

MUKUL M. SHARMA

Professor, "Tex" Moncrief Centennial Chair in
Petroleum, Geosystems and Chemical Engineering
University of Texas at Austin, Austin, TX 78712.
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EDUCATION

Ph.D., Petroleum Engineering, University of Southern California, 1985.
M.S., Chemical Engineering, University of Southern California, 1981.
B.S., Chemical Engineering, Indian Institute of Technology, 1980.

RESEARCH INTERESTS

- | | |
|---------------------------|---------------------------------|
| ✓ Hydraulic Fracturing | ✓ Surface and Colloid Chemistry |
| ✓ Flow in Porous Media | ✓ Formation Damage |
| ✓ Water / Waste Injection | ✓ Natural Gas Engineering |

EXPERIENCE

Professor, and "Tex" Moncrief Centennial Chair, University of Texas at Austin

(September 1995 to present)

Teaching and research work related to hydraulic fracturing, unconventional reservoirs, water management, formation damage, petrophysics and natural gas engineering.

Chairman, Department of Petroleum and Geosystems Engineering

(Sept. 2001 to August 2005)

Associate Professor, University of Texas at Austin

(September 1990 to Aug. 1995)

Assistant Professor, University of Texas at Austin

(September 1985 to Aug. 1990)

Research Engineer, Chevron Oilfield Research Company

(May to August 1984)

HONORS

- | | |
|---|--|
| ✓ Member, National Academy of Engineering | ✓ Sun E&P Centennial Fellowship, 1986-95 |
| ✓ SPE John Franklin Carll Award, 2017 | ✓ Billy and Claude Hocott Distinguished Engineering Research Award, 2010 |
| ✓ SPE Anthony F. Lucas Gold Medal, 2009 | ✓ Lester C. Uren Award, SPE, 2003 |
| ✓ SPE Distinguished Member, 2004 | ✓ SPE Formation Evaluation Award, 1998 |
| ✓ SPE Distinguished Lecturer, 2004 | ✓ Shell Oil Foundation Faculty Fellowship, 1985-88 |
| ✓ Editorial Review Board, SPE Journal, 1996-2000 | ✓ Associate Editor. The Log Analyst, 1992-95 |
| ✓ Review Chairman, Society of Petroleum Engrs., 1995-96 | ✓ SPWLA Education Foundation Award 1986. |
| ✓ Technical Editor, Society of Petroleum Engineers, 1992-95 | ✓ ARCO Foundation Doctoral Fellowship, 1983-85 |
| ✓ Martin Marietta Excellence in Teaching Award, 1996 | ✓ SPE Best PhD student paper, 1983. |
| ✓ Halliburton Foundation, Faculty Excellence Award, 1994 | ✓ Member, Pi Epsilon Tau and Sigma Xi |
| ✓ Engineering Foundation Faculty Leadership Award, 1987 | |

PUBLICATIONS

Refereed Publications: 174
Conference Proceedings: 256
Patents: 23

CURRENT RESEARCH SUPPORT

- | | |
|---|-----------------------|
| ✓ Total funded amount-personal share for past year: | \$ 2,400,000.00 |
| ✓ Total career research funding: | over \$ 30,000,000.00 |
- Supervise a research group of 25 research staff and graduate students (15 PhD, 3 MS and 7 research staff members) with support from private and government sponsors.

CURRENT PhD STUDENTS SUPERVISED

1. Shivam Agrawal
2. Murtadha Al Tamar
3. Deepen P. Gala
4. Sho Hirose
5. Emmanouil Karantinos
6. Ashish Kumar
7. Puneet Seth
8. Javid Shiryev
9. Kaustubh Shrivastava
10. Haotian Wang
11. Hanyi Wang

12. Chu-Hsiang Wu
13. Sophie Yi
14. Peng Zhang
15. Min Zhang (co-supervised Prodanovic)

CURRENT MS STUDENTS SUPERVISED

1. Connor Mulkay
2. Williams O. Ozowe
3. Shuang Zheng

- 58 PhD dissertations and 103 MS theses supervised to date; 6 are now faculty members at other Universities.

CURRENT FULL-TIME RESEARCH STAFF

1. Ripudaman Manchanda – Research Associate
2. Anand S. Nagoo – Research Associate
3. Jongsoo Hwang – Postdoctoral Fellow
4. Chong Hyun Ahn – Postdoctoral Fellow
5. Ajeetha Kamilla – Sr. Software Developer/Analyst
6. Rodney Russell – Engineering Research Associate
7. Jin Lee – Administrative Associate

CONSULTING

Shell
ConocoPhillips
Chevron
Petrobras
Occidental
ENI
Statoil
Halliburton
Sanchez Oil
Schlumberger
Baker-Hughes
Proctor and Gamble
United Nations

Kerr McGee
PDVSA
Husky Oil
Jones Energy
Newpark
Apache
Anadarko
Layline
Layton
Gunnison
Total
El Paso
Encana

Osprey
GERMI
CNPC
Sinopec
OMV
ONGC
Akzo
BHP
BP
Blackbrush
Repsol
Ecopetrol
YPF.

MS STUDENT SUPERVISIONS - COMPLETED

1. Ken Cowan (August 1987) "Fractal Dimension as a Petrophysical Parameter."
2. Anuj Gupta (August 1987) "A Model for Estimating Formation Damage in Hydrocarbon Reservoirs Containing Swelling Clays."
3. Ali Garrouch (August 1987) "The Effect of Wettability, Stress, and Temperature on the Saturation and Cementation Exponents of the Ardré Equation." (Co-supervised with H.F. Dunlap)
4. Sanjay Vitthal (December 1987) "A One Dimensional Formation Damage Simulator for Damage Due to Fines Migration." (Co-supervised with K. Sepehrnoori)
5. Shahryar Shirzadi (May 1988) "Visual Studies on the Effect of Two Phase Flow on Particle Transport in Porous Media."
6. Amit Sarkar (May 1988) "An Experimental Investigation of Fines Migration in Two Phase Flow."
7. Mike Lewis (May 1988) "The Effects of Stress and Wettability on the Electrical Properties of Rocks." (Co-supervised with M.H. Dorfman)
8. Wu Gang (August 1988) "Modeling Precipitation Dissolution Processes with Precipitate Migration." (Co-supervised with L.W. Lake)
9. John Stenson (August 1988) "A Petrophysical Model for Shaly Sands."
10. Joseph Menezes (August 1988) "The Alteration of Wettability due to Interaction with Oil-Based Drilling Fluids and Pure Surfactants."
11. Yi Mei Wang (August 1988) "A Three-Dimensional Network Model for Porous Media."
12. Fred Garver (December 1988) "The Competition for Chromium in a Berea Core between Xanthan Biopolymer and the Resident Clays." (Co-supervised with G.A. Pope)
13. Lei Zongming (December 1988) "A Model for Clay Filter Cakes."
14. David Aliaga (May 1989) "An Experimental Investigation of Precipitation Dissolution Processes with Precipitate Migration." (Co-supervised with L.W. Lake)
15. Minquan Jin (Aug. 1989) "A Model for Coupled Processes in Inhomogeneous Geological Processes."
16. David Tambe (December 1989) "Colloidal Particles at Fluid-Fluid Interfaces: Emulsion Stability and Multiphase Flow."
17. George Trussell (May 1990) "A Heuristic Classification Program to Diagnose and Recommend Treatment for Near Wellbore Production Problems."
18. Charles Holden (May 1990), (Co-supervised with K. Sepehrnoori)
19. Mohun Javalaghi (December 1990) "Electrical Resistivity of Hydrated Shales."
20. Jiao Di (May 1991) "Invasion of Mud Filtrates into Sandstone Cores."
21. George Williams (May 1991) "Statistical Analysis of FMS Data."
22. Subhayu Basu (August 1993) "Theory For Hydration Forces In Thin Films of Aqueous Electrolytes."
23. Adinathan Venkitaraman (May 1995) "Acoustic Removal of Near Wellbore Formation Damage."
24. Mustafa M. Erbil (August 1995) "The Role of Taylor Vortices in Drilling."
25. Edouard Wang (December 1996) "Mechanical Properties of Unconsolidated Sands and Their Impact on Frac-Pack Design."
26. Jinhua Liang (May 1997) "A Model for Fracturing Fluid Leakoff In High Permeability Formations."
27. Liv Fevang (May 1997) "Nuclear Magnetic Resonance Imaging of Biofilms and Bacterial Adhesion Studies."
28. Nasakul Siree (August 1997) "Use of Polymerizable Spreading Thin Films for Water Shutoff in Gas Wells."
29. Tarlochan Singh (December 1997) "Evaluation of Drill-In Fluid Induced Formation Damage in Unfractured and Fractured Reservoirs."
30. Zeno George Philip (December 1997) "A Theoretical and Experimental Study of the Role of Taylor Vortices in the Transport of Drill Cuttings."
31. Bimal Thomas (December 1997) "Formation Damage in Horizontal Wells."

