

CURRICULUM VITAE
YOUNANE N. ABOUSLEIMAN, PH.D.

THE UNIVERSITY OF OKLAHOMA, NORMAN
CONOCOPHILLIPS SCHOOL OF GEOLOGY AND GEOPHYSICS
MEWBOURNE SCHOOL OF PETROLEUM AND GEOLOGICAL ENGINEERING
SCHOOL OF CIVIL ENGINEERING AND ENVIRONMENTAL SCIENCE
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EDUCATION

University of Delaware, Newark, USA, Doctor of Philosophy (Civil Engineering) - 1991
Columbia University, New York, USA, Master of Science (Civil Engineering & Engineering Mechanics) -1986
The American University of Beirut, Lebanon, Bachelor of Engineering (Civil Engineering) - 1982

HONORS, AWARDS & CERTIFICATES

HONORS & AWARDS

Maurice A. Biot Medal, 2019, ASCE Engineering Mechanics Institute.

"ASCE Engineering Mechanics Institute Fellow," 2014.

Caterpillar Prize for Best Paper Award 2012, "Nanochemical assessment of shale: a coupled WDS-indentation analysis," Acta Geotechnica, Springer Verlag.

Jules Braunstein Memorial Prize and Award 2012, American Association of Petroleum Geologists.

Loyd Carlson Memorial Award, 2012, American Association of Petroleum Geologists, Energy Minerals Division.

The Innovator Award for 2011, The University of Oklahoma, Norman, Oklahoma, USA.

Award for "Excellent Paper" in 2008, International Association for Computer Methods and Advances in Geomechanics (IACMAG), Published in the International Journal of Geomechanics, 2005.

The Walter L. Huber Civil Engineering Research Prize and Award, 2003, for "Poromechanics with Rock and Geomechanics Applications," Award in Civil Engineering Research, American Society of Civil Engineers.

Award for "Most Significant Paper in Fundamental Research," 1997 International Association for Computer Methods and Advances in Geomechanics.

Chairman, American Society of Civil Engineers, Engineering Mechanics Division, Poromechanics Committee, 2004 - 2006.

Associate Editor, Journal of Engineering Mechanics, American Society of Civil Engineers, 2004 - 2010.

Associate Editor, Journal of Applied Mechanics, American Society of Mechanical Engineers, 2005 - Present.

Associate Editor, Society of Petroleum Engineers Journal, 2007 - Present.

Associate Editor, Advances in Water Resources Series, Computational Mechanics Publication (CMP), England, 2000 - Present.

Founding Editorial Board Member, Lecture Notes in Mechanics (LNMech), Engineering Mechanics Institute, American Society of Civil Engineers.

Vice-Chairman, American Society of Civil Engineers, Engineering Mechanics Division, Poromechanics Committee, 2002 - 2004.

Associate Editor, Journal of Petroleum Exploration & Production Technology, Springer.

Associate Editor, Journal of King Saud University—Engineering Sciences.

Editorial Board, Journal of Engineering Technology (JET).

Editorial Board, Geomechanics for Energy and the Environment (Elsevier)

Listed in Who's Who in America in Science and Engineering, Marquis, 4th, 5th - 10th Editions, 1998 - Present.

Listed in Who's Who in the World, Marquis, 17th Edition, since 2000-Present.

Listed in Who's Who in American Education, Marquis 5th & 6th Editions, 2002 - 2003, 2004 – 2005-2008 and Present.

PROFESSIONAL EXPERIENCE

ACADEMIC

Larry W. Brummett/ONEOK Chair Professor – Mewbourne School of Petroleum & Geological Engineering, ConocoPhillips School of Geology and Geophysics, School of Civil Engineering & Environmental Science, and College of Earth & Energy, The University of Oklahoma, Norman, USA (January 2003 - Present).

Larry W. Brummett/ONEOK Chair Professor – School of Civil Engineering & Environmental Science and Sarkeys Energy Center, The University of Oklahoma, Norman, USA (July 2001 – December 2002).

Director – *integrated* PoroMechanics Institute, The University of Oklahoma, Norman, USA (September 2002 - Present).

Director - Rock Mechanics Institute, The University of Oklahoma, Norman, USA (October 1999 – September 2002).

Associate Professor - School of Engineering and Architecture, The Lebanese American University, Byblos, Lebanon (November 2000 – June 2001).

Assistant Professor - School of Engineering and Architecture, The Lebanese American University, Byblos, Lebanon (February 1996 – June 1998).

Executive Associate Director/Senior Scientist - Rock Mechanics Institute, The University of Oklahoma, Norman, USA (July 1998 – October 1999).

Research Associate Professor - The University of Oklahoma, Norman, USA (July 1998 – October 2000).

Visiting Scientist - Rock Mechanics Institute, The University of Oklahoma, Norman, USA (January 1996 – June 1998).

Graduate Faculty - School of Petroleum & Geological Engineering, The University of Oklahoma, Norman, USA (January 1995 – September 1996).

Senior Research Associate/Manager, Non-Core Program (NSF Rock Mechanics Research Center) - School of Petroleum & Geological Engineering/Rock Mechanics Institute, The University of Oklahoma, Norman, USA (March 1994 – January 1996).

Research Associate - School of Petroleum & Geological Engineering, The University of Oklahoma, Norman, USA (November 1992 – February 1994).

Postdoctoral Fellow - School of Petroleum & Geological Engineering, The University of Oklahoma, Norman, USA (August 1991 – October 1992).

Off-Campus Faculty - Department of Civil Engineering, University of Delaware, Newark, USA (1989 – 1990).

ENGINEERING

Project Manager and Co-Director - Analysis Research and Consultancy Services (ARCS), Beirut, Lebanon, 1996-1999.

Site Engineer - Ministry of Public Works, Beirut, Lebanon, 1982-1984.

Project Engineer - Associated Builders and Contractors (ABCO), Beirut, Lebanon, 1983-1984.

TEACHING & ADVISING ACTIVITIES

TEACHING

1. GEOL 1114 – “Introduction to Physical Geology for Engineers and Scientists,” The University of Oklahoma, Norman, School of Geology and Geophysics.
2. GEOL 5970 – “Geomechanics Applications,” The University of Oklahoma, Norman, School of Geology and Geophysics.
3. PE 2153 – “Mechanics of Materials,” The University of Oklahoma, Norman, Mewbourne School of Petroleum and Geological Engineering.
4. GEOL 6970/PE 5990 – “Introduction to Reservoir Characterization I & II,” The University of Oklahoma, Norman, School of Geology and Geophysics.
5. CEES 5220/PE 5990 – “Introduction to Poromechanics with Engineering Applications,” The University of Oklahoma, Norman, School of Civil Engineering & Environmental Science and Mewbourne School of Petroleum and Geological Engineering.
6. ENGR 2112- “Introduction to Engineering,” The University of Oklahoma, Norman, School of Petroleum and Geological Engineering.
7. ENGR 2113 – “Rigid Body Mechanics,” The University Oklahoma, Norman, School of Civil Engineering & Environmental Science.
8. CIE 422 – “Hydraulics,” The Lebanese American University, Byblos, Lebanon, School of Engineering and Architecture.
9. PHY 211 — The Lebanese American University, Byblos, Lebanon, School of Engineering and Architecture.
10. CIE 501 – “Soil and Rock Mechanics,” The Lebanese American University, Byblos, Lebanon, School of Engineering and Architecture.
11. CIE 523 – “Hydrology,” The Lebanese American University, Byblos, Lebanon, School of Engineering and Architecture.

