonate reservoirs for the optimization of petroleum exploitation. *Proceedings of the Tenth Conference on Surface Active Substances Science and Innovation and Detergent Industry*, Ahwaz, Iran, 2010.

2009

Soruosh, S. Vafaie Sefti, M., Pourafshari, S., Fallhzadeh, P. (2009). Comparison of the effects of sweet and sour gas injection on asphaltene deposition levels in porous media from one oil reservoir in Iran. *First National Congress Up-Stream Oil Industry*, Ahwaz, Iran.

Vafaie Sefti M., Hosseini Nasab M., Izadpanah A. Application of adaptive neuro-fuzzy inference system for estimation of vapor + liquid equilibria of binary. *International Chemical Engineering Congress & Exhibition*, Kish Island, Iran, 16-20 November, 2009.

Vafaie Sefti M., Hosseini Nasab M., Parvizi B., Mohammadi A. A new approach using adaptive neuro fuzzy inference system for estimation of vapor liquid equilibria. *International Chemical Engineering Congress & Exhibition*, Kish Island, Iran, 16-20 November, 2009.

Vafaie Sefti M., Hosseini Nasab M., Talebi Zadeh M., Mohammadi A. Estimation of vapour liquid equilibria for the Sulfur Dioxide–difluoromethane system using. *International Chemical Engineering Congress & Exhibition*, Kish Island, Iran, 16-20 November, 2009.

Vafaie Sefti M., Saeedi Dehaghani A.H, Ameri A., Emami M. Application of a new association equation of state for prediction of asphaltenes and resins deposition. *International Chemical Engineering Congress & Exhibition*, Kish Island, Iran, 16-20 November, 2009.

Vafaie Sefti M., Saeedi Dehaghani A.H, Modeling of co-precipitation of resin and asphaltene in crude oil by new association equation of state. *International Chemical Engineering Congress & Exhibition*, Kish Island, Iran, 16-20 November, 2009.

Vafaie Sefti M., Simjoo M., Dadvand Koochi A., P. L. J. Zitha. Water Shot-Off in Fractured System Using a Robust Polymer Gel. Speech presented at the *SPE European Formation Damage Conference*, Scheveningen, Netherlands, 27-28 May, 2009.

Mirzai, B., Vafaie Sefti, M., Mousavi Dehghani, S. A. (2009). Modelling of asphaltene deposition in porous media. *Proceedings of the Second Applied CFD Conference in Chemical Industry*, Tehran, Iran.

Jarrahian, Kh., Vafaie Sefti, M., Naderi, H., Moghaddam, F. Evaluation of production optimization methods for extraction of heavy petroleum from fractured reservoirs. *First Iranian National Congress for Gas and Oil Exploration and Production*, Ahwaz, Iran, 15-16 April, 2009.

Saidi Dehghani, A. H., Vafaie Sefti, M. Calculation of Asphaltene-resin deposition with a new association equation of state. *First Iranian National Congress for Gas and Oil Exploration and Production*, Ahwaz, Iran, 15-16 April, 2009.

Jarrahian, Kh., Vafaie Sefti, M., Naderi, H., Moghaddam, F. Calculation of asphaltene-resin deposition in heavy oil reservoirs using a mathematical model. *First International Petroleum Conference & Exhibition*, Shiraz, Iran, 4-6 May, 2009.

Dadvand Koochi A., Vafaie Sefti M., Zarrin Ghalam A., Mousavi A. Zanjani S., (2009). Experimental Study of Sulfonated Polyacrylamide/Chromium Triacetate Hydrogels for Water Shutoff in fractured reservoirs. *First International Petroleum Conference & Exhibition*, Shiraz, Iran, 4-6 May, 2009.