32. Brian Hoskins (May 1998) "Nuclear Magnetic Resonance Imaging of Biofilms in an Open-Flow and Glass Bead-Packed Bioreactor."
33. Ganesh Narayanaswamy (August 1998) "Well Productivity of Gas Condensate Reservoirs."
34. Yea-Ling Ong (August 1998) "Atomic Force Microscopy Studies of Bacterial Adhesion."
35. Turid Winnberg (July 1999) "Formation Damage Due to Use of Silicate Water Based Mud in the Reservoir Section," Norwegian University of Science and Technology.
36. Zulfeffeli Zain (August 1999) "Cleanup of Wall-Building Filter Cakes."
37. Hamoud Al-Anazi (December 1999) "Evaluation of pH-Sensitive Polymer for Gravel Packing Operations."
38. Kumar Rajeev (August 2000) "Productivity Improvement of Gas-Condensate Wells by Fracturing."
39. Phani Bhushan Gadde (August 2000) "Growing Injection Well Fractures and Their Impact on Water Flood Performance."
40. Jake Walker (December 2000) "Laboratory Evaluation of Alcohols and Surfactants to Increase Production from Gas-Condensate Reservoirs."
41. Ajay Suri (December 2000) "A Model for Multi-Component Filtration."
42. Devinder Arora (December 2000) "The Nature of the Compacted Zone Around Perforation Tunnels."
43. Rana Roy (May 2001) "Factors Controlling the Flowback Behavior of Hydrocarbon Bearing Formation."
44. Shekhar Sinha (May 2001) "Modeling the Performance of Deviated and Multi-Lateral Wells."
45. Kathrin Ann Lewis (May 2001) "Laboratory NMR Study of Coal and Charcoal Samples for Formation Evaluation in Coalbed Methane Reservoirs."
46. Naeem Al-Shehri (August 2002) "Permeability Impairment due to Simulated Surge Flow in Underbalance Perforating."
47. Rakesh Rai (August 2003) "Parametric Study of Relative Permeability Effects on Gas-Condensate Core Floods and Wells."
48. Jae Hyuk Lee (May 2003) "Phase Equilibria in Systems Containing Hydrocarbon, Water and Methanol."
49. Duantem Pathanakitchakar (May 2003) "Evaluation of Asphaltic Coating Agents on Filtrate Invasion into Shale."
50. Olukayode Adegbulugbe (May 2003) "Value of Information: A Real Options Approach."
51. Bimal Parekh (May 2003) "Cleanup of Water-Blocks in Depleted Low-Permeability Reservoirs."
52. Nicholas Popp (August 2004) "Acoustic properties of shale with variant water activity."
53. Narayan Nair (December 2004) "Asphaltic Shale Coating Agents."
54. Emee Erbil (May 2005)
55. Hunter Graves (Aug. 2005) "Experimental Investigation of Condensate Blockage in High and Low Permeability Cores."
56. Vishal Bang (Aug 2005) "Phase Behavior Study of Hydrocarbon-Water-Alcohol Mixtures."
57. Jitendra Mohun (Dec. 2005) "Modeling of Gas Condensate Wells with and without Hydraulic Fractures."
58. Suk Kyoon Choi (Dec. 2005) "A Study of pH Sensitive Polymer for Novel Conformance Control Applications."
59. Hunter Graves (2006) "Experimental Investigation of Condensate Blockage in High and Low Permeability Cores."
60. Andreas Oleas Mogollon (2006) "Entrance of Oil-Base Muds into Shale."
61. Ian Benson (Dec. 2006) "Numerical Simulation of pH-Sensitive Polymer Injection as a Conformance Control Method."
62. Juan Acevedo (August 2007) "Shale Membrane Efficiency Experimental Study Using WBM."
63. Oscar Humberto Valbuena (2007) "Water Injectivity Analysis of Guando Field."
64. Ian Phillip Benson (2007) "Numerical Simulation of pH-Sensitive Polymer Injection as a Conformance Control Method."
65. Nelson Hu (2007) "An experimental investigation of the dielectric properties of rocks."
66. Vasudev Singh (2008) "Fracture reorientation around injection and production wells."

67. Kyung Haeng Lee (August 2008) "Impact of Injection Well Fractures on Well Injectivity and Reservoir Sweep in Waterflooding and Enhanced Oil Recovery."
68. Collins Emenike Osuji (August 2008) "Effect of Porosity and Permeability on the Membrane Efficiency of Shales."
69. Alexander David Schmitt (August 2008) "Kinetics of Gas Hydrate Formation and Dissociation."
70. Taner Sensoy (May 2009) "Use of Nanoparticles for Maintaining Shale Stability."
71. Suleen Bhagat (August 2010) "Calculation of Residual Oil Saturation for Surfactant EOR Process from Injection Well Pressure Data."
72. Syed Furqan Gilani (December 2010) "Correlating Wettability Alteration with Changes in Gas Permeability in Gas Condensate Reservoirs."
73. Sung Hyun Kim (December 2010) "A Predictive Model for Sand Production in Poorly Consolidated Sands."
74. Sahil Malhotra (December 2010) "Proppant Settling in Viscoelastic Surfactant (VES) Fluids."
75. Somnath Mondal (December 2010) "Pressure Transients in Wellbores: Water Hammer Effects and Implications for Fracture Diagnostics."
76. Corey A. McCulley (May 2011) "Development of a Chemical Treatment for Condensate Blocking in Tight Gas Sandstone."
77. Karn Agarwal (May 2011) "Modeling Fracture Propagation in Poorly Consolidated Sands."
78. Jongsoo Hwang (May 2011) "Gas Injection Techniques for Condensate Recovery and Remediation of Liquid Banking in Gas-Condensate Reservoirs."
79. Ripudaman Manchanda (May 2011) "Mechanical, Failure, and Flow Properties of Sands: Micro-Mechanical Models."
80. Divya Ramaswamy (May 2011) "Effect of Surfactants on Methane Hydrate Formation and Dissociation."
81. Benjamin J. Spisak (August 2011) "Using Nanoparticle Stabilized Foam to Achieve Wellbore Stability in Shales."
82. Himanshu Yadav (December 2011) "Hydraulic Fracturing in Naturally Fractured Reservoirs and the Impact of Geomechanics on Microseismicity."
83. Lionel Ribeiro (May 2012) "Multi-Phase Fluid-Loss Properties and Return Permeability of Energized Fracturing Fluids."
84. Natalia Salies (August 2012) "Study on the Feasibility of Using Electromagnetic Methods for Fracture Diagnostics."
85. Samarth Agrawal (May 2013) "Investigation of Liquid Loading Mechanism Within Hydraulic Fractures in Unconventional/Tight Gas Reservoirs and its Impact on Productivity."
86. John W. Pedlow (May 2013) "A Study of the Effect of Stress and Fluid Sensitivity on Propped Fracture Conductivity in Preserved Reservoir Shales."
87. Trevor S. Pollock (August 2013) "Surfactant/Polymer Flood Design for a Hard Brine Limestone Reservoir"
88. Saud Alquwizani (August 2013) "Three-dimensional Elasto-plastic Modeling of Wellbore and Perforation Stability in Poorly Consolidated Sands."
89. Stephen A. Bryant (August 2013) "Simulating Refracturing Treatments that Employ Diverting Agents on Horizontal Wells."
90. Do H. Shin (August 2013) "Simultaneous Propagation of Multiple Fractures in a Horizontal Well."
91. Evan Gilmore (December 2013) "Gravimetric Measurement of Spontaneous Imbibition of Water in Organic-Rich Shales."
92. Saptaswa Basu (May 2014) "Fracture Diagnostics using Low Frequency Electromagnetic Induction."
93. Roman J. Shor (May 2014) "Modeling Proppant Flow in Fractures using LIGGGHTS, a Scalable Granular Simulator."
94. Jameson P. Gips (December 2014) "Shale Characterization Using TGA, Py-GC-MS, and NMR."
95. Michael A. Carey (December 2014) "Water Hammer Fracture Diagnostics."
96. Murtadha Jawad Al Tammar (December 2014) "Production Performance Evaluation of Energized Fracturing Fluids in Unconventional Formations."