12. CIE 524 – “Groundwater,” The Lebanese American University, Byblos, Lebanon, School of Engineering and Architecture.
13. CIE 502 - “Foundation Engineering,” The Lebanese American University, Byblos, Lebanon, School of Engineering and Architecture.
14. CIE 598 – “Civil Engineering Design,” The Lebanese American University, Byblos, Lebanon, School of Engineering and Architecture.
15. PE/GE 6263 – “Advanced Rock Mechanics,” graduate level, The University of Oklahoma, Norman, School of Petroleum & Geological Engineering, Fall of 1992-93 and Spring 1994.
16. CE 420 – “Soil Mechanics and Geotechnical Engineering,” undergraduate level, University of Delaware, Newark, Department of Civil and Environmental Engineering, Fall of 1989-90.

THESIS SUPERVISION

Doctoral Degree

- Yanguang Yuan, Ph.D. (School of Petroleum & Geological Engineering), The University of Oklahoma, Norman, USA, 1997.
- Shailesh Ekbote, Ph.D. (School of Civil Engineering & Environmental Science), The University of Oklahoma, Norman, USA, 2002.
- Rajesh Nair, Ph.D. (School of Civil Engineering & Environmental Science), The University of Oklahoma, Norman, USA, 2003.
- Ashraf Al-Tahini, Ph.D. (School of Petroleum & Geological Engineering), The University of Oklahoma, Norman, USA, 2007.
- Vinh Xuan Nguyen, Ph.D. (School of Petroleum & Geological Engineering), The University of Oklahoma, Norman, USA, May 2010.
- Son K. Hoang, Ph.D. (School of Civil Engineering & Environmental Science), The University of Oklahoma, Norman, USA, 2011.
- Shengli Chen, Ph.D. (School of Petroleum & Geological Engineering), The University of Oklahoma, Norman, USA, 2012.
- Amin Mehrabian, Ph.D. (School of Petroleum & Geological Engineering), The University of Oklahoma, Norman, USA, 2013.
- Minh Tran, Ph.D. (School of Petroleum & Geological Engineering), The University of Oklahoma, Norman, USA, 2013.
- Chao Liu, Ph.D. (School of Petroleum & Geological Engineering), The University of Oklahoma, Norman, USA, 2016.

Master of Science

- Richin Chhajlani M.S. (School of Petroleum & Geological Engineering), The University of Oklahoma, Norman, USA, 1995.
- Maung Hla Shwe M.S. (School of Petroleum & Geological Engineering), The University of Oklahoma, Norman, USA, 1996.
- Yanhui Han M.S. (School of Civil Engineering & Environmental Science), The University of Oklahoma, Norman, USA, 2002.
- Arasan Singanayham M.S. (School of Civil Engineering & Environmental Science), The University of Oklahoma, Norman, USA, 2002.

Vinh Xuan Nguyen, M.S. (School of Petroleum & Geological Engineering), The University of Oklahoma, Norman, USA, 2003.

Minh Tran, M.S. (School of Petroleum & Geological Engineering), The University of Oklahoma, Norman, USA, 2009.

Claudia Amoroch Garcia, M.S. (School of Petroleum & Geological Engineering), The University of Oklahoma, Norman, USA, 2011.

Rafael Sierra, M.S. (School of Geology and Geophysics), The University of Oklahoma, Norman, USA, 2011.

Mouin Al-Masoodi, M.S. (School of Geology and Geophysics), The University of Oklahoma, Norman, USA, 2013.

Sezer Sevinc, M.S. (School of Geology and Geophysics), The University of Oklahoma, Norman, USA, 2013.

Batoul Maatouk, M.S. (School of Petroleum & Geological Engineering), The University of Oklahoma, Norman, USA, 2014.

Junxin Guo, M.S. (School of Geology and Geophysics), The University of Oklahoma, Norman, USA, 2015.

Thao P. Le, M.S. (School of Geology and Geophysics), The University of Oklahoma, Norman, USA, 2016.

Yang Zhou, M.S. (School of Petroleum & Geological Engineering), The University of Oklahoma, USA, 2017.

THESIS / DISSERTATION COMMITTEE

Lizheng Cui, Ph.D. (Civil Engineering Department), University of Delaware, USA, 1995.

Tobia Elias Kmeid, M.S. (Civil Engineering & Environmental Science), The University of Oklahoma, Norman, USA, 2003.

S. Pirabarooban, M.S. (Civil Engineering & Environmental Science), The University of Oklahoma, Norman, USA, 2004.

Naji Khoury, Ph.D. (Civil Engineering & Environmental Science), The University of Oklahoma, Norman, USA, 2005.

Norman Tan, Ph.D. (Civil Engineering & Environmental Science), The University of Oklahoma, Norman, USA, 2005.

Yunming Yang, Ph.D. (Civil Engineering & Environmental Science), The University of Oklahoma, Norman, USA, 2008.

Y. Chen, Ph.D. (Mewbourne School of Petroleum and Geological Engineering), The University of Oklahoma, Norman, USA, 2008.

Chunyang Liu, Ph.D. (Civil Engineering & Environmental Science), The University of Oklahoma, Norman, USA, 2009.

Jose Alberto Ortega, Ph.D. (Civil and Environmental Engineering), Massachusetts Institute of Technology, Cambridge, USA, 2010.

Brian James Killian, M.S. (Geology & Geophysics), The University of Oklahoma, Norman, USA, 2012.

Amirata Taghavi, Ph.D. (Civil Engineering & Environmental Science), The University of Oklahoma, Norman, USA, 2015.

Dewett, Dustin, Ph.D. (Geology & Geophysics), The University of Oklahoma, Norman, USA, 2016 – Present.

Al-Masoodi, Mouin, Ph.D. (Petroleum & Geological Engineering), The University of Oklahoma, Norman, USA, 2017 – Present.

Chen, Yilin, M.S. (Petroleum & Geological Engineering), The University of Oklahoma, Norman, USA, 2016 – Present.

JOURNAL REVIEW

Journal of Applied Mechanics, American Society of Mechanical Engineers (ASME).

International Journal of Solids and Structures.

Géotechnique, Oxford, UK.

Journal of Physical Chemistry, USA.

International Journal for Numerical and Analytical Methods in Geomechanics.

Journal of Engineering Mechanics, the American Society of Civil Engineers (ASCE).

Computational Mechanics Research Journal, Springer International, Springer-Verlag.

Mechanics, Research Communications, Basic and Applied, International Center for Mechanical Sciences (CSIM).

CONFERENCE ACTIVITIES

1. *Co-Organizer Mini-Symposium*, “Analytical and Numerical Solutions to Problems in Petroleum Geomechanics,” Engineering Mechanics Institute (EMI) Conference 2018, Massachusetts Institute of Technology, Cambridge, Massachusetts, May 29 – June 1, 2018.
2. *Co-Organizer Mini-Symposium*, “Physics of Shale,” Engineering Mechanics Institute (EMI) Conference, University of California – San Diego, June 4-7, 2017.
3. *Advisory Committee Member*, 6th Biot Conference on Poromechanics, Paris, France, July 9-13, 2017.
4. *International Scientific Committee Member*, EMI 2015 and *Co-Chair, Minisymposium*: “Multiscale & Multiphysical Processes in Shales and Nanoporous Rocks,” Engineering Mechanics Institute (EMI) Conference, Stanford, California, June 16-19, 2015.
5. *Co-Organizer Minisymposium*, “Multiphysics Modelling of Porous Media: Geomaterials, Biomaterials and Others,” 11th World Congress on Computational Mechanics (WCCM XI) / 5th European Conference on Computational Mechanics (ECCM V) / 6th European Conference on Computational Fluid Dynamics (ECFD VI), Barcelona, Spain, July 20-25, 2014.
6. *Technical Committee Member*, European Association of Geoscientists & Engineers (EAGE) Workshop on “Geomechanics in the Oil & Gas Industry,” Dubai, UAE, May 11-14, 2014.
7. *Committee Member*, SPE ATW “Reservoir Nanoagents: Taming Complexities on Road to Deployment,” Dubai, UAE, February 25-26, 2014.
8. *Organizing Board*, SPE 18th Middle East Oil & Gas Show and Conference, Kingdom of Bahrain, March 11-13, 2013.