2008

- Dadvand-Koochi, A., Simjoo, M., Vafaie-Sefti, M., Naderi, H., & Rafiipour, M. (January, 2008). Investigation of Gel Rheology Used for Water-shut off Treatment. *The Fifth International Chemical Engineering Congress (ICHEC)*, Kish Island, I. R. Iran.
- Simjoo, M., Vafaie-Sefti, M., Dadvand-Kuhi, A., Salimi, F., & Amjadian, A. (Jan, 2008). Use of Polyacrylamide Polymer Gel for Conformance Control in Ahwaz –Asmeri Reservoir Conditions. *The Fifth International Chemical Engineering Congress (ICHEC)*, Kish Island, I. R. Iran.
- Rafipoor, M., Vafaie Sefti, M., Salimi, F., & Rabii, A. Investigation of rheological properties of polymer gels based on polyacrylamide in movement conditions. *Twelve National Iranian Chemical Engineering Congress*, I. R. Iran, 21-24 October, 2008.
- Vafaie Sefti M., Ameri A.(2008). Development and comparison of SVM, ANN and NF models in prediction of minimum misibility. *Eighteen International Congress of Chemical and Process Engineering*, Prague, Chechoslovakia.
- Dadvand Koochi, A., Vafaie Sefti, M., Zarrin Ghalam, A., Simjoo, M. (2008). Experimental investigation using polyacrylamide/statchrom III gel polymer for decreasing water permeability in one condition of one Iranian reservoir. *Tenth National Petroleum Engineering Congress*, Ahwaz, Iran.
- Jarrahian, Kh., Vafaie-Sefti, M., Ayatollahi, M., Naderi, H., & Masrur, A. R. Performance of Oil recovery from Partially Natural Fractured Reservoirs by Capillary Inhibition. *First National Iranian Congress on Development of Fractured Reservoirs and Future Challenges*, Ahwaz, IR Iran, 3-4 December, 2008.
- Mousavi-Moghadam, A., Sajjadian, A., Zanjani-Sabet, S., Vafaie-Sefti, M., Naderi, H., & Dadvand-Kuhi, A. Investigation of Gelation Rate and Mechanical Strength of the Gels Used in Water Shut-Off. *First National Iranian Congress on Development of Fractured Reservoirs and Future Challenges*, Ahwaz, IR Iran, 3-4 December, 2008.
- Alavi, M., Vafaie-Sefti, M., Mousavi-Dehghani, S.A., & Soroosh, S. Equation of State Accuracy Prediction of Natural Gas Volumetric Behavior in High Pressure. *Twelve National Iranian Chemical Engineering Congress*, I. R. Iran, 21-24 October, 2008.
- Sadeqh pour Salamat, H., Varaminian, F., & Vafaie-Sefti, M. (Oct. 22, 2008). Applicability of Low Pressure Experimental Data for Synectic Formation of Methane Hydrate at High Pressure. *Twelve National Iranian Chemical Engineering Congress*, Tabriz, I. R. Iran.
- Masood, Sh., Vafaie-Sefti, M. (Oct. 22, 2008). Investigation of Parafin Crystals' of Petrolelum Flow in Cold Pipes. Structure. *Twelve National Iranian Chemical Engineering Congress*, Tabriz, I. R. Iran.
- Dadvand-Koochi, A., Zarringhalam-Moghadam, A. S., Vafaie-Sefti, M., Mousavi-Dehghani, S.A., & Zanjani Sabet, S. (Oct. 22, 2008). Use of Rheological Properties for Quatitative Study of Gel Resistance Used in Water Shut-off Operations. *Twelve National Iranian Chemical Engineering Congress*, Tabriz, I. R. Iran.
- Salimi, F., Vafaie-Sefti, M., Razaghi-Kashani, M., Rafipoor, M. & Amjadian, A. (Oct. 22, 2008). Manufacturing Nano-Composite Gel Based on Polyacrylamide and Investigation of Its Properties in on Reservoir Conditions. *Twelve National Iranian Chemical Engineering Congress*, Sahand Industrial University, Tabriz, I R Iran, 21-24 October, 2008.
- Saidi-Dehghani, A. H., Vafaie-Sefti, M. (Oct. 21-24, 2008). Modeling Resin along with Asphaltene Precipitation Using Association Equation of State. *Twelve National Iranian Chemical Engineering Congress*, Tabriz, I. R. Iran.
- Saidi-Dehghani, A. H., Vafaie-Sefti, M., (Oct. 21-24, 2008). Computation of Asphaltene-Resin Deposition using Association Equation of State and SRK EOS. *Twelve National Iranian Chemical Engineering Congress*, Tabriz, I. R. Iran.

Rafipour, M., Vafaie-Sefti, M., Salimi, F., & Rabii, A. (Oct. 21-24, 2008). Investigation of Viscoelastic Gel Polymer Based on Polyacrylamide in Rotational Mode. *Twelve National Iranian Chemical Engineering Congress, Twelve National Iranian Chemical Engineering Congress*, Sahand Industrial University, Tabriz, I R Iran, 21- 24 October, 2008.

Ameri Ghasrodashti, A., Vafaie-Sefti, M., Mousavi-Dehghani, S.A.. Calculation of Mini Miscibility Pressure Using a Multiple Mixing Cell Model . *Twelve National Iranian Chemical Engineering Congress*, Sahand Industrial University, Tabriz, I R Iran, 21-24 October, 2008.

2007

Vafaie Sefti M., Dadvand Koohi A., Zarrin Ghalam A., Naderi H. A review on use of polymer gels in water shut off operations. *Proceedings of the Second National Iranian Petroleum Engineering Congress*, Ahwaz, Iran, 30-31 January, 2007.

Vafaie Sefti M., Ameri Ghasrodashti A, Mousavi Dehghani S.A. Development of an adaptive neuro fuzzy based model for prediction of minimum miscibility pressure. *Proceedings of the Second National Iranian Petroleum Engineering Congress*, Ahwaz, Iran, 30-31 January, 2007.

Vafaie Sefti M., Ameri Ghasrodashti A, Mousavi Dehghani S.A. Minimum miscibility pressure prediction using support vectormachines. *Proceedings of the Second National Iranian Petroleum Engineering Congress*, Ahwaz, Iran, 30-31 January, 2007.

Javidnia, A., Vafaie-Sefti, M., Izadpanah, A.A. & Varaminian, F. (Oct. 10, 2007). Equilibrium Data and Thermodynamic Modeling in Hydrate Formation Conditions for Deoxydecarbon and the Mixture of Deoxydecarbon and Methane at the presence of Methanol. *First Specialized Thermodynamics Congress*, Isfahan, I. R.Iran.

Vafaie-Sefti, M. Soroosh, S. & Noori-Asl, P. (Oct. 10, 2007). Prediction of the Amount of Wax Precipitation by Using Non-Classic Rules. *First Specialized Thermodynamics Congress*, Isfahan, I. R. Iran.