97. Hojung Jung (May 2015) "Numerical Modeling for Identification of Closure Pressure from Diagnostic Fracture Injection Tests."
98. Jeffrey R. Stewart (August 2015) "Pipe Fractional Flow through Branching Conduits."
99. Pratik Kakkar (May 2016) "Experimental Study of the Effect of Stress and Fluid Sensitivity on Propped and Unpropped Fracture Conductivity in Preserved Reservoir Shale."
100. Eric C. Bryant (August 2016) "Hydraulic Fracture Modeling with Finite Volumes and Areas."
101. Kaustubh Shrivastava (August 2016) "Alternate-Slug Fracturing Using Foam."
102. Prateek Bhardwaj (December 2016) "A New Reservoir Scale Model for Fracture Propagation and Stress Reorientation in Waterflooded Reservoirs."
103. Benjamin J. List (August 2017) "Development of Self-Heating Pipeline Pigging Tool."

Ph.D. STUDENT SUPERVISION - COMPLETED

1. Habib Chamoun (December 1988) "Detachment of Particles from Surfaces," Department of Chemical Engineering, The University of Texas at Austin. (Co-supervised with R.S. Schechter)
2. Amit Sarkar (December 1991) "Simulation of Microbial Oil Recovery Processes."
3. Anuj Gupta (August 1991) "Stability of Thin Aqueous Films on Solid Surfaces."
4. Sanjay Vitthal (August 1991) "A Model for Particle Deposition and Filter Cake Buildup in Granular Media."
5. A. Tutuncu (May 1992) "Velocity Dispersion and Attenuation of Acoustic Waves in Granular Sedimentary Media."
6. Ali Garrouch (August 1992) "Dielectric Properties of Fluid Saturated Rocks."
7. Wisup Bae (August, 1992) "Influence of Macropore Heterogeneity on the Petrophysical Properties of Carbonates."
8. Jiao Di (December 1993) "Formation Damage and Fluid Loss in Cross-Flow Filtration of Drilling Muds."
9. Sitakanta Mohanty (May 1993) "Experimental Determination and Theoretical Prediction of Effective Thermal Conductivity of Porous Media."
10. Gao Yaming (May 1994) "Effect of Structure on Petrophysical Properties of Porous Media."
11. David Tambe (May 1994) "Colloidal Particles at Fluid-Fluid Interfaces: Emulsion Stability and Multiphase Flow."
12. Sanjit Das (December 1995) "Adhesion and Detachment of Particles from Surfaces: A Fundamental Study."
13. Subhayu Basu (May 1996) "Surface Forces in Thin Aqueous Films: Applications to Wettability and Membrane Transport." Department of Chemical Engineering, The University of Texas at Austin.
14. B.G. Sharma (May 1996) "Self Assembled Polymerizable Films on Solid Substrates: Formation, Characterization, and Applications." Department of Chemical Engineering, The University of Texas at Austin.
15. Suhas Bodwadkar (August 1996) "Nondestructive Characterization of Core Porosity and Lithology Using Gamma Rays."
16. Shutong Pang (August 1996) "Colloid Retention and Flow in Porous Media."
17. Rosana Lomba (May 1998) "The Membrane Properties of Shales and Ionic Solutions."
18. Alex Freitas (Dec 1998) "Role of Acid-Base Interactions in Colloidal Adhesion and Stability of thin Films."
19. Zuleyka Mendez (Sept. 1999) "Flow of Dilute Oil-in-Water Emulsions in Porous Media."
20. Anna Razatos (Sept. 1999) "Status of Bacteria Adhesion by Atomic Force Microscopy."
21. Siree Nasakul (May 2000) "Thermoreversible Gels and Temperature Triggered Kinetically Controlled Gels for Oilfield Applications."
22. Kassim Al-Riyami (May 2000) "Synthesis and Characterization of Reversible Emulsions: Application to Completion Fluids."
23. Jing Xie (May 2001) "Filtration Mechanisms in Frac-Pack and Gravel Pack Completions."
24. Mengjiao Yu (August 2002) "Chemical Effects & Wellbore Stability in Shales."
25. Padmakar Ayyalasomayajula (May 2003) "Prediction of Bulk and Interfacial Thermodynamic Properties of Polar Mixtures by Statistical Associating Fluid Theory."

26. Hamoud Al-Anazi (May 2003) "Experimental Measurements of Condensate Blocking and Treatments in Low and High Permeability Cores."
27. Talal Al Bazali (May 2005) "Experimental Study of the Membrane Behavior of Shale During Interaction with Water-based and Oil-based Muds."
28. Jianguo Zhang (August 2005) "The Impact of Shale Properties on Wellbore Stability."
29. Jagannathan Mahadevan (May 2006) "Flow through Drying of Porous Media."
30. Viren Kumar (May 2006) "Chemical Stimulation of Gas Condensate Reservoirs: An Experimental and Simulation Study."
31. Ajay Suri (August 2006) "Cleanup of Internal Filter Cake during Flowback."
32. Zongyu Zhai (August 2006) "Fracturing and Fracture Reorientation in Unconsolidated Sands and Sandstones."
33. Yajun Liu (August 2006) "Settling and Hydrodynamic Retardation of Proppants in Hydraulic Fractures."
34. Vishal Bang (2007) "Development of a Successful Chemical Treatment for Gas Wells with Condensate or Water Blocking Damage."
35. Suk Kyoon Choi (August 2008) "pH Sensitive Polymers for Novel Conformance Control and Polymer Flooding Applications."
36. Alyson Sagle (May 2009) "PEG as Anti-Fouling Coatings for Reverse Osmosis Membranes."
37. Kyle Eugene Frieauf (August 2009) "Simulation and Design of Energized Hydraulic Fractures."
38. Elizabeth Van Wagner (August 2010) "Polyamide Desalination Membrane Characterization and Surface Modification to Enhance Fouling Resistance."
39. Mohabbat Ahmadi (December 2010) "Development of a Chemical Treatment for Condensate and Water Blocking in Carbonate Gas Reservoirs."
40. Farshad Lalehrokh (December 2010) "Applicability of pH-triggered Polymers to Increase Sweep Efficiency in Fractured Reservoirs."
41. Chengwu Yuan (December 2010) "A New Relative Permeability Model for Compositional Simulation of Two and Three Phase Flow."
42. David E. Torres Lopez (August 2011) "Improving Well Productivity in Volatile Oil Reservoirs."
43. Nicolas P. Roussel (August 2011) "Stress Reorientation in Low Permeability Reservoirs."
44. Kyung Haeng Lee (May 2012) "Impact of Fracture Creation and Growth on Well Injectivity and Reservoir Sweep During Waterflooding and Chemical EOR Processes."
45. Bo Gao (August 2012) "A New Class of Gemini Surfactants for Applications in EOR."
46. Sahil Malhotra (May 2013) "Role of Fluid Elasticity and Viscous Instabilities in Proppant Transport in Hydraulic Fractures."
47. Somnath Mondal (August 2013) "Flow of Particulate Suspensions through Constrictions: Multi-Particle Effects."
48. Lionel H. Ribeiro (August 2013) "Development of a Three-Dimensional Compositional Hydraulic Fracturing Simulator for Energized Fluids."
49. Anand S. Nagoo (December 2013) "Pipe Fractional Flow: Theory and Applications."
50. Jongsoo Hwang (December 2014) "Factors Affecting Injection Well Performance and Fracture Growth in Waterflooded Reservoirs."
51. Junhao Zhou (August 2015) "Interactions of Organic-Rich Shale with Water-Based Fluids."
52. Chang Min Jung (December 2015) "Measurement of Fluid Properties in Organic-Rich Shales."
53. Sirirat Kasemset (December 2015) "Surface Modification of Water Purification Membranes to Improve Fouling Resistance in Oily-Water Filtration."
54. Ripudaman Manchanda (December 2015) "A General Poro-Elastic Model for Pad-Scale Fracturing of Horizontal Wells."
55. Hisanao Ouchi (May 2016) "Development of a Peridynamics-based Hydraulic Fracturing Model for Fracture Growth in Heterogeneous Reservoirs."
56. Christopher Blyton (May 2016) "Proppant Transport in Complex Fracture Networks."