9. *Advisory Committee*, 5th Biot Conference on Poromechanics, Vienna, Austria, July 10-12, 2013.
10. *EMI Scientific Committee*, 2012 Joint Conference of the EMI and the 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability, Notre Dame, Indiana, June 17-20, 2012.
11. *Discussion Leader*, SPE Applied Technology Workshop on “The Challenges of Sub-Salt Exploration in Middle-East & North Africa Deepwater,” Amman, Jordan, June 11-13, 2012.
12. *Chair*, Plenary Lecture/Technical Session, 2nd International Symposium on Constitutive Modeling of Geomaterials: Advances and New Applications, Tsinghua University, Beijing, China, October 15-16, 2012.
13. *ASCE EMI Representative*, “Materials Genome Initiative,” component of President Obama’s “Advanced Manufacturing Partnership” initiative.
14. *Co-organizer*, Coussy Memorial Symposium, ASCE, Engineering Mechanics Institute, University of Southern California, August 2010.
15. *Advisory committee for 4th Biot Conference on Poromechanics*, Columbia University, New York, New York, USA, June 6-9, 2009.
16. *Sessions Organizer and Chairman (three sessions) for 4th Biot Conference on Poromechanics*, Columbia University, New York, New York, USA, June 6-9, 2009.
17. *Mini-Symposium Chairman – 8th World Congress on Computational Mechanics (WCCM8)* Venice, Italy, June 29-July 4, 2008.
18. *Mini-Symposium Chairman – 15th U.S. National Congress of Theoretical and Applied Mechanics*, University of Colorado at Boulder, June 25-30, 2006.
19. *Conference Chairman – 3rd Biot Conference on Poromechanics*, Norman, Oklahoma, USA, May 24-27, 2005.
20. *Session Chairman – 2nd Biot Conference on Poromechanics*, Grenoble, France, August, 26-28, 2002.
21. *Session Chairman – SPE Annual Technical Conference & Exhibition*, San Antonio, Texas, October 2002.
22. *Session Chairman - 4th North American Rock Mechanics Symposium (NARMS)*, Seattle, Washington, USA, July 31-August 3, 2000.
23. *Session Chairman - International Union of Theoretical and Applied Mechanics (IUTAM) Symposium on Theoretical and Numerical Methods in Continuum Mechanics of Porous Materials*, University of Stuttgart, Stuttgart, Germany, September 5-10, 1999.
24. *Session Chairman – 37th U.S. Symposium on Rock Mechanics*, Vail, Colorado, June 6-9, 1999.
25. *Conference Co-Chairman and Organizer - Biot Conference on Poromechanics*, The Catholic University of Louvain, Louvain-la-Neuve, Belgium, September 14-16, 1998.
26. *Conference Chairman*, The Fourth International Conference on Computer Methods and Water Resources (CMWR 97), Byblos, Lebanon, June 16-18, 1997.
27. *Session Chairman - 9th International Conference of the International Association for Computer Methods and Advances in Geomechanics (IACMAG)*, Wuhan, People’s Republic of China, November 2-7, 1997.
28. *Session Chairman - 2nd North American Rock Mechanics Symposium (NARMS)*, Montréal, Quebec, Canada, June 19-21, 1996.

29. *Session Chairman* - 11th Engineering Mechanics Conference, American Society of Civil Engineers (ASCE), Radisson Bahia Mar Resort, Fort Lauderdale, Florida, USA, May 19-22, 1996.
30. *Conference Chairman* - The Third International Conference on Computer Methods and Water Resources (CMWR 95), Beirut, Lebanon, September 25-28, 1995.
31. *Session Chairman* – 35th U.S. Symposium on Rock Mechanics, University of Nevada, Reno, June 5-7, 1995.

PROFESSIONAL SOCIETIES

Member of the American Society of Civil Engineers.

Member of the Society of Petroleum Engineers.

Member of the American Society of Mechanics Engineers.

Member of the International Society of Rock Mechanics.

Charter Member of the American Rock Mechanics Association.

CONTRACTS & GRANTS

1. "Geomechanics Gas Shale Consortium, Phase IV," Principal Investigator, Industry Sponsored Funding, \$600,000, integrated PoroMechanics Institute, The University of Oklahoma, January 2014 – December 2016 (Aramco, Halliburton, Japan Oil, Gas & Metals National Corp., TOTAL)
2. "Rock Mechanics Consortium, Phase VII," Principal Investigator, Industry Sponsored Funding, \$1,200,000, integrated PoroMechanics Institute, The University of Oklahoma, January 2013 – December 2015 (Aramco, Chevron, ConocoPhillips, Halliburton, Instituto Mexicano del Petróleo, Japan Oil, Gas & Metals National Corp., Randy Energy Services, TOTAL)
3. "Geomechanics Gas Shale Consortium, Phase III," Principal Investigator, Industry Sponsored Funding, \$900,000, PoroMechanics Institute, The University of Oklahoma, January 2011 – December 2013 (Aramco, ECOPETROL-ICP, Halliburton, Japan Oil, Gas and Metals National Corp., Statoil, TOTAL)
4. "Rock Mechanics Consortium, Phase VI," Principal Investigator, Industry Sponsored Funding, \$1,200,000, PoroMechanics Institute, The University of Oklahoma, January 2010 – December 2012 (Aramco, Chevron, ConocoPhillips, ECOPETROL-ICP, Halliburton, Japan Oil, Gas & Metals National Corp., Statoil ASA, TOTAL)
5. "Inclined Direct Shear Testing Device, IDSTD™ A Tool Design," Principal Investigator, HICP-ECOPETROL, Colombia, \$82,703.00, October 2009 – April 2010
6. "Laboratory Characterization of Chemical Grout at Depth," Principal Investigator, Shell, Houston, USA, \$20,600, June 2009-September 2009.
7. "GeoGenome™ Industry Consortium, Phase II," Principal Investigator, 7 Members Industry Sponsored Funding, \$1,050,000, PoroMechanics Institute, The University of Oklahoma, January 2008 – December 2010 (Aramco, ConocoPhillips, ECOPETROL-ICP, Halliburton, Japan Oil, Gas and Metals National Corp., Statoil ASA, TOTAL)
8. "Rock Mechanics Consortium, Phase V," Principal Investigator, Eight Members, Industry Sponsored Funding, \$1,200,000, PoroMechanics Institute, The University of Oklahoma, January 2007 – December 2009 (Aramco, Total, Chevron, ConocoPhillips, Hydro, etc.)
9. "Analysis of Geomechanical Tools for Wellbore Stability and Sanding," Principal Investigator, Chevron Corporation, Houston, USA, \$103,619, August 2007 – July 2009.