Vafaie-Sefti, M. Soroosh, S. & Masoudi, S. (Oct. 10, 2007). Prediction of the Amount of Wax Precipitation by Using Non-Classic Rules. *First Specialized Thermodynamics Congress*, Isfahan, I. R. Iran.

Simjoo, M., Vafaie-Sefti, M., Dadvand-Kuhi, A., Rabii, A., & Darvishi, M. M. (2007). Investigation of Polyacrylamide Gel Polymer as Water Shot-off System in One the Iranian Oil Reservoir's Conditions. *International Seminar on Polymer Science and Technology*, Tehran, I. R. Iran.

Vafaie-Sefti, M., Soroosh, S., & Masoodi, R. (Oct. 10, 2007). Modeling of Asphaltene Deposition based on SRK Equation of State and Studying the Effects of Gas Injection. *First Specialized Thermodynamics Congress*, Isfahan, I. R. Iran.

Vafaie-Sefti, M., Mehdizadeh, H., & Mousavi-Dehghani, S. A. (2007). Prediction of Wax Precipitation Using Solid Equation of State. *European Congress of Chemical Engineering*, Norway.

2006

Vafaie-Sefti, M., Naderi, H., Baghban-Salehi, M., & Hasheminasab-Zavare, S. R. (Nov. 28, 2006). Gel polymer and decreases in uneven permeability. *Paper presented at the 11th National Iranian Chemistry Congress*, Tehran, I. R. Iran.

Mirzai, B., Vafaie-Sefti, M., Fasih, M., & Mousavi-Dehghani, S. A. (Nov. 28, 2006). Asphaltene deposition in porous media during gas injection. *Paper presented at the 11th National Iranian Chemistry Congress*, Tehran, I. R. Iran.

Hasheminasab-Zavare, S. R., Vafaie-Sefti, M., & Naderi, H. (Nov. 28, 2006). Experimental investigation of wax deposition and study of the effects of various parameters in wax deposition formation. *Paper presented at the 11th National Iranian Chemistry Congress*, Tehran, I. R. Iran.

Emami-Meibodi, M., Mazlumi, S. H., & Vafaie-Sefti, M. (Nov. 28, 2006). Improvement of associative equation of state with real critical properties. *Paper presented at the 11th National Iranian Chemistry Congress*, Tehran, I. R. Iran.

- Izadpanah, A. A., Vafaie-Sefti, M., & Varaminian, F. (Nov. 28, 2006). Experimental investigation and modeling of the synetics of hydrate methane formation in a constant volume process based on a natural hermodynamic path in the synetics of chemical waxes. *Paper presented at the 11th National Iranian Chemistry Congress*, Tehran, I. R. Iran.
- Vafaie-Sefti, M. & Saidi, A. H. (Nov. 28, 2006). Elimination of asphaltene deposition through Ultrasonic Cavitation Method. *Paper presented at the 11th National Iranian Chemistry Congress*, Tehran, I. R. Iran.
- Vafaie-Sefti, M., Dadvand-Kuhi, A., & Naderi, H. (Nov. 28, 2006). Modeling and study of the water conning phenomenon in fractured reservoirs. *Paper presented at the 11th National Iranian Chemistry Congress*, Tehran, I. R. Iran.
- Vafaie-Sefti, M., Hasheminasab-Zavare, S.R., Simju, M., Dadvand-Kuhi, A., & Hassani, A. (Nov. 28, 2006). Investigation of physical and chemical performance of polyacrylamide gel polymer for Iranian oil reservoir conditions. *Paper presented at the 11th National Iranian Chemistry Congress*, Tehran, I. R.Iran.
- Sajjanian, V. A., Simjoo, M., Vafaie-Sefti, M. Hasheminasab-Zavare, S. R., & Naderi, H. (Nov. 28, 2006). Experimental study of gel polymer treatment for water shut-off in producing wells of Iranian oil reservoir (Ahvaz-Asemari). *Paper presented at the 11th National Iranian Chemistry Congress*, Tehran, I. R. Iran.
- Joda, M., Vafaie-Sefti, M., & Ostadru, M. (Sept. 31, 2006). New generalized alpha function for Patel-Teja CEOS. *Paper presented at the 16th International Thermophysics Symposium*, Colorado, United States of America.
- Vafaie-Sefti, M., Varaminian, F., Izadpanah, A. A., & Javidnia, A. (Nov. 2006). Equilibrium data for hydrate formation conditions for CO₂ and Methane and CO₂ mixture in the presence of Methanol. *First National Iranian Specialized Gas Conference*, Tehran, I. R. Iran.
- Vafaie-Sefti, M., Mousavi-Deghani, S. A., & Mehdizadeh, H. (May 30, 2006). Investigating the conditions for wax formation with solid phase EOS. *First Iranian Petroleum Engineering Congress*, Tehran, I. R. Iran.
- Sajjadian, V. A., Hasheminasab-Zavare, S. R., Vafaie-Sefti, M. & Naderi, H. (May 30, 2006). Experimental study of gel polymer effectiveness in blocking water generation in production wells. *First Iranian Petroleum Engineering Congress*, Tehran, I. R. Iran.
- Naderi, H., Vafaie-Sefti, M., Hasheminasab-Zavare, S. R., & Sajjadian, V. A. (May 30, 2006). Experimental investigation of related parameters in wax deposition in pipelines. *First Iranian Petroleum Engineering Congress*, Tehran, I. R. Iran.
- Vafaie-Sefti, M., Baghban-Salehi, M., Naderi, H., & Hasheminasab-Zavare, S. R. (May 30, 2006). Modeling and study of gel movement and its effects on porous conditions. *First Iranian Petroleum Engineering Congress*, Tehran, I. R. Iran.
- 2005
- Soroush, S., M. Vafaie Sefti, R. Masoudi, A. Aftabi. Different Models of Asphaltene Precipitation, *The 4th Iranian Petroleum Engineering Student Conference*, Ahwaz, Iran, 6-8 December, 2005.
- Soroush, S., M. Vafaie Sefti. Measurement and Prediction of Asphaltene Precipitation. *The 10th Iranian National Congress of Chemical Engineering*, Tehran, Iran, 15-17 November, 2005.
- Vafaie-Sefti, M. & Dadvand-Kuhi, A. (Nov. 15, 2005). Modeling liquid mixtures surface tension calculation based on NRTL EOS. *Tenth National Iranian Chemical Engineering Congress*, Zahedan, I. R. Iran.