57. Dongkeun Lee (December 2018) "A Model for Hydraulic Fracturing and Proppant Placement in Unconsolidated Sands."
58. Weiwei Wu (December 2018) "Unpropped Fractures in Shale: Surface Topography, Mechanical Properties and Hydraulic Conductivity."

**PUBLICATIONS AND PRESENTATIONS
BY DR. MUKUL M. SHARMA**

PUBLICATIONS

Refereed Archival Journal Publications

Published

1. “Numerical Study of an Electrode-Based Resistivity Tool For Fracture Diagnostics In Steel-Cased Wellbores,” *Geophysics*, Vol. 83, Issue 2, pp. D41-D48, March 2018, P. Zhang, Y. Brick, and M.M. Sharma.
2. “Experiments and Simulations of a Prototype Tri-Axial Electromagnetic Induction Logging Tool for Open-Hole Hydraulic Fracture Diagnostics,” *Geophysics*, January 2018, doi:10.1190/geo2017-0354.1, J. Shiriyev, Y. Brick, P. Zhang, A.E. Yilmaz, C. Torres-Verdin, M.M. Sharma, T. Hosbach, M.A. Oerkef, and J. Gabelmann.
3. “Choke-Management Strategies for Hydraulically Fractured Wells and Frac-Pack Completions in Vertical Wells,” *SPE Production & Operations*, February 2018, E. Karantinos, M.M. Sharma, J. A. Ayoub, M. Parlar, and R. A. Chanpura.
4. “Strategies for Effective Stimulation of Multiple Perforation Clusters in Horizontal Wells,” *SPE Production & Operations*, December 2017, R. Manchanda, E. C. Bryant, P. Bhardwaj, Cardiff, and M.M. Sharma.
5. “A Model for the Conductivity and Compliance of Unpropped and Natural Fractures,” *SPE Journal*, Vol. 22, Issue 06, pp. 1893-1914, December 2017, W. Wu, and M.M. Sharma.
6. “Optimizing Water-Injection Design in a Shallow Offshore Reservoir,” SPE-180143-PA, *SPE Production and Operations*, Vol. 32, Issue 04, pp. 551-563, November 2017, T. Clemens, G. Kienberger, M. Persaud, A. Suri, M.M. Sharma, M. Boschi, A.M. Overland.
7. “A Computationally Efficient Approach to Modeling Contact Problems and Fracture Closure Using Superposition Method,” *Theoretical and Applied Fracture Mechanics*, Vol. 93, pp. 276-287, September 2017, H. Wang, S. Yi, and M.M. Sharma.
8. “Factors Governing the Predicted Performance of Multilayered Metal-Mesh Screens,” SPE 178955-PA, *SPE Drilling & Completion*, Vol. 32, Issue 03, pp. 141-152, September 2017, C. Wu, M.M. Sharma, R. Chanpura, M. Parlar, J. Ayoub.
9. “A Peridynamics Model for the Propagation of Hydraulic Fractures in Naturally Fractured Reservoirs,” SPE-173361-PA, *SPE Journal*, Vol. 22, Issue 04, August 2017, H. Ouchi, A. Katiyar, J.T. Foster, M.M. Sharma.
10. “A Non-Local Model for Fracture Closure on Rough Fracture Faces and Asperities,” *Journal of Petroleum Science and Engineering*, Vol. 154, pp. 425-437, June 2017, H. Wang and M.M. Sharma.
11. “A General Method for the Selection of an Optimum Choke-Management Strategy,” SPE-174196-PA, *SPE Production & Operations*, Vol. 32, Issue 02, May 2017, E. Karantinos, M.M. Sharma, J. Ayoub, M. Parlar, R. Chanpura.
12. “Effect of Reservoir Heterogeneity on the Vertical Migration of Hydraulic Fractures,” *Journal of Petroleum Science and Engineering*, Vol. 151, pp. 384-408, March 2017, H. Ouchi, J. T. Foster, and M.M. Sharma.
13. “Acid Fracturing in Shales: Effect of Dilute Acid on Properties and Pore Structure of Shale,” SPE 173390-PA, *SPE Production & Operations*, Vol. 32, Issue 01, pp. 51-63, February 2017, doi:10.2118/173390-PA, W. Wu, and M.M. Sharma.
14. “Influence of Polydopamine Deposition Conditions on Hydraulic Permeability, Sieving Coefficients, Pore Size and Pore Size Distribution for a Polysulfone Ultrafiltration Membrane,” *Journal of Membrane Science*, Vol. 522, pp.100-115, accepted July 2016, printed January 2017, doi:10.1016/j.memsci.2016.07.016, S. Kasemset, L. Wang, Z. He, D. J. Miller, A. Kirschner, B. D. Freeman, and M.M. Sharma.
15. “Coupled CFD-DEM Simulation of Hydrodynamic Bridging at Constrictions,” *International Journal of Multiphase Flow*, Vol. 84, pp. 245-263, September 2016, S. Mondal, C-H. Wu, and M.M. Sharma.

16. "The Fracture-Compliance Method for Picking Closure Pressure From Diagnostic Fracture-Injection Tests," SPE-179725-PA, *SPE Journal*, Vol. 21, Issue 04, pp. 1321-1339, August 2016, .doi: 10.2118/179725-PA, M.W. McClure, H. Jung, D.D. Cramer, and M.M. Sharma.
17. "Characterizing, Designing, and Selecting Metal Mesh Screens for Standalone-Screen Applications," SPE-170935, *SPE Drilling & Completion*, Vol. 31, Issue 02, pp. 85-94, May 2016, doi: 10.2118/170935-PA, S. Mondal., C-H. Wu, M.M. Sharma, R. A. Chanpura, M. Parlar, and J. A. Ayoub.
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CONFERENCE PROCEEDINGS