10. "Computer Simulation Tools for Multiphase Porous Media," Co-Principal Investigator (50%), Oklahoma Center for the Advancement of Science and Technology, \$297,954, 2008-2011.
11. "Effect of Matric Suction Hysteresis on Resilient Modules of Subgrade Soil," Co-Principal Investigator (40%), Oklahoma Transportation Center, Education, An Outreach Support, \$143,248, 2008-2009.
12. "GeoGenome™ Industry Consortium, Phase I," Principal Investigator, Industry Sponsored Funding, \$1,050,000, PoroMechanics Institute, The University of Oklahoma, January 2005 – December 2007 (Aramco, Chevron-Texaco, Halliburton, ICP-ECOPETROL, Mewbourne Oil, Norsk Hydro, TOTAL)
13. "Drilling Fluids Effects on Shale Penny Shape "Tiny" Samples," Principal Investigator, Japan Oil, Gas and Metals National Corporation, Japan, \$109,107, June 2006 – Dec. 2007.
14. "Experimental Measurements for Shale Coefficients when in Contact with Fluid Mud Chemistry in Wellbore Stability," Principal Investigator, Halliburton/Baroid, Houston, USA, \$94,936, July 2006 – Dec. 2007.
15. "Inclined Direct Shear Testing Device, IDSTD™ A Tool Design," Principal Investigator, Hydro, SAS, Norway, \$90,447, April 2007 – Dec. 2007.
16. "Rock Mechanics Consortium, Phase IV," Principal Investigator, Fourteen Members, Industry Sponsored Funding, \$1,300,000, PoroMechanics Institute, The University of Oklahoma, January 2003 – December 2006 (Aramco, Total, Chevron, ConocoPhillips, Hydro, etc.)
17. "Inclined Direct Shear Testing Device Program on Drilling Fluids Effects on Shale Penny Shape Samples, PHASE II," Principal Investigator, Hydro, SAS, Norway, \$26,685, March 2006 - May 2006.
18. "Inclined Direct Shear Testing Device Program on Drilling Fluids Effects on Shale Penny Shape Samples," Principal Investigator, Hydro, SAS, Norway, \$69,785, July 2005 - May 2006.
19. "Laboratory Soft Sediment Fracture Opening and Closure Simulation," Principal Investigator, Halliburton, USA, \$64,789.00, December 2004 – October 2005.
20. "Multilateral Wellbore Stability Modeling Coupled with Time-Dependent In-Situ Stress Analysis," Principal Investigator, Hydro, SAS, Norway, \$111,548, December 1, 2004, July 31, 2005.
21. "Multilateral Well: A Junction Stability Study," Principal Investigator, TOTAL, Pau, France, \$25,538, December 31, 2004, February 28, 2005.
22. "Geomechanics of the Water Hammer Effects in Wellbores," Co-Principal Investigator, Schlumberger, Houston, \$ 53,387, September 1, 2004 - March 31, 2005.
23. "Acquisition of X-ray Scattering Systems for the Characterization of Nano-structured Materials," National Science Foundation, \$ 474,842, September 1, 2004 – August 31, 2005.
24. "Estimation of Sandstones Rock Strength and Stiffness from Drill Cuttings: Nano-mechanics Nanotechnology," Principal Investigator, Massachusetts Institute of Technology, \$5,000, May 2004 - October 2004.
25. "Rock Mechanics Consortium, Phase III," Principal Investigator, Seventeen Members, Industry Sponsored Funding, \$2,250,000, PoroMechanics Institute, The University of Oklahoma, January 2000 – December 2003.
26. "Shale Strength Measurements When in Contact with Various Drilling Mud Fluid Composition," Principal Investigator, Japan National Oil Company, Japan, \$14,621, Aug. - Oct. 2003.
27. "ABAQUS Modeling of an Inclined Wellbore with the Drillstring Effects on Stress Distribution," Principal Investigator, ConocoPhillips, Oklahoma, \$9,490, July – Sept. 2003.

28. "Soft Sandstone Strength and Mechanical Parameters Measurements Subjected to High Stresses," Principal Investigator, Halliburton, Oklahoma, \$ 7,968.00, Sept. 1 – Sept. 30, 2003.
29. "ABAQUS Modeling of Secondary Faulting and Stress/Strain Development Above a Master Listric Fault," Principal Investigator, TotalFinaElf, France, \$20,000, June - December 2002.
30. "Mechanical and Thermal Properties of Heavy Crude Oil (HCO) Reservoirs in Colombia," Principal Investigator, ECOPETROL-ICP, Colombia, \$22,500, April – December 2002.
31. "Acoustical Imaging and Mechanical Properties of Soft Rock and Marine Sediments," Co-Principal Investigator, U.S. Department of Energy (DOE), \$366,718, July 2000 – July 2003.
32. "An Alternate Method for Determination of Asphalt Content," Co-Principal Investigator, Oklahoma Department of Transportation through Oklahoma Transportation Center, \$47, 868, May – September 2002.
33. "Ultrasonic Acoustic Signature and Material Characteristics of Sand Packs," Co-Principal Investigator, Conoco Inc., \$50,000, Rock Mechanics Institute, The University of Oklahoma, 1999-2000.
34. "Nonlinear Analyses for Coupled Fluid/Rock Interaction," Principal Investigator, Oklahoma Center for the Advancement of Science and Technology (OCAST), \$61,700, Rock Mechanics Institute, The University of Oklahoma, 1999-2000.
35. "Study of Coupled Rock Deformation and Fluid Flow Over Mining Areas," Co-Principal Investigator, China Coal Research Institute, Beijing, People's Republic of China, \$3,003, Rock Mechanics Institute, The University of Oklahoma, January – April 1999.
36. "Nonlinear Dual-Porosity Poroelasticity," Co-Principal Investigator, Institute of Geomechanics, China University of Mining Technology, Beijing, People's Republic of China, \$5,125.00, Rock Mechanics Institute, The University of Oklahoma, September 1998 – August 1999.
37. "The Stress Tool (TST)," Principal Investigator, Phillips Petroleum Company, \$64,946, Rock Mechanics Institute, The University of Oklahoma, September 1995 - October 1996.
38. "Nonlinear Analyses for Coupled Fluid/Rock Interaction," Principal Investigator, Oklahoma Center for the Advancement of Science and Technology (OCAST), \$348,214, Rock Mechanics Institute, The University of Oklahoma, June 1995 - May 1998.
39. "A Correlative Evaluation of Reservoir Rock Properties," Co-Principal Investigator, Oklahoma Center for the Advancement of Science and Technology (OCAST), \$244,384, Rock Mechanics Institute, The University of Oklahoma, June 1995 - May 1997.
40. "Shale Testing Program," Co-Principal Investigator, Saga Petroleum a.s., Norway, \$27,989, School of Petroleum & Geological Engineering, The University of Oklahoma, February - July 1995.
41. S/IUCRC "Rock Mechanics Research Center," Co-Principal Investigator, National Science Foundation and Oklahoma Center for the Advancement of Science and Technology, \$4,500,000, Rock Mechanics Institute, The University of Oklahoma, September 1995 – August 1999.
42. "Stress and Pressure Distributions Along Borehole Perforations," Principal Investigator, ARCO Exploration and Production Technology, \$47,163, School of Petroleum & Geological Engineering, The University of Oklahoma, March 1994 – May 1995.
43. "Application of ABAQUS to Coupled Rock Deformation and Fluid Problems," Principal Investigator, Shell Development Company, \$7,310, School of Petroleum & Geological Engineering, The University of Oklahoma, July - November 1994.

44. "Fracture Toughness Determination for Dry Cement Mix," Co-Principal Investigator, Halliburton Energy Services, \$4,935, School of Petroleum & Geological Engineering, The University of Oklahoma, March - April 1995.
45. S/IUCRC "Rock Mechanics Research Center," Co-Principal Investigator, National Science Foundation and Oklahoma Center for the Advancement of Science and Technology, \$2,800,000, September 1992 – August 1995.
46. "Third International Conference on Computer Methods and Water Resources," Principal Investigator, Solidere, Beirut, Lebanon, \$5,000, Rock Mechanics Institute, The University of Oklahoma, September - December 1995.
47. "Poroelastic Analysis in Dual Porosity Media," Co-Principal Investigator, Central Coal Mining Research Institute, Beijing, People's Republic of China, \$4,586, Rock Mechanics Institute, The University of Oklahoma, July 1996 – January 1997.