- Safavi, M. S., Vafaie-Sefti, M., Gilav, A. (Nov. 15, 2005). Studying the effects of miscible gas injection on asphaltene deposition in reservoirs. *Tenth National Iranian Chemical Engineering Congress, Zahedan, I. R. Iran.*
- Vafaie-Sefti, M., Modares, H., Emami-Meibodi, M., & Mousavi-Deghani, S. A., & (Nov. 15, 2005). Application of AEOS in the prevention of asphaltene deposition in oil wells. *Tenth National Iranian Chemical Engineering Congress, Zahedan, I. R. Iran.*
- Vafaie-Sefti, M., Naderi, H., Tavallali, M. & Mirzai, B. (Nov. 15, 2005). Modeling gravitational pouring in fractured reservoirs assuming Stack blocks. *Tenth National Iranian Chemical Engineering Congress, Zahedan, I. R. Iran.*
- Vafaie-Sefti, M., Naderi, H., Tavallali, M. & Mirzai, B. (Nov. 15, 2005). Investigation of the effects of film flow on gravitational pouring in fractured reservoirs assuming Stack blocks. *Tenth National Iranian Chemical Engineering Congress, Zahedan, I. R. Iran.*
- Sorush, S. & Vafaie-Sefti, M. (Nov. 15, 2005). Measurement and prediction of amounts of asphaltene deposition from dead oil. *Tenth National Iranian Chemical Engineering Congress, Zahedan, I. R. Iran.*
- Izadpanah, A. A., Vafaie-Sefti, M., Varaminian, F. (Nov. 15, 2005). Flash calculation for multi-phase, multi-component systems containing gas hydrate. *Tenth National Iranian Chemical Engineering Congress, Zahedan, I. R. Iran.*
- Nafisi, F., Izadpanah, A. A., Varaminian, F. & Vafaie-Sefti, M. (Nov. 15, 2005). Experimental investigation of the synetics of hydrate-propane formation in constant volume. *Tenth National Iranian Chemical Engineering Congress, Zahedan, I. R. Iran.*
- Mousavi-Deghani, S. A. & Vafaie-Sefti, M. (April, 4, 2005). Covolume-dependent mixing rule with Heyen Equation of State for predicting solubility of solids in supercritical fluids. *Paper presented at the Thermodynamics and Statistical Mechanics with Industrial Applications Conference, Sasimbra, Portugal.*
- Vafaie-Sefti, M. & Naderi, H. (Jan. 25, 2005). Hydrodynamic model for prediction of oil recovery in polymer flooding. *Thirteenth Oil, Gas & Petrochemical Congress, Tehran, I. R. Iran.*
- Vafaie-Sefti, M. (Jan. 25, 2005). Modeling of heavy oil recovery by steam injection. *Thirteenth Oil, Gas & Petrochemical Congress, Tehran, I. R. Iran.*
- 2004
- Vafaie-Sefti, M. (Oct. 22, 2004). Primary depletion and miscible gas injection effects on asphaltene stability in petroleum reservoir fluids. *Nineth Iranian National Chemical Engineering Congress, Tehran, I. R. Iran.*
- Vafaie-Sefti, M., Modares, H., Emami-Meibodi, M., Mousavi-Deghani, S. A. (Oct. 22, 2004). Modeling and development of Association equation of state (AEOS) for pure component substances. *Nineth Iranian National Chemical Engineering Congress, Tehran, I. R. Iran.*
- Motalebinezhad, A. R., Vafaie-Sefti, M. & Naderi, H. (Oct. 22, 2004). Modeling of miscible displacement in porous media. *Nineth Iranian National Chemical Engineering Congress, Tehran, I. R. Iran.*
- Vafaie-Sefti, M., Mousavi-Deghani, S. A., & Mansoori, Gh. A. (Oct. 22, 2004). Compositional modeing of asphaltene deposition in petroleum reservoirs *Nineth Iranian National Chemical Engineering Congress, Tehran, I. R. Iran.*