1. "Sand Production Caused by Water Hammer Events: Implications for Shut-In Protocols and Design of Water Injection Wells," SPE-189568-MS, SPE International Conference and Exhibition on Formation Damage Control, Lafayette, Louisiana, U.S.A., February 7-9, 2018, H. Wang, J. Hwang, and M.M. Sharma.
2. "Estimating Sand Production Through Gravel Packs," SPE-189844-MS, SPE International Conference and Exhibition on Formation Damage Control, Lafayette, Louisiana, U.S.A., February 7-9, 2018, C-H. Wu, M.M. Sharma, M. J. Fuller, and S. Mathis.
3. "Mapping Proppant Distribution in Hydraulic Fractures in Cased Wellbores Using Low Frequency Downhole Electrical Measurements," SPE-189884-MS, SPE Hydraulic Fracturing Technology Conference and Exhibition, The Woodlands, Texas, U.S.A., January 23-25, 2018, P. Zhang, M. K. Sen, M.M. Sharma, J. Gabelmann, and D. Glowka.
4. "Parent-Child Fracture Interference: Explanation and Mitigation of Child Well Underperformance," SPE-189849-MS, SPE Hydraulic Fracturing Technology Conference and Exhibition, The Woodlands, Texas, U.S.A., January 23-25, 2018, R. Manchanda, P. Bhardwaj, J. Hwang, and M.M. Sharma.
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13. "Hydraulic Fracture Diagnostics and Stress Interference Analysis by Water Hammer Signatures in Multi-Stage Pumping Data," URTeC 2667423, Unconventional Resources Technology Conference, Austin, Texas, U.S.A., July 24-26, 2017, J. Hwang, M. Szabian, and M.M. Sharma.
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47. "Acid Fracturing Shales: Effect of Dilute Acid on Properties and Pore Structure of Shale," SPE 173390, prepared for the 2015 Hydraulic Fracturing Technology Conference, February 2-5, 2015, The Woodlands, Texas, U.S.A., W. Wu and M.M. Sharma.
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59. "Particle Size Distribution Measurement Techniques and Their Relevance or Irrelevance to Sand Control Design," SPE 168152, prepared for presentation at the 2014 SPE International Symposium and Exhibition on Formation Damage Control, February 26-28, 2014, Lafayette, LA, U.S.A., K. Zhang, R.A. Chanpura, Schlumberger; S. Mondal., C. Wu, M.M. Sharma; J.A. Ayoub, and M. Parlar.
60. "A New Method for Fracture Diagnostics Using Low Frequency Electromagnetic Induction," SPE168606, prepared for presentation at the 2014 Hydraulic Fracturing Technology Conference, February 4 – 6, 2014, The Woodlands, TX, U.S.A., S. Basu and M.M. Sharma.
61. "Factors Controlling the Simultaneous Propagation of Multiple Competing Fractures in a Horizontal Well," SPE 168599, prepared for presentation at the 2014 Hydraulic Fracturing Technology Conference, February 4 – 6, 2014, The Woodlands, TX, U.S.A., D. Shin and M.M. Sharma.
62. "Changes in Shale Fracture Conductivity Due to Interactions with Water-Based Fluids," SPE 168586, prepared for presentation at the 2014 Hydraulic Fracturing Technology Conference, February 4 – 6, 2014, The Woodlands, TX, U.S.A., J. Pedlow and M.M. Sharma.
63. "Reducing Proppant Flowback From Fractures: Factors Affecting the Maximum Flowback Rate," SPE 168649, prepared for presentation at the 2014 Hydraulic Fracturing Technology Conference, February 4 – 6, 2014, The Woodlands, TX, U.S.A., R.J. Shor and M.M. Sharma.
64. "A New Three-Dimensional, Compositional, Model for Hydraulic Fracturing with Energized Fluids," SPE 159812, prepared for presentation at the 2012 SPE Annual Technical conference and Exhibition, October 8-10, 2013, San Antonio, Texas, U.S.A., L.H. Ribeiro and M.M. Sharma.
65. "The Impact of Shale Preservation on the Petrophysical Properties of Organic-Rich Shales," SPE 166419, prepared for presentation at the 2013 SPE Annual Technical Conference and Exhibition, September 30 – October 2, 2013, New Orleans, LA, U.S.A., C.M. Jung, J. Zhou, M.E. Chenevert, and M.M. Sharma.
66. "A New Standardized Laboratory Protocol to Study the Interaction of Organic-Rich Shales with Drilling and Fracturing Fluids," SPE 166216, prepared for presentation at the 2013 SPE Annual Technical Conference and Exhibition, September 30 – October 2, 2013, New Orleans, LA, U.S.A., C.M. Jung, J. Zhou, J.W. Pedlow, M.E. Chenevert, and M.M. Sharma.
67. "Time-Delayed Fracturing: A New Strategy in Multi-Stage, Multi-Well Pad Fracturing," SPE 166489, prepared for presentation at the 2013 SPE Annual Technical Conference and Exhibition, September 30 – October 2, 2013, New Orleans, LA, U.S.A., R. Manchanda and M.M. Sharma.
68. "Liquid Loading within Hydraulic Fractures and its Impact on Unconventional Reservoir Productivity," SPE-168781/URTeC ID 1580636, prepared for presentation at the 2013 Unconventional Resources Technology Conference, August 12-14, 2013, Denver, Colorado, U.S.A., S. Agrawal and M.M. Sharma.
69. "High-Performance Water-Based Mud Using Nanoparticles for Shale Reservoirs," SPE-168799/URTeC ID 1581549, prepared for presentation at the 2013 Unconventional Resources Technology Conference, August 12-14, 2013, Denver, Colorado, USA., C.M. Jung, R. Zhang, M.E. Chenevert, and M.M. Sharma.
70. "A Systematic Approach to Petrophysical Characterization of Organic-Rich Shales in Barnett and Eagle Ford Formations," SPE 168792/URTeC ID 1581323, prepared for presentation at the 2013 Unconventional Resources Technology Conference, August 12-14, 2013, Denver, Colorado, U.S.A., J. Zhou, C.M. Jung, M.E. Chenevert, and M.M. Sharma.
71. "A Three Dimensional Compositional Model for Hydraulic Fracturing with Energized Fluids," ARMA 13-409, prepared for presentation at the 47th US Rock Mechanics/Geomechanics Symposium, June 23-26, 2013, San Francisco, CA, USA., L.H. Ribeiro and M.M. Sharma.
72. "Petrophysical Characterization of Organic-Rich Shales: A New Standardized Protocol," ARMA 13-546, prepared for presentation at the 47th US Rock Mechanics/Geomechanics Symposium, June 23-26, 2013, San Francisco, CA, USA., J. Zhou, C.M. Jung, M.E. Chenevert, M.M. Sharma.

73. "A 3-Dimensional Fracture Propagation Model for Long-Term Water Injection," ARMA 13-575, prepared for presentation at the 47th US Rock Mechanics/Geomechanics Symposium, June 23-26, 2013, San Francisco, CA, U.S.A., J. Hwang and M.M. Sharma.
74. "Simulation of Polymer Injection Under Fracturing Conditions - A Field Pilot in the Matzen Field, Austria". SPE 169043-MS, prepared for presentation at the SPE Improved Oil Recovery Symposium, April 12-16, 2013, Tulsa, Oklahoma, U.S.A., M. Zechner, T.Clemens, A. Suri, and M.M. Sharma.
75. "Time Dependent Fracture Interference Effects in Pad Wells," SPE 164534, prepared for presentation at SPE Unconventional Resources Conference – U.S.A., April 10-12, 2013, The Woodlands, TX, U.S.A., R. Manchanda, M.M. Sharma, S. Holzhauser.
76. "Analysis of Potential Bridging Scenarios During Blowout Events," SPE/IAD 163438, prepared for presentation at the SPE/IADC Drilling Conference and Exhibition, March 5-7, 2013, The Netherlands, Amsterdam, S.M. Willson, A.S. Nagoo, M.M. Sharma.
77. "Fluid Selection of Energized Fracture Treatment," SPE 163867, prepared for presentation at the 2013 SPE Hydraulic Fracturing Technology Conference, February 4-6, 2013, The Woodlands, Texas, U.S.A., L.H. Ribeiro and M.M. Sharma.
78. "Impact of Liquid Loading in Hydraulic Fractures on Well Productivity," SPE 163837, prepared for presentation at the 2013 SPE Hydraulic Fracturing Technology Conference, February 4-6, 2013, The Woodlands, Texas, U.S.A., S. Agrawal and M.M. Sharma.
79. "Proppant Placement Using Alternate-Slug Fracturing," SPE 163851, prepared for presentation at the 2013 SPE Hydraulic Fracturing Technology Conference, February 4-6, 2013, The Woodlands, Texas, U.S.A., S Malhotra, E.R. Lehman, M.M. Sharma.
80. "Fluid Selection for Energized Fracture Treatments". SPE 163867, prepared for presentation at the SPE Hydraulic Fracturing Conference, February 4, 2013, L.H. Ribeiro and M.M. Sharma.
81. "Petrophysical Characterization of Organic-Rich Shales: A New Standardized Protocol". ARMA-2013-546, prepared for presentation at the 47th U.S. Rock Mechanics/Geomechanics Symposium, June23-26, 2013, San Francisco, California, J. Zhou, C.M. Jung, M. E. Chenevert, M.M. Sharma.
82. "Laboratory Evaluation and Analysis of Physical Shale Inhibition of an Innovative Water-Based Drilling Fluid with Nanoparticles for Drilling Unconventional Shales," SPE 158895, prepared for presentation at the SPE Asia Pacific Oil and Gas Conference and Exhibition, October 22-24, 2012, Perth, Australia. L. Ji, Q. Guo, and J. Friedheim, R. Zhang, M.E. Chenevert, and M.M. Sharma.
83. "Unraveling the Myths Associated with Selecting Standalone Screens and a New Methodology for Sand-Control Applications," SPE 158922, prepared for presentation at the 2012 SPE Annual Technical Conference and Exhibition, October 8-10, 2012, San Antonio, Texas, U.S.A., R.A. Chanpura, S. Mondal, M.M. Sharma, J.S. Andrews, A. Mathisen, F. Martin F. Marpaung, J.A. Ayoub, M. Parlar.
84. "Impact of Completion Design on Fracture Complexity in Horizontal Wells," SPE 159899, prepared for presentation at the 2012 SPE Annual Technical Conference and Exhibition, October 8-10, 2012, San Antonio, Texas, U.S.A., R. Manchanda and M.M. Sharma.
85. "A Predictive Model for Sand Production in Realistic Downhole Condition," Proceedings of the 46th US Rock Mechanics / Geomechanics Symposium held in Chicago, IL, U.S.A., 24-27 June 2012, A.S. Kim and M.M. Sharma.
86. "A New Family of Anionic Surfactants for EOR Applications," SPE 159700, prepared for presentation at the 2012 SPE Annual Technical Conference and Exhibition, October 8-10, 2012, San Antonio, Texas, U.S.A., B. Gao and M.M. Sharma.
87. "Modeling of Square Mesh Screens in Slurry Test Conditions for Standalone Screen Applications," SPE 151637, 2012 SPE International Symposium and Exhibition on Formation Damage Control, February 15-17, 2012, Lafayette, Louisiana, U.S.A., R.A. Chanpura, S. Mondal, J.S. Andrews, A. Mathisen, J.A. Ayoub, M. Parlar, M.M. Sharma.
88. "The Modeling of Solvents Flow-Back in the Chemical Treatment to Remove Liquid Block," IPTC 15219, International Petroleum Technology Conference, February 7-9 2012, Bangkok, Thailand, C. Yuan, M. Ahmadi, G.A. Pope, M.M. Sharma.