PUBLICATIONS

PATENTS:

1. Abousleiman, Y., Ulm, F.-J., Tran, M. H., Ortega, J. A., Bobko, C. P., and Hoang, S. K. 2013. Method of Predicting Mechanical Properties of Rocks Using Mineral Compositions Provided by In-Situ Logging Tools. **US Patent No. 8,380,437**.
2. Khoury, N., Khoury, C., Abousleiman, Y., Rostami, H., and Yada, D. 2011. Plastic-Based Cementitious Materials. **US Patent Application No. US2011/459681**.
3. Abousleiman, Y., Brumley, J., Nguyen, V., Hoang, S. K., and Al-Tahini, A. 2010. Test Cell for Applying a Shear Stress to a Test Specimen. **US Patent No. 7,650,795 B2**.

REFEREED JOURNAL PAPERS

1. Hull, K. L., Jacobi, D., and Abousleiman, Y. N. 2019. Oxidative Kerogen Degradation: A Potential Approach to Hydraulic Fracturing in Unconventionals. *Energy Fuels*, **33**(6): 4758-4766. <https://doi.org/10.1021/acs.energyfuels.9b00104>
2. Liu, C., Han, Y., Liu, H.-H., and Abousleiman, Y.N. 2019. Wellbore-Stability Analysis by Integrating a Modified Hoek-Brown Failure Criterion With Dual-Porochemoelectroelastic Theory. *SPE Journal (Preprint)*. <https://doi.org/10.2118/195685-PA>
3. Guo, J., Liu, C., and Abousleiman, Y. N. 2019. Transversely isotropic poroviscoelastic bending beam solutions for low-permeability porous medium. *Mechanics Research Communications*, **95**: 1-7. <https://doi.org/10.1016/j.mechrescom.2018.11.001>.
4. Liu, C., Mehrabian, A., and Abousleiman, Y. N. 2018. Theory and Analytical Solutions to Coupled Processes of Transport and Deformation in Dual-Porosity Dual-Permeability Poro-Chemo-Electro-Elastic Media. *ASME Journal of Applied Mechanics*, **85**(11): 111006-1 – 111006-13. <https://doi.org/10.1115/1.4040890>
5. Liu, C. and Abousleiman, Y. N. 2018. Multiporosity/Multipermeability Inclined-Wellbore Solutions With Mudcake Effects. *SPE Journal*, **23**(05): SPE-191135-PA. <https://doi.org/10.2118/191135-PA>.
6. Mehrabian, A. and Abousleiman, Y., 2018. Theory and Analytical Solution to Cryer's Problem of *N*-Porosity and *N*-Permeability Poroelasticity. *Journal of the Mechanics and Physics of Solids*, **118**: 218-227. <https://doi.org/10.1016/j.jmps.2018.05.011>.
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14. Abousleiman, Y. N. and Hull, K. L. 2016. Micromechanical Characterization of a Natural Organic Rich Composite Porous Medium. XXIV ICTAM, Montréal, Canada, 21-26 August.
15. Hull, K. L., Abousleiman, Y. N., and Al-Muntasheri, G. 2016. Nano- and Microscale Characterization of Multiporous Granular Material. 6th International Conference on Porous Media and Its Applications in Science, Engineering and Industry, Waikoloa, Hawaii, 3-8 July.
16. Hoang, S. K., Nguyen, S. T., Khuc, G. H., Nguyen, D. A., Poc, B. D., and Abousleiman, Y. N. 2016. Overcoming Wellbore Instability Challenges in HPHT Field with Fully Coupled Poro-Thermo-Elastic Modelling: A Case Study in Hai Thach Field Offshore Vietnam. Offshore Technology Conference (OTC) Asia, Kuala Lumpur, Malaysia, 22-25 March.
17. Liu, C. and Abousleiman, Y. N. 2016. Dual-Porosity Dual-Permeability Poroelastic After-Closure Analysis in Hydraulic Fracturing. SPE Annual Technical Conference & Exhibition. SPE Annual Technical Conference & Exhibition, Dubai, UAE, 26-28 September. (submitted).
18. Liu, C. and Abousleiman, Y. N. 2016. N-Porosity and N-Permeability Generalized Wellbore Stability Analytical Solutions and Applications. 50th U.S. Rock Mechanics/Geomechanics Symposium, Houston, Texas, 26-29 June.
19. Mehrabian, A. and Abousleiman, Y. 2016. Wellbore Geomechanics of Extended Drilling Margins and Engineered Lost Circulation Solutions. 50th U.S. Rock Mechanics/Geomechanics Symposium, Houston, Texas, 26-29 June.
20. Mehrabian, A., Savari, S., Whitfill, D. and Abousleiman, Y. 2016. Geomechanics of Wellbore Strengthening Operations Revisited: A Combined Theoretical and Experimental Approach. SPE Annual Technical Conference & Exhibition (submitted).
21. Hull, K., Abousleiman, Y. N., Han, Y., Al-Muntasheri, G. A., Hosemann, P., Parker, S. and Howard, C. 2015. New Insights on the Mechanical Characterization of Kerogen-Rich Shale (KRS). Presented at Abu Dhabi International Petroleum Exhibition & Conference (ADIPEC 2015), 9-12 November (ePoster Session).

22. Chen, S., Al-Muntasheri, G., and Abousleiman, Y. N. 2014. Implementation of Bounding Surface Model into ABAQUS and Its Application to Wellbore Stability Analysis. American Geophysical Union (AGU) Fall Meeting, San Francisco, California, 15-19 December.
23. Almasoodi, M. M., Abousleiman, Y. N., and Hoang, S. K. 2014. Viscoelastic Creep of Eagle Ford Shale: Investigating Fluid-Shale Interaction. Presented at SPE/CSUR Unconventional Resources Conference, Calgary, Alberta, Canada, 30 September-2 October.
24. Abousleiman, Y. N., Liu, C., and Hoang, S. K. 2014. Simulating Leak-Off in Shale Hydraulic Fracturing Using Dual- and Triple-Poro-Thermo-Elastic Anisotropic Solutions. Presented at WCCM XI/ECCM V/ECFD VI, Barcelona, Spain, 20-25 July.
25. Chen, S., Abousleiman, Y., and Abass, H. 2014. An Analytical Elasto-Plastic Analysis for Stability of Axisymmetric Wellbore. Presented at ASME 2014 33rd International Conference on Ocean, Offshore and Arctic Engineering, San Francisco, California, 8-13 June.
26. Liu, C., Hoang, S., Tran, M., and Abousleiman, Y. 2013. The Multi-Porosity Multi-Permeability and Electrokinetic Natures of Shales and Their Effects in Hydraulic Fracturing of Unconventional Shale Reservoirs. Presented at AGU 2013 Fall Meeting, San Francisco, California, 9-13 December.
27. Abousleiman, Y., Hoang, S., Tran, M., and Ramos, R. 2013. Effects of Shale Anisotropy and Creep on In-Situ Stress Estimation. Presented at 6th International Symposium on In-Situ Rock Stress, Sendai, Japan, 20-22 August.
28. Abousleiman, Y., Liu, C., and Hoang, S. 2013. Poromechanics Axisymmetric Mandel-Type Solutions and Pore Pressure Intricate Behaviors in Dual-Porosity Dual-Permeability Shale. *Proc.*, Fifth Biot Conference on Poromechanics, Vienna, Austria, 10-12 July, 2451-2460.
29. Abousleiman, Y. and Tran, M. H. 2013. Incorporating the Electrokinetic Effects into the Poroelastic Wellbore and Cylinder Problem for Applications in Shale Drilling and Characterization. Presented at 47th U.S. Rock Mechanics / Geomechanics Symposium, San Francisco, California, 23-26 June.
30. Abousleiman, Y., Hoang, S., and Liu, C. 2013. Effects on Brittleness of Temperature Difference Between Hydraulic Fracturing Fluid and Shale Formation—Study on Woodford Shale. Presented at AAPG 2013 Annual Convention & Exhibition, Pittsburgh, Pennsylvania, 19-22 May.
31. Chen, S. L. and Abousleiman, Y. N. 2012. Exact undrained elasto-plastic analysis of wellbore stability problem using bounding surface model. *Proc.*, Joint Conference of the Engineering Mechanics Institute and the 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability, University of Notre Dame, Indiana, 17-20 June.
32. Hoang, S., Abousleiman, Y., and Hemphill, T. 2012. Poroviscoelastic Modeling of Time-Dependent Wellbore Closure when Drilling Anisotropic Gas Shale and Oil Shale Reservoirs—Applications in the Haynesville Shale and the Colony Pilot Mine Shale. Presented at SPE Annual Technical Conference and Exhibition, San Antonio, Texas, 8-10 October, SPE 159942.
33. Hoang, S. and Abousleiman, Y. N. 2012. Biot's Correspondence Principle Between Poroelasticity and Poroviscoelasticity Revisited Using Micromechanics. *Proc.*, Joint Conference of the Engineering Mechanics Institute and the 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability, University of Notre Dame, Indiana, 17-20 June.
34. Mehrabian, A. and Abousleiman, Y. 2012. Realizations of Experimental Hydrocephalus Data Through the Analytical Model of Poroviscoelastic Brain Tissue. Presented at ASME 2012 Summer Bioengineering Conference, Fajardo, Puerto Rico, 20-23 June, SBC2012-80192