- Vafaie-Sefti, M., Fasih, M., & Mirzai, B. (Oct. 22, 2004). A simple method for predicting optimal flow from oil reservoirs. *Nineth Iranian National Chemical Engineering Congress*, Tehran, I. R. Iran.
- Motalebinezhad, A. R., Vafaie-Sefti, M. & Naderi, H. (Oct. 22, 2004). Determination of Minimum Miscible Pressure (MMP) by analytical method. *Nineth Iranian National Chemical Engineering Congress*, Tehran, I. R. Iran.
- Vafaie-Sefti, M. & Tavalali, M. (Oct. 22, 2004). Studying and Modeling gravitational pouring in natural fractured reservoirs. *Nineth Iranian National Chemical Engineering Congress*, Tehran, I. R. Iran.
- Vafaie-Sefti, M., Fasih, M. & Naderi, H. (Oct. 22, 2004). General analytical methods for improving EOS in critical region by adding corrective parameters. *Nineth Iranian National Chemical Engineering Congress*, Tehran, I. R. Iran.
- Vafaie-Sefti, M., Mousavi-Dehghani, S.A., & Mansoori, G.A. (1383/2004). Experimental investigation of gas injection and pressure effect. Paper to be presented at the IAD/SPE Asia Pacific Frilling Technology Conference (APDT). Kuala Lumpur, Malaysia, 13-15 September, 2004.

2003

- Vafaie-Sefti, M., Joda, M., Izadpanah, A.A., Babaloo, A.A. (2003). Development and application of an improved Patel and Teja cubic equation of state by proposing proper alpha function. *7th National Iranian Chemical Engineering*, 28-29 October, Faculty of Technology, Tehran University, Tehran, I R Iran, 1381.
- Vafaie-Sefti, M., Korram, M., Esmaili, M., Motaleby-Nezhad, A.R., & Heidari, Sh. (2003). Development and application of Usdin-McAuliffe equation of state by proposing proper alpha and beta functions. *7th National Iranian Chemical Engineering*, 28-29 October, Faculty of Technology, Tehran University, Tehran, I R Iran, 1381.
- Milani, S.M., Vafaie-Sefti, M., Mofarahi, M., Izadpanah, A.A., & Kheirani, A. (2003). Development and application of an improved Heyen equation of state with volume translation term. *7th National Iranian Chemical Engineering*, 28-29 October, Faculty of Technology, Tehran University, Tehran, I R Iran, 1381.
- Vafaie-Sefti, M., (2003). Modeling of asphaltene deposition in petroleum mixtures (A simple association model). *7th National Iranian Chemical Engineering*, 28-29 October, Faculty of Technology, Tehran University, Tehran, I R Iran, 1381.
- Vafaie-Sefti, M. & Motalebinezhad, A. R. (Oct. 23, 2003). Multiphase modeling of hydrate formation in natural gas pipelines. *Eighth Iranian National Chemical Engineering Congress*, Mashad, I. R. Iran.
- Vafaie-Sefti, M., & Sheikh Zadeh, M. (1382/2003). Thermodynamic model for prediction of asphaltene precipitation in underground oil reservoirs. *Eighth Iranian National of Congress of Chemical Engineering*, Mehr 28-Aban 2, Mashad, I R Iran.
- Vafaie-Sefti, M., Heidari, Sh., & Dorosti, S. (1382/2003). Study and modeling of two-phase flow in pipelines in unsteady state conditions. *Eighth Iranian National of Congress of Chemical Engineering*, Mehr 28-Aban 2, Mashad, I R Iran.
- Vafaie-Sefti, M., Tafvizi, A., & Izadpanah, A.A. (1382/2003). A new method for correction of Vafaie-Erbar's improved method for Heyen equation in order to further improve prediction of thermodynamic properties. *Eighth Iranian National of Congress of Chemical Engineering*, Mehr 28- Aban 2, Mashad, I R Iran.

Vafaie-Sefti, M., Tavalloli, M., Ismaeli, M., & Heidari, Sh. (1382/2003). Development and application of Trebble-Bishoi by proposing proper alpha and beta functions. *Eighth Iranian National of Congress of Chemical Engineering*, Mehr 28- Aban 2, Mashad, I R Iran.

Vafaie-Sefti, M., Heidari, Sh., & Dorosti, S. (1382/2003). Modeling gas mixtures phase behavior near critical point and using Wang-Sandler mixing rules and stock activity coefficient. *Eighth Iranian National of Congress of Chemical Engineering*, Mehr 28- Aban 2, Mashad, I R Iran.

2002

Vafaie-Sefti, M., Mohammad-Zadeh Bahar, M., & Mirzai, B. (1381/2002). The effect of pressure on gas mixtures near critical point. *12th Oil & Gas and Petrochemical Congress*, Esfand, Tehran, I R Iran.

Vafaie-Sefti, M., Mohammad-Zadeh Bahar, M., & Mirzai, B., Izadpanah, A. A. (1381/2002). Modeling gas phase behavior near critical. *7th National Iranian Chemical Engineering*, 28-29 October, Faculty of Technology, Tehran University, Tehran, I R Iran, 1381.

Vafaie-Sefti, M., Nezhad-Kord, M.T., & Mirzai, B. (1381/2002). Study of instant flash calculation in multi-phase systems. *7th National Iranian Chemical Engineering*, 6-9 Aban, Faculty of Technology, Tehran University, Tehran, I R Iran, 1381.