89. "Implications of Fracturing Pressure Data Recorded during a Horizontal Completion on Stage Spacing Design," SPE 152631, 2012 SPE Hydraulic Fracturing Technology Conference, February 6-8, 2012, The Woodlands, Texas, U.S.A., N.P. Roussel, R. Manchanda, M.M. Sharma.
90. "Permeability Anisotropy and Dilation Due to Shear Failure in Poorly Consolidated Sands," SPE 152432, 2012 SPE Hydraulic Fracturing Technology Conference, February 6-8 2012, The Woodlands, Texas, U.S.A., R. Manchanda, J.E. Olson, M.M. Sharma.
91. "A Predictive Model for Sand Production in Poorly Consolidated Sands," IPTC 15087, prepared for presentation for the International Petroleum Technology Conference, November 15-17, 2011, Bangkok, Thailand., S. Kim and M.M. Sharma.
92. "Decreasing Water Invasion into Atoka Shale Using Non-Modified Silica Nanoparticles," SPE 146979, 2011 SPE Annual Technical Conference and Exhibition, October 30-November 2, 2011, Denver Colorado, U.S.A., J. Cai, M.E. Chenevert, M.M. Sharma, J. Friedheim.
93. "Impact of Fracture Growth on Well Injectivity and Reservoir Sweep during Waterflood and Chemical EOR Processes," SPE 146778, 2011 SPE Annual Technical Conference and Exhibition, October 30-November 2, 2011, Denver, Colorado, U.S.A., K. Lee, C. Huh, and M.M. Sharma.
94. "A New Method for the Design and Selection of Premium / Woven Sand Screens," SPE 146656, 2011 SPE Annual Technical Conference and Exhibition, October 30-November 2, 2011, Denver, Colorado, U.S.A., S. Mondal, M.M. Sharma, R.M. Hodge, R.A. Chanpura, M. Parlar, J.A. Ayoub,
95. "A New Approach to Modeling Fracture Growth in Unconsolidated Sands," SPE 146309, 2011 SPE Annual Technical Conference and Exhibition, October 30-November 2, 2011, Denver, Colorado, U.S.A., K. Agarwal and M.M. Sharma.
96. "Strategies to Minimize Frac Spacing and Stimulate Natural Fractures in Horizontal Completions," SPE 146104, 2011 SPE Annual Technical Conference and Exhibition, October 30-November 2, 2011, Denver, Colorado, U.S.A., N.P. Roussel and M.M. Sharma.
97. "Selecting Candidate Wells for Refracturing Using Production Data," SPE 146103, 2011 SPE Annual Technical Conference and Exhibition, October 30-November 2, 2011, Denver, Colorado, U.S.A., N.P. Roussel and M.M. Sharma.
98. "A New Approach to Modeling Fracture Growth in Unconsolidated Sands," ARMA 11-505, 45th US Rock Mechanics / Geomechanics Symposium, June 26-29, 2011, San Francisco California, U.S.A., K. Agarwal and M.M. Sharma.
99. "Advancements in Screen Testing, Interpretation and Modeling for Standalone Screen Applications," SPE 143731, 2011 SPE European formation Damage Conference, June 7-10, 2011, Noordwijk, The Netherlands., R.A. Chanpura, S. Fidan, S. Mondal, J.S. Andrews, F. Martin, R.M. Hodge, J.A. Ayoub, M. Parlar, M.M. Sharma.
100. "The Effect of Surfactants on Kinetics of Hydrate Formation," SPE 141226, 2011 SPE International Symposium on Oilfield Chemistry, April 11-13 2011, The Woodlands, Texas, U.S.A., D. Ramaswamy and M.M. Sharma.
101. "Drilling Unconventional Shales with Innovative Water-Based Mud – Part I: Evaluation of Nanoparticles as a Physical Shale Inhibitor" AADE-12-FTCE-50, 2011 AADE Fluid Technical Conference and Exhibition, April 12-14, 2011, Houston, Texas, U.S.A., L. Ji, Q. Guo, J. Friedheim, R. Zhang, M.E. Chenevert, M.M. Sharma.
102. "Correlating Wettability Alteration with Changes in Relative Permeability Gas Condensate Reservoirs," SPE 141419, SPE International Symposium on Oilfield Chemistry, April 11-13 2011, The Woodlands, Texas, U.S.A., S.F. Gilani, M.M. Sharma, D. Torres, M. Ahmadi, G.A. Pope, H. Linnemeyer.
103. "Multi-Phase Fluid-Loss Properties and Return permeability of Energized Fracturing Fluids," SPE 139622, 2011 SPE Hydraulics Fracturing Technology Conference, January 24-26, 2011, The Woodlands, Texas, U.S.A., L.H. Ribeiro and M.M. Sharma.
104. "A General Correlation for Proppant Settling in VES Fluids," SPE 139581, 2011 SPE Hydraulics Fracturing Technology Conference, January 24-26, 2011, The Woodlands, Texas, U.S.A., S. Malhotra and M.M. Sharma.
105. "Role of Stress Reorientation in the Success of Refracture Treatments in Tight Gas Sands," SPE 134491, 2010 SPE Annual Technical Conference and Exhibition, September 19-22, 2010, Florence, Italy, U.S.A., N.P. Roussel and M.M. Sharma.

