Akhil Datta-Gupta, Ph.D, P.E.
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Akhil Datta-Gupta is Regents Professor, University Distinguished Professor and holder of L. F. Peterson '36 Endowed Chair in Petroleum Engineering at Texas A&M U. in College Station, TX (USA). Dr. Datta-Gupta is known for his contributions to the theory and practice of streamline simulation in petroleum reservoir characterization, management and calibration of high resolution geologic models. Dr. Datta-Gupta is a Society of Petroleum Engineers (SPE) Honorary Member (the highest honor bestowed by the society) and received two of the top three technical awards (Carll Award, 2009; Uren Award, 2003) given by the society for his contributions related to reservoir characterization and 3-D streamline simulation. Dr. Datta-Gupta has twice won the prestigious SPE Cedric K Ferguson Award, first for introducing streamline-based analytic sensitivity calculations and second for introducing the concepts of 'generalized travel time inversion', leading to novel technologies for calibration of high resolution geologic models. In 2007 he coauthored the SPE textbook '*Streamline Simulation: Theory and Practice*' which, for the first time, lays down the foundations of modern streamline simulation technology. More recently, he has co-authored two other books, '*Subsurface Fluid Flow and Imaging*' (Cambridge University Press, 2016) and *'Applied Statistical Modeling and Data Analytics'* (Elsevier Publishing, 2017). Dr. Datta-Gupta is the recipient of 2015 SPE Distinguished Achievement Award for Petroleum Engineering Faculty. He is an SPE distinguished member (elected, 2001), distinguished lecturer (1999-2000), distinguished author (2000) and was selected as an outstanding technical editor (1996). In addition to his SPE awards, he is recipient of the AIME Rossiter W. Raymond award (1992), the U.S. Department of Energy Award for Outstanding Contributions to Basic Research in Geosciences (2008) and served as member of the Polar Research Board of the National Academy of Sciences (2001-2004) and the Technology Task Force of the National Petroleum Council (2007). His research program is funded by NSF, DOE and oil companies world-wide. Dr. Datta-Gupta was elected to the U.S. National Academy of Engineering and The Academy of Medicine, Engineering and Science of Texas in 2012.

EDUCATION

- Ph. D Petroleum Engineering, University of Texas at Austin (1992).
- M.S. Petroleum Engineering, University of Texas at Austin (1985).
- B.S. Petroleum Engineering, Indian School of Mines, Dhanbad, India (1982).

PROFESSIONAL REGISTRATION

- Registered Professional Engineer, Texas (License number 89873)

PROFESSIONAL EXPERIENCE

Academic Positions
- Associate Department Head, Regents Professor and holder of L.F. Peterson '36 Endowed Chair in Petroleum Engineering, Texas A&M University (Sept. 2014- Present)
- Regents Professor and holder of L.F. Peterson '36 Endowed Chair in Petroleum Engineering, Texas A&M University (Sept. 2011- 2014)
- Professor and Holder of LeSuer Chair in Reservoir Management, Petroleum Engineering, Texas A&M University, College Station, TX (July 05 – Sept. 2011)
- Professor and Holder of Rob L. Adams Professorship in Petroleum Engineering, Texas A&M University, College Station, TX (from Sept. 03- June 05)
- Associate Professor and Holder of Rob L. Adams Professorship in Petroleum Engineering, Texas A&M University, College Station, TX (Sept. 00 to Sept. 03)
- Assistant Professor, Petroleum Engineering, Texas A&M University, College Station, TX (Sept. 94 to Sept. 00)

Industrial/National Laboratory Positions
- Staff Scientist II, Reservoir Engineering and Hydrogeology Group, Earth Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA (Dec. 92 to Sept. 94).
- Engineering Specialist, Fluid Flow Unit, BP Research, Cleveland (Jul. 89 to Aug.90.)
- Reservoir Engineer, BP Exploration, Alaska (previously Standard Oil) (Oct. 85 to Jul. 89.)