Milani, S.M., Vafaie-Sefti, M., Vatani, A., Abbaspour, D. (1381/2002). Improvement of in-out algorithm using Unifac group contribution coefficients of *7th National Iranian Chemical Engineering*, 28-29 October, Faculty of Technology, Tehran University, Tehran, I R Iran, 1381.

Alai, J., Vafaie-Sefti, M., Emadi, M.A., & Tajerian, M. (2002). VLE equilibrium data for Methan-Heptane two component systems *7th National Iranian Chemical Engineering*, 28-29 October, Faculty of Technology, Tehran University, Tehran, I R Iran, 1381.

Mousavi-Dehghani, S.A., Vafaie-Sefti, M., Mansoori, G.A., & Fasih, M. (2002). Empirical investigation of the effects of pressure change in asphaltene solvation in Iranian oil reservoirs. *7th National Iranian Chemical Engineering*, 28-29 October, Faculty of Technology, Tehran University, Tehran, I R Iran, 1381.

Vafaie-Sefti, M., & Nezhad-Kord, M.T. (2002). Study and comparison of heavy cut splitting models in hydrocarbon and introducing the most suitable splitting model for C_{n+} . *7th National Iranian Chemical Engineering*, 28-29 October, Faculty of Technology, Tehran University, Tehran, I R Iran, 1381.

Haghtalab, A., Vafaie-Sefti, M., & Nezhad-Kord, M.T. (2002). Generalization of Whitson's model for splitting hydrocarbon heavy cuts. *7th National Iranian Chemical Engineering*, 28-29 October, Faculty of Technology, Tehran University, Tehran, I R Iran, 1381.

Haghtalab, A., Vafaie-Sefti, M., & Nezhad-Kord, M.T. (2002). Proposing a thermodynamic model for calculation of the amount of precipitated wax using non-classic mixing rules. *7th National Iranian Chemical Engineering*, 28-29 October, Faculty of Technology, Tehran University, Tehran, I R Iran, 1381.

Vafaie-Sefti, M., Osfoury, S., Izadpanah, A.A., Dorosti, S., Rami, Kh. (1381/2002). Development and application of an improved Harmens and Knapp equation of state with generalized alpha and beta functions. *7th National Iranian Chemical Engineering*, 28-29 October, Faculty of Technology, Tehran University, Tehran, I R Iran, 1381.

2001

Vafaie-Sefti, M., Moini, H. (2001). Modeling water vapor injection in heavy oil reservoirs. 11th Oil & Gas and Petrochemical Congress, Tehran, I R Iran.

Mokhatab, S., Vafaie, M., Vatani, A. (2001). Modeling and simulation of operational pipelines of three-phase gas transfer. *Sixth National Chemical Engineering Congress*, Ordibehesht, Isfahan, I. R. Iran.

2000

Vafaie, M., Mohammad Zadeh, B. Zaman, N. (2000). Simulation computer program for enhanced oil recovery through polymer flooding. *Fifth National and Fourth International Chemical Engineering Congress*, April 24-27, Shiraz, I. R. Iran.

Vafaie, M., Izadpanah, A. A., Salehizadeh, H., Fatemi, S. S., Navai, K. (2000). Modification of a cubic equation of state and development of a generalized alpha and beta functions. *Fifth National and Fourth International Chemical Engineering Congress*, April 24-27, Shiraz, I. R. Iran.

Vafaie, M., Mofarrah, M. (2000). A new mixing rule with Heyen Equation of State for predicting solubility of solids in supercritical fluid. *Fifth National and Fourth International Chemical Engineering Congress*, April 24-27, Shiraz, I. R. Iran.

Vafaie, M., Fatemi, S. A., Izadpanah, A. A. (2000). A modification of Twu-Coon-Cunningham equation of state by prediction of a proper temperature dependent term of Beta function. *Fifth National and Fourth International Chemical Engineering Congress*, April 24-27, Shiraz, I. R. Iran.

Vafaie, M., Babalou, A. A., Izadpanah, A. A. (2000). A modification of Palel and Teja cubic equation of state by proposing a proper alpha and beta functions. *Fifth National and Fourth International Chemical Engineering Congress*, April 24-27, Shiraz, I. R. Iran.

Vafaie, M., Khalilzadeh, R., Fatemi, S. A. (2000). Modification of the Trebble-Bishnoi cubic equation of state by using proper alpha and beta functions. *Fifth National and Fourth International Chemical Engineering Congress*, April 24-27, Shiraz, I. R. Iran.

Mehrabi, R., Vafaie, M. (2000). Modification of Schmidt-Wenzel equation of state by proposing proper alpha and beta functions. *Fifth National and Fourth International Chemical Engineering Congress*, April 24-27, Shiraz, I. R. Iran.

1999

Vafaie, M., Milani, S. M. M., Afchangui, A. A. (1999). Prediction of hydrate formation conditions in gas transferring pipelines. *Thirteenth Chemistry and Chemical Engineering Congress*, Feb. 16-18, Tehran.

Vafaie, M., Yazdankia, A. M., Niazi, M. (1999). Liquid hold-up behavior in gas-liquid two phase flow in transient condition. *Thirteenth Chemistry and Chemical Engineering Congress*, Feb. 16-18, Tehran.