106. "Numerical Simulations of Screen Performance in Standalone Applications for Sand Control," SPE 134326, prepared for presentations at the SPE Annual Technical Conference and Exhibition, September 19-22, 2010, Florence, Italy, U.S.A., S. Mondal., M.M. Sharma, R.A. Chanpura, M. Parlar, J.A. Ayoub.
107. "Chemical Treatment to Mitigate Condensate and Water Blocking in Gas Wells in Carbonate Reservoirs," SPE 133591, Western North American Regional Meeting, May 26-30, 2010, Anaheim, California, U.S.A., M. Ahmadi, M.M. Sharma, G.A. Pope, D.E. Torres, C.A. McCulley, and H. Linnemeyer.
108. "Estimating Fracture Lengths and Injection Profile in an Injection Well by History Matching Bottom Hole Pressures," SPE 132524, Western North American Regional Meeting, May 26-30, 2010, Anaheim, California, U.S.A., A. Suri and M.M. Sharma.
109. "An Improved Laboratory Method to Estimate Flow Initiation Pressures and Near Wellbore Return Permeabilities," SPE 132098, Western North American Regional Meeting, May 26-30, 2010, Anaheim, California, U.S.A., A. Suri and M.M. Sharma.
110. "Optimizing Fracture Spacing and Sequencing in Horizontal Well Fracturing," SPE 127986 2010 SPE International Symposium and Exhibition on Formation Damage Control, February 10-12, 2010, Lafayette, Louisiana, U.S.A., N.P. Roussel and M.M. Sharma.
111. "Injectivity of Frac-Packed Wells: A Case Study of the Guando Field," SPE 125897-PP, 2010 SPE International Symposium and Exhibition on Formation Damage Control, February 10-12, 2010, Lafayette, Louisiana, U.S.A., A. Suri and M.M. Sharma.
112. "Fluid Selection for Energized Hydraulic Fractures," SPE 124361, 2009 SPE Annual Technical Conference and Exhibition, October 4-7, 2009, New Orleans, Louisiana, U.S.A., K.E. Frieauf and M.M. Sharma.
113. "A Field Demonstration of a New Chemical Stimulation Treatment for Fluid-Blocked Gas Wells," SPE 125077, 2009 SPE Annual Technical Conference and Exhibition, October 4-7, 2009, New Orleans, Louisiana, U.S.A., M.L. Butler, J.B. Trueblood, G.A. Pope, M.M. Sharma, J.R. Baran Jr., and D. Johnson.
114. "Minimizing Water Invasion in Shales Using Nanoparticles," SPE 124429, 2009 SPE Annual Technical Conference and Exhibition, October 4-7, 2009, New Orleans, Louisiana, U.S.A., T. Sensoy, M.E. Chenevert, and M.M. Sharma.
115. "A Unified, Multidisciplinary Approach to the Planning and Design of Deepwater Waterflooding Projects," SPE 124857, 2009 SPE Annual Technical Conference and Exhibition, October 4-7, 2009, New Orleans, Louisiana, U.S.A., F.R. Chaban, M.M. Sharma, A. Suri, G. Gibson.
116. "Development of a Successful Chemical Treatment for Gas Wells with Water and Condensate Blocking Damage," SPE 124977, 2009 SPE Annual Technical Conference and Exhibition, October 4-7, 2009, New Orleans, Louisiana, U.S.A., V. Bang, G.A. Pope, M.M. Sharma, J.R. Baran, Jr.
117. "Estimating the Reservoir Hydrocarbon Capacity Through Measurement of the Minimum Capillary Entry Pressure of Shale Caprocks," SPE 121450, 2009 SPE Annual Technical Conference and Exhibition, October 4-7, 2009, New Orleans, Louisiana, U.S.A., T.M. AL-Bazali, J. Zhang, M.E. Chenevert, and M.M. Sharma.
118. "An Experimental Investigation on the Impact of Capillary Pressure, Diffusion Osmosis, and Chemical Osmosis on the Stability and Reservoir Hydrocarbon Capacity of Shales," SPE 121451, prepared for Offshore Europe, September 8-11, 2009, Aberdeen, UK, T.M. AL-Bazali, J. Zhang, M.E. Chenevert, and M.M. Sharma.
119. "pH-Sensitive Polymers for Novel Conformance Control and Polymer Flood Applications," SPE 121686, 2009 SPE International Symposium on Oilfield Chemistry held in The Woodlands, Texas, U.S.A., April 20-22, 2009. S.K. Choi, M.M. Sharma, S.L. Bryant, C. Huh.
120. "Fracture Growth in Horizontal Injectors," SPE 119379, 2009 SPE Hydraulic Fracturing Technology Conference, January 19-21, 2009, The Woodlands, Texas, U.S.A., A. Suri and M.M. Sharma
121. "Application of a New Compositional Model for Hydraulic Fracturing with Energized Fluids: A South Texas Case Study," SPE 119265, 2009 SPE Hydraulic Fracturing Technology Conference held in The Woodlands, Texas, U.S.A., January 19-21, 2009, K.E. Frieauf, M.M. Sharma, R.B. Sullivan.

122. "Quantifying Transient Effects in Altered-Stress Refracturing of Vertical Wells," SPE 119522, 2009 SPE Hydraulic Fracturing Technology Conference held in The Woodlands, Texas, U.S.A., January 19-21, 2009. N.P. Roussel and M.M. Sharma
123. "A Simple and Accurate Model for Well Productivity for Hydraulically Fractured Wells," SPE 119264, 2009 SPE Hydraulic Fracturing Technology Conference held in The Woodlands, Texas, U.S.A., January 19-21, 2009. K. Frieauf, A. Suri, M.M. Sharma
124. "Wettability Alteration to Increase Deliverability of Gas Production Wells," SPE 117353, 2008 SPE Eastern Regional/AAPG Eastern Section Joint Meeting held in Pittsburgh, Pennsylvania, U.S.A., October 11-15, 2008. X. Xie, Y. Liu, M.M. Sharma, W.W. Weiss.
125. "Surface Modification to Enhance the Fouling Resistance of Commercial Reverse Osmosis Membranes," 2008 SPE Eastern Regional/AAPG Eastern Section Joint Meeting held in Pittsburgh, Pennsylvania, U.S.A., October 11-15, 2008. E.M. Van Wagner, M.M. Sharma, B.D. Freeman.
126. "Improving Well Productivity in Gas Condensate Reservoirs via Chemical Treatment," 2008 Tobago Gas Technology Conference held in Lowlands, Tobago, October 7-10, 2008. R.S. Rocke, M.M. Sharma, V. Bang, M. Ahmadi, H. Linnemeyer.
127. "Stress Reorientation and Fracture Treatments in Horizontal Wells," SPE 116092, 2008 SPE Annual Technical Conference and Exhibition held in Denver, Colorado, U.S.A., September 21-24, 2008. V. Singh, N.P. Roussel, M.M. Sharma.
128. "Entrance Pressure of Oil-Based Mud into Shale: Effect of Shale Water activity and Mud Properties," SPE 116364, 2008 SPE Annual Technical Conference and Exhibition held in Denver, Colorado, U.S.A., September 21-24, 2008. A. Oleas, C.E. Osuji, M.E. Chenevert, M.M. Sharma.
129. "Effect of Porosity and Permeability on the Membrane Efficiency of Shales," SPE 116306, 2008 SPE Annual Technical Conference and Exhibition held in Denver, Colorado, U.S.A., September 21-24, 2008. C.E. Osuji, M.E. Chenevert; M.M. Sharma.
130. "A New Solution to Restore Productivity of Gas Wells with Condensate and Water Blocks," SPE 116711, 2008 SPE Annual Technical Conference and Exhibition held in Denver, Colorado, U.S.A., September 21-24, 2008. V. Bang, G.A. Pope, M.M. Sharma; J.R. Baran, Jr., M. Ahmadi.
131. "A New Compositional Model for Hydraulic Fracturing with Energized Fluids," SPE 115750, 2008 SPE Annual Technical Conference and Exhibition held in Denver, Colorado, U.S.A., September 21-24, 2008. K. Frieauf, M.M. Sharma.
132. "Application of pH-Triggered Polymers in Fractured Reservoirs to Increase Sweep Efficiency," SPE 113800, SPE/COE Symposium on Improved Oil Recovery held in Tulsa, Oklahoma, U.S.A., April 20-23 2008. F. Lalehrokh, S.L. Bryant, C. Huh, and M.M. Sharma.
133. "Improving Productivity of Hydraulically Fractured Gas Condensate Wells by Chemical Treatment," SPE 19599, 2008 Offshore Technology Conference, May 5-8 2008, Houston, Texas, U.S.A., V. Bang, C. Yuan, G.A. Pope, Sharma M.M.; J.R. Baran, Jr., J.D. Skildum, H.C. Linnemeyer.
134. "Chemical Stimulation of Gas Condensate Wells," IPTC-11648-PP, International Petroleum Technology Conference held in Dubai, U.A.E., December 4-6, 2007. J.R. Baran, Jr., J.D. Skildum, G.A. Pope, M.M. Sharma, V. Bang, H. Linnemeyer, M. Ahmadi.
135. "Development and Use of a Simulation Model for Mobility/Conformance Control Using a pH-Sensitive Polymer," SPE 109665, 2007 SPE Annual Technical Conference and Exhibition held in Anaheim, California, U.S.A., November 11-14, 2007. I. Benson, L.X. Nghiem, S.L. Bryant, M.M. Sharma, C. Huh.
136. "A Model for Water Injection into Frac-Packed Wells," SPE 110084, 2007 SPE Annual Technical Conference and Exhibition held in Anaheim, California, U.S.A., November 11-14, 2007. A. Suri and M.M. Sharma.
137. "New Developments in Chemical Stimulation of Gas Condensate Wells," ACIPET XII, SPE Congreso Colombiano del Petróleo held in Bogotá D.C., Colombia, October 23-26, 2007. J.R. Baran, Jr., G.A. Pope, M.M. Sharma; V. Bang, H.C. Linnemeyer, M. Ahmadi, J.D. Skildum.