35. Tran, M. H., Chen, S. L., Sierra, R. P., Abousleiman, Y. N., and Slatt, R. 2012. A Geomechanical Approach to Evaluate Gas Shale Fracability: A Case Study with the Woodford Shale. AAPG Annual Convention & Exhibition, Long Beach, California, 22-25 April, A-1235697. (Awarded as Top 10 Poster Presentation)
36. Tran, M. H. and Abousleiman, Y. N. 2012. Anisotropic Porochemoelectroelastic Solution for Inclined Wellbores with Applications to Operations in Unconventional Shale Plays. 2nd International Symposium on Constitutive Modeling of Geomaterials: Advances and New Applications (IACMAG), Beijing, China. 15-16 October.
37. Hoang, S. K. and Abousleiman, Y. N. 2011. Poroviscoelasticity with Anisotropy and the Associated Biot's Coefficients. Presented at the Mechanics and Physics of Porous Solids—A Tribute to Prof. Olivier Coussy, Champs-sur-Marne, France, 18-20 April.
38. Chen, S. L. and Abousleiman, Y. 2011. Analysis of Undrained Cylindrical Cavity Expansion in Modified Cam Clay Critical State Soil. Engineering Mechanics Institute Annual Conference, ASCE, Boston, Massachusetts, 2-4 June.
39. Nguyen, V. and Abousleiman, Y. 2010. Real-Time Wellbore-Drilling Instability in Naturally Fractured Rock Formations with Field Applications. Paper presented at IADC/SPE Asia Pacific Drilling Technology Conference and Exhibition, Ho Chi Minh City, Vietnam, 1-3 November, IADC/SPE 135904.
40. Brooks, Z., Ulm, F.-J., Einstein, H. H., and Abousleiman, Y. 2010. A Nonomechanical Investigation of the Crack Tip Process Zone. Presented at 44th U.S. Rock Mechanics Symposium and 5th U.S.-Canada Rock Mechanics Symposium, Salt Lake City, Utah, 27-30 June, ARMA 10-309.
41. Ortega, J. A., Ulm, F.-J., and Abousleiman, Y. 2010. A Multi-scale Micromechanics Framework for Shale Using Nano-tools. Presented at 44th U.S. Rock Mechanics Symposium and 5th U.S.-Canada Rock Mechanics Symposium, Salt Lake City, Utah, 27-30 June, ARMA 10-480.
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45. Hoang, S. K. and Abousleiman, Y. N. 2010. Openhole Stability and Solids Production Simulation of Emerging Gas Shales Using Anisotropic Thick Wall Cylinders. Presented at 2010 IADC/SPE Asia Pacific Drilling Technology Conference and Exhibition, Ho Chi Minh City, Vietnam, 1-3 November, IADC/SPE 135865.
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- Stability Modeling Using Experimental Results. Presented at CPS/SPE International Oil & Gas Conference and Exhibition, Beijing, China, 8-10 June, SPE 132207.
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 49. Mehrabian, A. and Abousleiman, Y. 2010. The Poroviscoelastic Response of Brain Tissues During Ventriculostomy Treatments. IV European Conference on Computational Mechanics (ECCM 2010), Palais des Congrès, Paris, France, 16-21 May.
 50. Abousleiman, Y. N. and Chen, S. 2009. Poromechanics Response of an Inclined Borehole Subjected to In-Situ Stresses and Finite Length Fluid Discharge. *Proc.*, Fourth Biot Conference on Poromechanics, Columbia University, New York City, New York, USA, 8-10 June, 817-822.
 51. Hoang, S. K. and Abousleiman, Y. N. 2009. Poroviscoelasticity of Transversely Isotropic Cylinders. *Proc.*, Fourth Biot Conference on Poromechanics, Columbia University, New York City, New York, 8-10 June, 842-849.
 52. Hoang, S. K. and Abousleiman, Y. N. 2009. Poroviscoelastic Anisotropic Analysis of the Unconfined Compression Test on Articular Cartilage. *Proc.*, 1st International Conference on Computational & Mathematical Biomedical Engineering (CMBE09), Swansea, United Kingdom, 29 June–1 July, 384-387.
 53. Nair, R. and Abousleiman, Y. N. 2009. A Porothermoelastic Wellbore Model in Oil and Gas Saturated Naturally Fractured Porous Media. Presented at 2009 SPE Saudi Arabia Section Technical Symposium and Exhibition, Al-Khobar, Saudi Arabia, 9-11 May, SPE 126096.
 54. Ortega, J. A., Bobko, C., Ulm, F.-J., and Abousleiman, Y. 2009. The Nanogranular Origin of Macroscopic Elasticity Properties of Geomaterials. *Proc.*, Fourth Biot Conference on Poromechanics, Columbia University, New York City, New York, 8-10 June, 752-757.
 55. Tran, M. H., Abousleiman, Y. N., Hoang, S. K., Ortega, J. A., and Ulm, F.-J. 2009. The Make Up of Nano-Indentation in Engineering Applications. *Proc.*, Fourth Biot Conference on Poromechanics, Columbia University, New York City, New York, 8-10 June, 758-764.
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 57. Nguyen, V. X. and Abousleiman, Y. N. 2009. Naturally Fractured Reservoir Three-Dimensional Analytical Modeling: Theory and Case Study. Presented at 2009 SPE Annual Technical Conference and Exhibition, New Orleans, Louisiana, USA, 4-7 October, SPE 123900.
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 59. Abousleiman, Y. N., Tran, M., Hoang, S., Ortega, J. A., and Ulm, F.-J. 2009. GeoMechanics Field Characterization of the Two Prolific U.S. Mid-West Gas Plays with Advanced Wire-Line Logging Tools. Presented at 2009 SPE Annual Technical Conference and Exhibition, New Orleans, Louisiana, 4-7 October, SPE 124428.
 60. Abass, H. H., Tahini, A. M., Abousleiman, Y. N., and Khan, M. 2009. New Technique to Determine Biot Coefficient for Stress Sensitive Dual Porosity Reservoirs. Presented at 2009 SPE Annual Technical Conference and Exhibition, New Orleans, Louisiana, 4-7 October, SPE 124484.