HONORS/AWARDS

Major International Awards/Honors
- Honorary Member, Society of Petroleum Engineers (2017). The highest honor limited to 0.1% of the worldwide membership of over 120000.
- Distinguished Achievement Award for Petroleum Engineering Faculty, Society of Petroleum Engineers (2015)
- Member, National Academy of Engineering (elected, 2012)
- Member, The Academy of Medicine, Engineering and Science of Texas (inducted, 2012)
- John Franklin Carll Award for distinguished contribution in the application of engineering principles to petroleum development and recovery, Society of Petroleum Engineers (2009)
- Cedric K. Ferguson Award for the best peer-approved paper, Society of Petroleum Engineers (2006)
- Lester C. Uren Award for distinguished achievement in petroleum engineering technology, Society of Petroleum Engineers (2003)
- Member, Polar Research Board, National Academy of Sciences (2001-2004)
- Distinguished Member, Society of Petroleum Engineers (elected, 2001)
- Cedric K. Ferguson Award for the best peer-approved paper, Society of Petroleum Engineers (2000)

- Distinguished Lecturer, Society of Petroleum Engineers (1999-2000). Lecture Title: 'Streamline Simulation: Yesterday, Today and Tomorrow'.
- Distinguished Author, Society of Petroleum Engineers. Paper Title: 'Streamline Simulation: A Technology Update', Journal of Petroleum Technology (December, 2000).
- Outstanding Technical Editor, Society of Petroleum Engineers (1996).
- Rossiter W. Raymond Award of AIME (American Institute of Mining, Metallurgical and Petroleum Engineers) for the best paper written by a member under age 33 (1992).

Institutional Awards/Honors
- University Distinguished Professor, the highest level of achievement for faculty, Texas A&M University (2016).
- University Distinguished Research Award, Texas A&M Association of Former Students (2014).
- Regents Professor Award for exemplary performance at the State/International Level, Board of Regents, Texas A&M University System (2011).
- L.F. Peterson '36 Endowed Chair in Petroleum Engineering, Texas A&M University (2011-Present).
- Outstanding Contributions to Basic Research in Geosciences, U.S. Department of Energy, Basic Energy Sciences Division (2008)
- Member, Technology Task Group, National Petroleum Council (NPC) Committee on Global Oil and Gas (2007)
- Texas Engineering Experiment Station (TEES) Fellow, Texas A&M University (2007)
- LeSuer Chair in Reservoir Management, Petroleum Engineering, Texas A&M University (2005- Present)
- Rob L. Adams Professorship in Petroleum Engineering (2001-2005)
- Faculty Fellow, College of Engineering, Texas A&M U. (2001)
- Tenneco Meritorious Teaching Award, Texas A&M University (1997).

PROFESSIONAL SOCIETY MEMBERSHIP

- Honorary Member, Society of Petroleum Engineers (SPE)
- Distinguished Member, Society of Petroleum Engineers (SPE)
- Board Member, SPE Gulf Coast Section (over 10,000 members) (2000-2002).
- Member, American Geophysical Union (AGU)

PROFESSIONAL SERVICE

Professional Society and Governmental Committees
- Member, Carll, Lucas and Uren Award Committee (the highest technical awards), Society of Petroleum Engineers (2018-2019)
- Member, Roundtable on Unconventional Reservoirs, National Academy of Sciences (2015-2017).
- Chair, SPE Advanced Technology Workshop on Learning from Reservoir Response: History Matching and Data Analytics, Austin, Texas (2017).