Vafaie, M., Akbari-Derakhshi, R. (1999). Design calculation for multicomponent by CNDM. *Thirteenth Chemistry and Chemical Engineering Congress*, Feb. 16-18, Tehran.

Muosavi, S. A., Vafaie, M., Mohammad Zadeh, M. (1999). Prediction of phase equilibria with the application of a new alpha model in Heyen EOS. *Thirteenth Chemistry and Chemical Engineering Congress*, Feb. 16-18, Tehran.

- Vafaie, M., Izadpanah, A. A., Mohammad Zadeh, M. (1999). Prediction of phase equilibria with the application of a new alpha model in Heyen EOS. *Thirteenth Chemistry and Chemical Engineering Congress*, Feb. 16-18, Tehran.
- Mousavi, S. A., Vafaie, M., Mohammad Zadeh, M. (1999). A new model for solving the modeling of multisolid phase for predicting the temperature in oil mixtures. *Thirteenth Chemistry and Chemical Engineering Congress*, Feb. 16-18, Tehran.
- Vafaie, M., Izadpanah, A. A., Mohammad Zadeh, M. (1999). Improvement of Heyen EOS with a better model for alpha function. *Ninth Gas, Oil and Petrochemical Congress*, Sept. 14-16, Tehran, I. R. Iran.
- Vafaie, M., Mohammad Zadeh, M., Muosavi, S. A., (1999). Development of a thermodynamic computerized model for prediction of solid wax formation. *Ninth Gas, Oil and Petrochemical Congress*, Sept. 14-16, Tehran, I. R. Iran.
- Vafaie, M., Mohammad Zadeh, M., Dalvand, D., Emadi, M. A. (1378/1999). Comparative study of different types of inhibitors in natural gas hydrate formation inhibition. *Ninth Gas, Oil and Petrochemical Congress*, Sept. 14-16, Tehran, I. R. Iran.
- Vafaie, M., Muosavi, S. A., Mohammad Zadeh, M. (1999). Prediction of solid wax temperature precipitation and its amount in oil compositions and study the effect of pressure and oil composition on solid wax precipitation temperature. *Fourth Chemical Engineering Congress*, March 6-9, Tehran, I. R. Iran.
- Vafaie, M., Yazdankia, A. M., Niazi, M. (1999). Modelling and simulation of transient two-phase flow of gas-liquid in pipelines. *Fourth Chemical Engineering Congress*, March 6-9, Tehran, I. R. Iran.
- Vafaie, M., Ghotbi, S., Akbari-Derakhshi, R. (1999). Modelling calculational design for multi-component distillation. *Fourth Chemical Engineering Congress*, March 6-9, Tehran, I. R. Iran.
- Beheshti, M., Vafaie, M. (1999). Modelling phase equilibria for two and three phases containing water. *Fourth Chemical Engineering Congress*, March 6-9, Tehran, I. R. Iran.
- Vafaie, M., Izadpanah, A. A., Mohammad Zadeh, M. (1999). Improvement of Heyen EOS with a better model for alpha function. *Fourth Chemical Engineering Congress*, March 6-9, Tehran, I. R. Iran.

1998-97

- Alai, J., Emadi, M. A., Vafaie, M. (1998). High pressure VLE of Methane-Heptane system. *Thirteenth International Congress of Chemical and Process Engineering (CHISA)*, August 23-28, Praha, Csech Republic.
- Vafaie, M. and Mohammad Zadeh, M. (1997) Studying and Modelling Phase Behavior of Fluids in Retrograde Gas Reservoirs. Paper accepted for presentation at the *IASTED International Conference MODELLING, IDENTIFICATION AND CONTROL*, Innsbruck, Austria, February 17-19.
- Vafaie, M., Milani, S. M. M., Yazdankia, A. M. (1997). A model for designing two-phase flow transferring pipes. *Third National Chemical Engineering Congress*, (Feb.-March) Esfand 17-19, Ahwaz, I. R. Iran.
- Vafaie, M., Mousavi, S. A., Mohammad Zadeh, M. (1997). Presentation of a new thermodynamic model for prediction of solid wax temperature in oil compositions. *Third National Chemical Engineering Congress*, (Feb.-March) Esfand 17-19, Ahwaz, I. R. Iran.