61. Hoang, S. K. and Abousleiman, Y. N. 2009. Critical Poroviscoelastic Anisotropic Evaluation of Anelastic Strain Recovery Test. Presented at 2009 SPE Annual Technical Conference and Exhibition, New Orleans, Louisiana, 4-7 October, SPE 124330.
62. Nguyen, V. X., Abousleiman, Y. N., and Hemphill, T. A. 2009. Geomechanical Coupled Poromechanics Solutions While Drilling in Naturally Fractured Shale Formations with Field Case Applications. Presented at 2009 SPE Annual Technical Conference & Exhibition, New Orleans, Louisiana, 4-7 October, SPE 123901.
63. Hemphill, T., Duran, W., Abousleiman, Y. N., Tran, M., Nguyen, V., and Hoang, S. 2009. Changes in Shale Strength Resulting from Interaction with Invert Emulsion Drilling Fluids. Presented at 2009 SPE Saudi Arabia Section Technical Symposium and Exhibition, Al-Khobar, Saudi Arabia, 9-11 May, SPE 126048.
64. Ortega, J. A., Ulm, F.-J., and Abousleiman, Y. N. 2009. A multi-scale micromechanics framework for fine-grained rocks. American Geophysical Union Fall Meeting, San Francisco, California, 14-18 December.
65. Gupta, N., Abousleiman, Y., and Slatt, R. M. 2009. Factors Behind Variation in Geomechanical Properties of a Highly Lithified, Quartzose Sandstone. AAPG Annual Convention & Exhibition, Denver, Colorado, 7-10 June.
66. Slatt, R. M., Singh, P., Philp, R. P., Marfurt, K. J., Abousleiman, Y., and O'Brien, N.R. 2008. Workflow for Stratigraphic Characterization of Unconventional Gas Shales. Presented at 2008 SPE Shale Gas Production Conference, Fort Worth, Texas, 16-18 November, SPE 119891.
67. Hoang, S. K., Abousleiman, Y. N., and Al-Tahini, A. 2008. Multilaterals Drilling and Sustainable Openhole Production from Theory to Field Case Studies. Presented at 2008 SPE Annual Technical Conference and Exhibition, Denver, Colorado, 21-24 September, SPE 116138.
68. Al-Tahini, A. and Abousleiman, Y. 2008. Acoustic Measurement and Calibration of In Situ Stress Anisotropy Around a Wellbore. Presented at 2008 SPE Annual Technical Conference and Exhibition, Denver, Colorado, 21-24 September, SPE 116132.
69. Al-Tahini, A. and Abousleiman, Y. 2008. Pore Pressure Coefficient Anisotropy Measurements for Intrinsic and Induced Anisotropy in Sandstone. Presented at 2008 SPE Annual Technical Conference and Exhibition, Denver, Colorado, 21-24 September, SPE 116129.
70. Hemphill, T., Abousleiman, Y., Tran, M., Hoang, S., and Nguyen, V. 2008. Direct Strength Measurements of Shale Interaction with Drilling Fluids. Presented at 2008 Abu Dhabi International Petroleum Exhibition and Conference, Abu Dhabi, UAE, 3-6 November, SPE 117851.
71. Khoury, N. N., Abousleiman, Y., Miller, G. A., Khoury, C. N. 2008. PlastiSoil™: Superior Engineering Performance and Sound Environmentally. 8th International Congress on Advances in Civil Engineering, Eastern Mediterranean University, Famagusta, North Cyprus, 15-17 September.
72. Nguyen, V., Abousleiman, Y., and Hoang, S. 2007. Analyses of Wellbore Instability in Drilling Through Chemically Active Fractured Rock Formations: Nahr Umr Shale. Presented at 2007 15th SPE Middle East Oil & Gas Show and Conference, Kingdom of Bahrain, 11-14 March, SPE 105383.
73. Abousleiman, Y. and Nguyen, V. 2007. Time-Dependent Wellbore Strengthening in Chemically Active or Less Active Rock Formations. American Association for Drilling Engineers, 2007 AADE National Technical Conference and Exhibition, Houston, Texas, 10-12 April.

74. Abousleiman, Y., Tran, M., Hoang, S., Bobko, C., Ortega, A., and Ulm, F.-J. 2007. Geomechanics Field and Laboratory Characterization of Woodford Shale: The Next Gas Play. Presented at 2007 SPE Annual Technical Conference and Exhibition, Anaheim, California, 11–14 November, SPE 110120.
75. Nguyen, V. and Abousleiman, Y. 2007. Incorporating Electrokinetic Effects in the PoroChemoelastic Inclined Wellbore Formulation and Solution. International Union of Theoretical and Applied Mechanics, IUTAM Symposium, National Laboratory for Scientific Computing, Petropolis, Brazil, 6-10 August.
76. Nguyen, V. and Abousleiman, Y. 2006. Poromechanics Response of Inclined Wellbore Geometry in Chemically Active Fractured Porous Media. 15th U.S. National Congress on Theoretical and Applied Mechanics, Boulder, Colorado, 25-30 June.
77. Kanj, M. Y. and Abousleiman, Y. N. 2005. Taming Complexities of Coupled-Geomechanics in Rock Testing: From Assessing Reservoir Compaction to Analyzing Stability of Expandable Sand Screens and Solid Tubulars. Presented at 2005 SPE Annual Technical Conference & Exhibition, Dallas, Texas, 9-12 October, SPE 97022.
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79. Scott, T. E. and Abousleiman, Y. 2005. Ultrasonic Tomographic Imaging of a Shear Failure during Triaxial Testing. 40th U.S. Symposium on Rock Mechanics, AlaskaRocks 2005, Anchorage, Alaska, 25-29 June, ARMA/USRMS 05-786.
80. Nguyen, V. and Abousleiman, Y. 2005. Analysis of Biot's Poroelastic Parameters in Chemically Active Porous Media. *Proc.*, Third Biot Conference on Poromechanics, Norman, Oklahoma, 24-27 May.
81. Hoang, S. and Abousleiman, Y. 2005. Poroviscoelastic anisotropic Solution for the Mandel's Problem. *Proc.*, Third Biot Conference on Poromechanics, Norman, Oklahoma, 24-27 May.
82. Cheng, A. H.-D. and Abousleiman, Y. 2005. Porosity Equilibrium, Strain Hardening and Intrinsic Micromechanical Model of Poroelasticity. *Proc.*, Third Biot Conference on Poromechanics, Norman, Oklahoma, 24-27 May.
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84. Yamamoto, K., Koyama, T., and Abousleiman, Y. 2005. Poro-mechanical/Chemical Coupling Analysis of Borehole Instability in Heterogeneous Shale. *Proc.*, Third Biot Conference on Poromechanics, Norman, Oklahoma, 24-27 May.
85. Nguyen, V., Abousleiman, Y., and Mody, F. K. 2004. Poromechanics Modeling of Wellbore Stability in Naturally Fractured Formations. Presented at 2004 SPE Annual Technical Conference & Exhibition, Houston, Texas, 26-29 September, SPE 90227.
86. Hoang, S., Abousleiman, Y., and Tare, U. 2004. The Analytical Solution for Wellbore Stability in Multilateral Junctions in Nonhydrostatic In-Situ Stress Field. Presented at 2004 SPE Annual Technical Conference & Exhibition, Houston, Texas, 26-29 September, SPE 90245.
87. Nair, R. and Abousleiman, Y. 2004. Non-isothermal two-phase flow in naturally fractured rock formations. American Association of Drilling Engineers Drilling Fluids Technical Conference & Exhibition, Houston, Texas, 6-7 April.
88. Ekbote, S. and Abousleiman, Y. 2003. Incorporating Chemical Effects in a Porothermoelastic Formulations and Applications to Inclined Boreholes. International Union of Theoretical & Applied Mechanics (IUTAM) Symposium, The Netherlands, 18-23 May.