- Member, Engineering Subcommittee of the O'Donnell Award, The Academy of Medicine, Science and Engineering of Texas (2013-2015).
- Chair, Carll, Lucas and Uren Award Committee (the highest technical awards), Society of Petroleum Engineers (2014,2015)
- Member, Carll, Lucas and Uren Award Committee, Society of Petroleum Engineers (2013)
- Co-chair, SPE Advanced Technology Workshop on History Matching and Production Data Analysis, Galveston, Texas (2015)
- Co-chair, SPE Advanced Technology Workshop on History Matching, Cartagena, Colombia (2011)
- Member, Technical Program Committee, SPE Reservoir Simulation Conference, Houston (2011)
- Member, SPE/OTRC Committee to Develop Guidelines for Worst Case Discharge Calculations for Offshore Drilling Permits (2010)
- Member, Steering Committee, SPE Forum on Reservoir Simulation -- Beyond Tomorrow, Phuket, Thailand (2010)
- Member, Steering Committee, SPE/SEG/AAPG Forum on Quantitative Interpretation, Denver, CO (2010)
- Member, Steering Committee, EAGE Workshop on Integrated earth Modeling, Dubai (2010)
- Member, Technical Program Committee, SPE Improved Oil Recovery Conference, Tulsa (2010)
- Member, Technical Program Committee, SPE Reservoir Simulation Conference, Houston (2009)
- Member, Technical Program Committee, SPE Advanced Technology Workshop on Probabilistic Subsurface Assessments, Houston, TX (2008)
- Member, Technical Program Committee, SPE Advanced Technology Workshop on Closed Loop Reservoir Management, Brugge, Belgium (2008)
- Member, Technical Program Committee, SPE Improved Oil Recovery Conference, Tulsa (2008)
- Member, Technical Program Committee, SPE Reservoir Simulation Conference, Houston (2007)
- Member, Technical Program Committee, SPE Improved Oil Recovery Conference, Tulsa (2006)
- Chair, SPE Advanced Technology Workshop on History Matching, Houston, TX (2006)
- Member, Organizing Committee, SPE Advanced Technology Workshop on Waterflooding, Mumbai, India (2005)
- Member, Technical Program Committee, SPE Improved Oil Recovery Conference, Tulsa (2004)
- Member, Polar Research Board, National Academy of Sciences (2001-2004).
- Member, Scientific Program Committee, Gordon Research Conference in Modeling Flow Through Permeable Media, Oxford, U.K. (2004)
- Co-Chair, SPE Advanced Technology Workshop on Geosteering, Mumbai, India (2004)
- Co-Chair, SPE Advanced Technology Workshop on Reservoir Modeling, Beirut, Lebanon (2004)
- Co-Chair, SPE Advanced Technology Workshop on Reservoir Modeling, Dubai, UAE (2002, 2003)
- Member, Engineering Professionalism Committee, Society of Petroleum Engineers (1999-2003).

- Member, Development Geology and Geophysics Committee, Society of Petroleum Engineers (2000-2003).
- Panel Member, National Research Council Review of Oil Spill Recovery Institute, Alaska (2002)
- Distinguished Lecturer, Society of Petroleum Engineers (1999-2000).
- Member, U. S. Department of Energy Scientific Panel on Carbon Sequestration (1998).
- Review Panelist, High Performance Computing, U. S. Department of Energy National Laboratory Technology Program (1997).
- Member, SPE Workforce Supply and Demand Committee (1997).
- Chair, Inverse Modeling Session, Third International Tracer Workshop, Austin (1997).

Editorial Service
- Associate Editor, *SPE Journal* (2004-Present)
- Editor, SPE Reprint Series on History Matching
- Technical Editor, *SPE Reservoir Evaluation and Engineering* (1994-2004)

External Doctoral Examiner
- Department of Mathematics, University of Bergen, Norway (2009)
- Department of Mathematics, University of Bergen, Norway (2006)

Membership, Industry Technical Advisory Board/Consulting
- Member, Technical Advisory Board: Sanchez Oil and Gas (2014-Present), PFP Technologies (2015-Present), Sierra-Hamilton Group (2014-Present).

- Consulting: Cairn Energy, Reliance Petroleum (India), BP, ECOPETROL (Colombia), INTEVEP (Venezuela), Reservoir Characterization Research and Consulting, Department of Energy, S. A. Holditch & Associates, Japan National Oil Company, Mobil Exploration and Production U.S.A., Coastal Oil and Gas Corp, Abu Dhabi National Oil Company, Saudi Aramco, Elpaso Production Co., Schlumberger DCS, Rosneft, Kelkar and Associates, ONGC (India).

PROFESSIONAL OUTREACH

Invited Talks
- Over 130 invited lectures. Listed below are examples from the last 5 years.