138. "Quantification of Log-Core Correlation Using the Formation Microscope," SPE 23524, presented at the SPE Annual Technical Conference and Exhibition held in Dallas, Texas, October 6-9, 1991. G.R. Williams and M.M. Sharma.
139. "Estimating Fracture Reorientation due to Fluid Injection / Production," SPE 106387, presented at the 2007 SPE Productions and Operations Symposium held in Oklahoma City, Oklahoma, U.S.A., March 31-April 3, 2007. Z. Zhai and M.M. Sharma.
140. "Synthesis and Characterization of Surface Coated Ultrafiltration Membranes to enhanced Oil/Water Fouling Resistance," ACS Annual Meeting held in Boston, Massachusetts, U.S.A., 2007, H. Ju, B. McCloskey, A.C. Sagle, Y.-H. Wu, E.V. Van Wagner, H.B. Park, B.D. Freeman, L. Shimko, D.F. Lawler, M.M. Sharma.
141. "Maintaining the Stability of Deviated and Horizontal Wells: Effects of Mechanical, Chemical and Thermal Phenomena on Well Designs," SPE 100202, presented at the 2006 SPE International Oil and Gas Conference and Exhibition held in Beijing, China, December 5-7, 2006. Zhang, J.; Yu, M.; Al-Bazali, T.M.; Ong, S.; M.E. Chenevert, M.M. Sharma; Clark, D.E.
142. "Factors Controlling the Membrane Efficiency of Shales when Interacting with Water-Based and Oil-Based Muds," SPE 100735, presented at the 2006 SPE International Oil and Gas Conference and Exhibition in Beijing, China, December 5-7, 2006, T.M. AL-Bazali, J. Zhang, M.E. Chenevert, M.M. Sharma.
143. "Relative Permeability of Gas/Condensate Fluids: A General Correlation," SPE-102741, presented at the 2006 SPE Annual Technical Conference & Exhibition in San Antonio, TX, U.S.A., September 24- 27, 2006, V Bang, V. Kumar, P.S. Ayyalasomayajula, G.A. Pope, M.M. Sharma.
144. "Phase Behavior Study of Hydrocarbon/Water/Methanol Mixtures at Reservoir Conditions" SPE 102100, presented at the 2006 SPE Annual Technical Conference and Exhibition held in San Antonio, Texas, U.S.A., September 24–27, 2006, V. Bang, G.A. Pope, M.M. Sharma.
145. "Effect of Non-Darcy Flow on Well Productivity in a Hydraulically Fractured Gas-Condensate Well," SPE 103025, presented at the 2006 SPE Annual Technical Conference and Exhibition held in San Antonio, TX, U.S.A., September 24 – 27, 2006., J. Mohan, G.A. Pope, M.M. Sharma.
146. "Chemical Stimulation of Gas/Condensate Reservoirs," SPE 102669, presented at the 2006 SPE Annual Technical Conference and Exhibition held in San Antonio, Texas, U.S.A., September 24–27, 2006., V. Kumar, V. Bang, G.A. Pope, M.M. Sharma, P. Ayyalasomayajula, J. Kamath.
147. "Compressive Strength and Acoustic Properties Changes in Shales with Exposure to Water-Based Fluids," presented at the 41st US Rock Mechanics Symposium (Golden Rocks 2006): 50 Years of Rock Mechanics - Landmarks and Future Challenges held in Golden, Colorado, U.S.A., June 17-21, 2006. J. Zhang, T.M. Al-Bazali, M.E. Chenevert, M.M. Sharma, D.E. Clark, S. Benaissa, S. Ong.
148. "Proppant Placement Using Reverse-Hybrid Fracs," SPE 99580, presented at the 2006 SPE Gas Technology Symposium held in Calgary, Alberta, Canada, May 15–17, 2006. Y. Liu, P.B. Gadde, M.M. Sharma.
149. "Optimization of Fracture Length in Gas / Gas Condensate Reservoirs," SPE 100543, presented at the 2006 SPE Gas Technology Symposium held in Calgary, Alberta, Canada, May 15–17, 2006. J. Mohan, M.M. Sharma, G.A. Pope.
150. "Improving the Gas and Condensate Relative Permeability Using Chemical Treatments," SPE 100529, presented at the 2006 SPE Gas Technology Symposium held in Calgary, Alberta, Canada, May 15–17, 2006. V. Kumar, G.A. Pope, M.M. Sharma.
151. "Transport of a pH-Sensitive Polymer in Porous Media for Novel Mobility-Control Applications," SPE 99656, presented at the 2006 SPE Symposium on Improved Oil Recovery held in Tulsa, Oklahoma, U.S.A., April 22-26, 2006. S.K. Choi, Y.M. Ermel, S.L. Bryant, C. Huh, M.M. Sharma.
152. "Ion Movement and Laboratory Technique to Control Wellbore Stability," presented at the AADE 2006 Fluids Conference held in Houston, Texas, U.S.A., April 11-12, 2006. J. Zhang, D. Clark, T.M. Al-Bazali, M.E. Chenevert, M.M. Sharma, J.C. Rojas, S. Ong.

153. "Effective Oilfield Water Management Through Fractured Injectors for Mature Fields," presented at the Technical Strategies for Marginal and Mature Fields Development conference held in Houston, Texas, January 30 – February 2, 2006. M.M. Sharma.
154. "The Impact of Proppant Retardation on Propped Fracture Lengths," SPE 97106, presented at the 2005 SPE Annual Technical Conference and Exhibition held in Dallas, Texas, U.S.A., October 9 – 12, 2005. P. Gadde and M.M. Sharma.
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32. "Decreasing Water Invasion into Atoka Shale Using Non-modified Nanoparticles," w/Jihua Cai, and Mukul Sharma, August 1, 2010.
33. "Field Demonstration of Alkaline Surfactant Polymer Floods in Mature Oil Reservoirs Bookshire Dome, Texas," Final Report to Research Partnership to Secure Energy for America project # 08123-02, January 15, 2013.
34. "Improved Reservoir Access Through Refracture Treatments in Tight Gas Sands and Gas Shales," Final Report to Research Partnership to Secure Energy for America project #07122-41, June 30, 2013.
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38. "Improving Fractured Well Performance in the Eagle Ford and Utica Shales: Understanding Shale-Water Interactions," Final Report for BP America contract # CW1956059.

MEETINGS CHAIRED

Chaired sessions at several meetings, including:

- Society of Petroleum Engineers (SPE),
 - Annual Meetings,
 - Hydraulic Fracturing Conferences
 - Formation Damage Conferences
 - Oilfield Chemistry Meetings
- American Institute of Chemical Engineers (AIChE), Annual Meetings.
- American Chemical Society Meetings.
- Society of Core Analysts, Annual Meetings.
- American Filtration Society.

SHORT COURSES AND WORKSHOPS

Taught over 100 industry courses in over 20 countries around the world.

Course topics include:

- Hydraulic Fracturing
- Formation Damage
- Near Wellbore Production Problems
- Advanced Production Engineering I and II
- Oilfield Water Handling, Treatment and Reinjection
- Fundamentals of Petrophysics
- Advanced Petrophysics

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11. M.M. Sharma; Gao, B.; "Salt-Tolerant Anionic Surfactant Compositions For Enhanced Oil Recovery (Eor) Applications," U.S. Patent Application Serial No. 13/963,460, April 10, 2014.
12. M.E. Chenevert; M.M. Sharma; "Maintaining shale stability by pore plugging," U.S. Patent No. 8,783,352, July 22, 2014.
13. M.E. Chenevert; M.M. Sharma; "Maintaining shale stability by pore plugging," U.S. Patent No. 9,435,198, September 6, 2016, U.S. Patent Application No.: 14/304,401.
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