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90. Kanj, M. and Abousleiman, Y. 2003. Porothermomechanics of Anisotropic Hollow Cylinders in Oedometric-Like Setups. 16th ASCE Engineering Mechanics Conference, Seattle, Washington, 16-18 July.
91. Scott, T. E. and Abousleiman, Y. 2003. Acoustic Velocity of Saturated Sands: Applications to Shallow Water Flows and Sanding. 39th U.S. Symposium on Rock Mechanics, MIT, Cambridge, Massachusetts, 22-26 June.
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93. Smart, K., Abousleiman, Y., and Pan, J. 2003. Finite Element Modeling of Inversion Tectonics: Application to the Elgin-Franklin Field, North Sea. American Association of Petroleum Geologists Annual Meeting, Salt Lake City, Utah, 11-14 May.
94. Abousleiman, Y., Kanj, M., and Ekbote, S. 2002. Time-Dependent Tools in Real-Time Drilling and Laboratory Rock Testing Simulation. *Proc.*, INGEPET 2002, IV International Seminar on Exploration and Exploitation of Oil and Gas, Lima, Peru, 5-8 November.
95. Smart, K., Abousleiman, Y., and Onaisi, A. 2002. Applications of Non-Linear Finite Element Modeling to Problems in Structural Geology and Tectonics. Annual Meeting of the Geological Society of America, Denver, Colorado, 27-30 October.
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99. Nair, R., Abousleiman, Y., and Zaman, M. 2002. An Application of the Dual-Porosity Porothermoelastic Approach in Naturally Fractured Porous Media. *Proc.*, 2nd Biot Conference on Poromechanics, Grenoble, France, 26-28 August.
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101. Scott, T. E. and Abousleiman, Y. 2002. An Experimental Method for Measuring Anisotropic Poroelastic Biot's Effective Stress Parameters from Acoustic Wave Propagation. *Proc.*, 2nd Biot Conference on Poromechanics, Grenoble, France, 26-28 August.
102. Abousleiman, Y., Kanj, M., and Ekbote, S. 2001. Poromechanical Tools for Reservoir Rock Testing Simulation and Wellbore Stability. Presented at 2001 SPE Annual Technical Conference & Exhibition, New Orleans, Louisiana, 30 September – 3 October, SPE 71459.
103. Abousleiman, Y. N., Ekbote, S., and Tare, U. 2000. Time-Dependent Wellbore (In)Stability Predictions: Theory and Case Study. Presented at 2000 IADC/SPE Asia Pacific Drilling Technology, Kuala Lumpur, Malaysia, 11-13 September, IADC/SPE 62796.
104. Kanj, M., Abousleiman, Y., and Cui, L. 2000. Virtual Poromechanics Rock Testing Simulator: PCORE-3D. *Proc.*, 4th North American Rock Mechanics Symposium (NARMS), Seattle, Washington, 31 July-3 August.

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106. Ekbote, S., Abousleiman, Y., and Zaman, M. 2000. Porothermoelastic Solution for an Inclined Borehole in Transversely Isotropic Porous Media. *Proc.*, 4th North American Rock Mechanics Symposium (NARMS), Seattle, Washington, 31 July-3 August.
107. Bloch, M., Siqueira, C., Abousleiman, Y., and Roegiers, J.-C. 2000. A Poroviscoelastic Approach for In-situ Stress Computation from Anelastic Strain Recovery. *Proc.*, 4th North American Rock Mechanics Symposium (NARMS), Seattle, Washington, 31 July-3 August.
108. Ghanem, R., Sarkar, A., Abousleiman, Y., and Bai, M. 2000. A Mechanistic Approach to the Management of Uncertainty in Reservoir Characterization. *Proc.*, 4th North American Rock Mechanics Symposium (NARMS), Seattle, Washington, 31 July-3 August.
109. Nair, R., Bai, M., Abousleiman, Y., and Zaman, M. 2000. Finite Element Modeling of Gas-Oil Flow in Deformable Fractured Porous Media. *Proc.*, 4th North American Rock Mechanics Symposium (NARMS), Seattle, Washington, 31 July-3 August.
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111. Abousleiman, Y., Ekbote, S., Cui, L., Mody, F., Roegiers, J.-C., and Zaman, M. 1999. Time-Dependent Coupled Processes in Wellbore Design and Stability: PBORE-3D. Presented at 74th SPE Annual Technical Conference and Exhibition, Houston, Texas, 3-6 October, SPE 56759.
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SOFTWARE DEVELOPMENT WITH ENGINEERING APPLICATIONS

1. PBORE-3D: Poromechanics Wellbore Stability Simulator — software that simulates the solution of a safe mud window in a three-dimensional state of in-situ stress, with the corresponding inclination and azimuth vis-à-vis these stresses. The coupled solution within the theory of poromechanics allows the time-dependent interaction between deformation, pore pressure diffusion, and thermal gradient, as well as the chemical potential between the drilling mud and the shale formation. These solutions were also derived to include the rock formation anisotropy.
2. PCORE-3D: Poromechanics Core Testing Simulator — software that simulates the conventional solid mechanics approach and the time-dependent poromechanics approach for the solid and hollow cylinder geometry. Stress, strain, pore pressure distribution, and thermal gradient, as well as the chemical potential effects, are calculated and displayed in 2D and contour plots. Isotropic and transverse isotropic solutions for the poromechanical material characteristics are implemented. This simulator is used for fine tuning testing frames and

optimizing test configurations, minimizing the number of core plugs necessary for a full suite of tests for rock parameter characterization.

3. POROC-QSD: Poromechanics Rock Characterization, Quasi-Static and Dynamic — software that is designed to allow the determination and measurement of the physical and poromechanical parameters from MWD, LWD, PWD, etc. as well as from laboratory testing setups with the full dynamic and quasi-static isotropic and anisotropic rock parameters. This package includes algorithms for estimation and measurement of the solid mechanics rock characteristics, i.e., elastic and thermoelastic. In addition, it is used to calculate the poromechanics rock characteristics such as the poroelastic and porothermoelastic rock parameters.
4. IASRS: Coupled Processes in the Poromechanics Fractured Formation Simulator — a finite element based simulator that adds to the analytical capacities of the PoroMechanics Consortium. For naturally fractured rock formations, the coupled processes that take place when these formations are subjected to stress or pore pressure perturbations are very difficult (if not impossible) to derive (i.e., corresponding analytical solutions) for the various field and laboratory applications. The IASRS (Integrated Adaptive Structure Reservoir Simulator) simulates coupled processes in reservoir rock deformation and wellbore stability in fractured rock formations or in naturally fractured reservoirs. The poromechanics theories implemented in IASRS assume the dual-porosity equivalent medium with coupled stress/deformations and fluid pore pressure analyses.
5. QMLSS: Quick Multilateral Stability Simulator — An analytical base solution for multilateral junction stability has been developed and implemented in this software to simulate and calculate mudweight for the junction stability. This software is being released to more than eight international and national oil and gas companies and is being used by drilling engineers in the field. The continuation of the development includes the effects of breakout angles, and various rock failure criteria.

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