  2017
  Invited Speaker, Danbury Resources, Dallas (Feb. 2017)
  Invited Speaker, China National Petroleum Company, Korla (Feb. 2017)
  Invited Speaker, PFP Industries, Houston (April 2017)
  Invited Speaker, PetraNova Holdings/NRG, Houston (June 2017)
  Invited Speaker, Murphy Oil, Houston (July 2017)
  Invited Speaker, Cairn Energy, India (December 2017)

  2016

Invited Speaker, JX Nippon, Houston (June 2016)
Invited Speaker, Sanchez Oil and Gas, Houston (August 2016)
Invited Speaker, Hess Corp., Houston (August 2016)
Invited Speaker, Texas Oil and Gas Institute, Houston (August 2016)
Invited Speaker, RIL India, Mumbai (December 2016)

2015
Invited Panel Speaker, Houston 2025 Business Forum, Houston (July 2015)
Invited Speaker, Sanchez Oil and Gas (June 2015)
Invited Speaker, Petroleum and Geosystems Department, UT Austin (May 2015)
Invited Speaker, Sierra-Hamilton Group, Houston (March 2015)
Invited Speaker, Total Exploration and Production, Houston (March 2015)

2014
Invited Speaker, EOG Resources, Houston (December 2014)
Invited Speaker, Texas A&M Control Group Seminar (October 2014)
Invited Panel Speaker, George Bush Presidential Library, College Station (September 2014)
Invited Speaker, Conoco-Phillips, Houston (September 2014)
Keynote Speaker, Summer Research Workshop SPE/SEG/AAPG/EAGE, (August 2014)
Invited Speaker, Sanchez Oil and Gas (August 2014)
Invited Speaker, Petroleum Engineering, University of Tulsa (March 2014)
Invited Speaker, Chevron Upstream Technology, Houston (March 2014)
Invited Speaker, SPE Applied Technology Workshop, New Port Beach, CA (Feb. 2014)

2012-13
Invited Speaker, Chemical Engineering, Rice University (December 2013)
Invited Speaker, Society of Petroleum Engineers, Mumbai, India (November 2013)
Invited Keynote Speaker, China Oil and Gas Forum (October 2013)
Departmental Seminar, Texas A&M Petroleum Engineering (September 2013)
Invited University Lecture, Bold Aspiration Series, University of Kansas (August 2013)
Keynote Speaker, SPE Middle East Conference, Bahrain (March 2013)
Invited Speaker, Cairn India Ltd., Mumbai (January, 2013)
Invited Speaker, Biological and Agricultural Engineering., Texas A&M (Nov. 2012)
Distinguished Seminar Speaker, U. of Southern California (Sept. 2012)
Invited Speaker, SPE ATW, Istanbul, Turkey (June 2012)

Short Course/Continuing Education
- Short Course Instructor, Society of Petroleum Engineers. Title: 'Streamline Simulation: Theory and Practice' (1998- Present): Taught over 15 times at various SPE meetings.
- Short Course Instructor, Society of Petroleum Engineers. Title: 'History Matching and Conditioning Geologic Models to Production Data' (2002-Present) : Taught over 12 times at various SPE meetings
- Industry short course instructor on 'Applied Geostatistics', 'Streamlines: Application to Reservoir Characterization, Management and Simulation' and 'History Matching and Reservoir Optimization'. These courses have been offered for various companies in U.S., Russia, Venezuela, Colombia, Ecuador, Argentina, Oman, Dubai, Abu Dhabi, Saudi Arabia, India, Indonesia, Malaysia, China and Japan.