1996

- Vafaie, M. (1996). "Study of Retrograde Condensation in the Main Exit Gas transferring Pipeline of Vali Asr (A.S.) Gas Refinery. Paper presented at the *IASTED International Conference MODELLING, SIMULATION AND OPTIMIZATION*, Gold Coast, Australia, May 6-9.
- Vafaie, M. (1996). "Improvement of Liquid Phase Density Prediction in Peng-Robinson EOS". Paper presented at the *IASTED International Conference MODELLING, SIMULATION AND OPTIMIZATION*, Gold Coast, Australia, May 6-9.
- Vafaie, M. (1996) "Prediction of thermodynamic properties of fluids and phase equilibria through modeling and developing and modification of Heyen equation of state". Paper presented at the *IASTED International Conference MODELLING, IDENTIFICATION AND CONTROL*, Innsbruck, Austria, February 19-22.
- Naderi, M.S.; Vafaie, M. and Mohammad Zadeh, M. (1996) "Modelling the effects of distribution function on behavior of gas oil fluids". *Proceedings of the 2nd National Iranian Chemical Engineering Congress*, Tehran, I. R. Iran.
- Vafaie, M. (1996) "Modelling phase equilibria through a new alpha model". *Proceedings of the 11th Iranian Chemistry & Chemical Engineering Congress*, Tehran, I. R. Iran.
- Naderi, M.S.; Vafaie, M. and Mohammad Zadeh, M. (1996) "Modelling the effects of distribution function on behavior of gas oil fluids". *Proceedings of the 11th Iranian Chemistry & Chemical Engineering Congress*, Tehran.
- Mohammadzadeh-Bahar M.; Vafaie, M. and Naderi, M.S. (1996). A new correlation for estimation of bubble-point pressure for Middle East crude oils. *Proceedings of the 11th Iranian Chemistry & Chemical Engineering Congress*, Tehran.
- Vafaie, M.; Mohammad Zadeh, M. and Emmadi, M.A. (1996). Modelling of retrograde condensation gas reservoirs exploitation. *Proceedings of the 11th Iranian Chemistry & Chemical Engineering Congress*, Tehran.
- Alai, J.; Vafaie, M. and Emmadi, M.A. (1996). Determination of Interaction Coefficient in EOS's. *Proceedings of the 11th Iranian Chemistry & Chemical Engineering Congress*, Tehran.

1995

- Vafaie, M. and Heyen, G. (1995) ISOTHERMO SIMULATION PACKAGE.
Vafaie-Heyen Equation of State used world-wide in Isothermo simulation packages.
- Vafaie, M. (1995) Equation of State: Modeling, Development and Modification.
SimSci International Conference, January, 15-18, Dubai, UAE.
- Vafaie, M. (1995) "Study of Retrograde Condensation in the Main Exit Gas Transferring Pipeline of Vali Asr (A.S.) Refinery". *Technology Leadership, Simulation Solutions and Strategic Partnerships Conference*, Jan. 15-18, Dubai, UAE.

1994

- Vafaie, M.; Fasieh, M.; Mohammadzadeh, M. (1994) "The study of erosion in pipe and tubing retrograde gas condensate". *Proceedings of the Ninth National Chemistry and Chemical Engineering Congress*, Sept. 15-17, Tehran.
- Vafaie, M.; Davoodi, K.; Hurijani, Gh. (1994) "Study of retrograde condensation in the main exit gas transferring pipeline of Vali Asr (A.S.) Refinery". *Proceedings of the Ninth National Chemistry and Chemical Engineering Congress*, Sept. 15-17, Tehran, Iran.
- Naser, I. and Vafaie, M. (1994). Three-Phase equilibrium calculations for systems containing water (LLV). *Proceedings of the Ninth National Chemistry and Chemical Engineering Congress*, Sept. 15-17, Tehran.

Vafaie, M. and Nikzad, H. (1994). Computerized calculation of Thermophysical properties of materials, based on PRO/II. *Proceedings of the Ninth National Chemistry and Chemical Engineering Congress*, Sept. 15-17, Tehran, Iran.

Vafaie, M., Erbar, J. H., Maddox, R. N. & Wagner, J. (1994). Prediction of thermodynamic properties of fluids through modeling, development, and modification of Heyen Equation of State. *Proceedings of the Ninth National Chemistry and Chemical Engineering Congress*, Sept. 15-17, Tehran, Iran.

Vafaie, M. and Hurijani, Gh. (1994) "How the Problem of Natural Gas Transferring throughout Iran was Solved". Adv. Thermo.Seminar Series, Tarbiat Modares University.

Vafaie, M. and Nikzad, H. (1994) "PRO/II: Pioneering design work for Simulator Software". Adv. Thermo. Seminar Series, Tarbiat Modares University.

Vafaie, M. (1994) "How you can build your own EOS". Adv. Thermo. Seminar Series, Tarbiat Modares University.

1993

Vafaie, M. and Naser, I. (1993) "Determination of the First and Second Dew Points in Three-Phase Hydrocarbon Systems Containing Water". Paper presentation at the First International Congress of Chemistry and Chemical Engineering Shahid Beheshti University, Tehran, Iran.

Naser, I., Vafaie, M. (1993). Determination of first and second dew-points in three-phase systems containing water. *First International and Eighth National Congress of Chemistry and Chemical Engineering*, Sept. 1-3, Tehran, Iran.

1984

Vafaie, M. and Maddox, R.N. (1984) "The Use of Slip in Two-Phase Flow Calculations". Paper presented at the Pipeline Simulation Interest Group, Oct. 15-17, Chattanooga, Tennessee, USA.

PROFESSIONAL AWARDS / ACCOMPLISHMENTS

- ENNI Award Candidate 2009
- Best Applied Research Project of the Year Award, 1384/2005
- Outstanding Researcher of the Year of Tarbiat Modares University, 1385/2006
- Outstanding Researcher of the Year of Tarbiat Modares University, 1386-2007
- N.I.O.C. Fellow
- Gold Coin Award by the Minister of Agriculture of the I.R. Iran.
- Honored as One of the Founders of Tarbiat Modares University

HONORARY AND PROFESSIONAL ORGANIZATIONS

- Iranian Chemical Engineering Society
- Iranian Chemistry and Chemical Engineering Society
- Iranian Association of University Professors
- American Chemical Engineering Society (Invited Member)