Review of Journal Papers/Research Proposals
- Reviewer of papers submitted to the following Journals: Advances in Water Resources, SPE Journal, Water Resources Research, SPE Reservoir Engineering and Evaluation, Journal of Petroleum Science and Engineering, Mathematical Geology, Journal of Computational Physics, AIChE Journal.
- Reviewer of proposals for the Department of Energy (DOE) Small Business Innovative Research Program (SBIR), DOE High Performance Computing, DOE Basic Energy Sciences, DOE Oil Recovery Technology Partnership and National Science Foundation (NSF)

Major Departmental/University Assignments
- Associate Department Head for Faculty Administration (2014-Present)
- Member, Dean Search Committee, Texas A&M Qatar (2014)
- Member, Research Council, College of Engineering , 2013-Present
- Member, Engineering Think Tank, College of Engineering, 2013- Present
- Chair, Awards Committee, Petroleum Engineering Department, 2012- Present
- Member, Awards Committee, College of Engineering, 2010-2012, 2014-Present
- Member, Faculty Search Committee, 2014-Present
- Chair, Faculty Search Committee, 2008-2012
- Graduate Advisor and Assistant Department Head, Petroleum Engineering, 2010-2013
- College Representative, Tenure and Promotion Committee, 2007-2009
- Chair, Tenure and Promotion Committee, 2007-2008
- Graduate Admissions Committee, 2005-Present
- Tenure and Promotion Committee, 2003-Present
- Chair, Faculty Search Committee, 2004-2005
- Member, Department Head Search Committee, 2003-2004
- Member, Department Head Search Committee, 2002-2003

RESEARCH

Significant Educational and Research Accomplishments
- Co-authored the SPE textbook '*Streamline Simulation: Theory and Practice* (2007)'. This textbook, for the first time, lays down the foundations of modern streamline simulation technology.
- Co-authored the book '*Subsurface Imaging and Fluid Flow* (2016)'. This book utilizes concepts from geometric optics and seismology to present a unified framework for imaging using asymptotic and trajectory-based methods.
- Co-authored the book '*Applied Statistical Modeling and Data Analytic* (2017)'. This book focuses on the application of statistical modeling and data analytic techniques in formation evaluation, reservoir characterization, reservoir modeling and performance forecasting.
- Introduced the 'time of flight' concept for 3-D streamline simulation (Datta-Gupta and King, 1995). This concept is instrumental behind the transition of 2-D streamtube methods to modern 3-D streamline simulation. It is now widely used in the industry for rapid flow simulation and forms the basis for several commercial applications.
- Introduced the concept of 'travel time inversion' and 'generalized travel time inversion' of production data for history matching (Cheng et al., 2005). This work received the SPE Cedric

K, Ferguson Award (2006) and the approach has been extensively applied for field-scale history matching world-wide.

- Introduced streamline-based analytic sensitivity calculations for efficient inverse modeling and production data integration into high resolution geologic models (Vasco et al., 1999). This work received the SPE Cedric K, Ferguson Award (2000).

External Research Grants (Total: over $9.0 million to Akhil Datta-Gupta)

- Model Calibration and Efficient Reservoir Imaging: A Joint Industry Project. Multiple Domestic and International Oil and service Companies. Project Duration Nov. 2004- Present.
- Determination of Fracture Connectivity Using Dynamic Reservoir Response. Sponsor: Saudi Aramco. Project Duration: Jan. 2018-Jan. 2020.
- Rapid Flow Simulation of Unconventional Reservoirs Using the Fast Marching Method. Sponsor: Marathon Oil Company. Project Duration: Sept. 2017-Sept. 2019.
- Eagleford Shale Laboratory. Sponsor: U.S. Department of Energy. Project Duration: April 2018-April 2020.
- Coupled Fluid Flow and Geomechanical Modeling of the Azle Area, North Texas. Sponsor: State of Texas. Project Duration: Sept. 2016-Dec. 2018.
- Time Lapse Seismic Monitoring and Performance Assessment for CO_2 Sequestration in Hydrocarbon Reservoirs. U.S. Department of Energy. Project Duration: Aug. 2013-Aug. 2016.
- Streamline Tracing in Unstructured Grids. Sponsored by Saudi Aramco. Project Duration Oct. 2011- Oct. 2014.
- Geology-Based Reservoir Model Building for Carbonate Reservoirs. Sponsored by Qatar National Research Foundation. Nov. 2011-Nov. 2014.
- Bayesian Uncertainty Quantification in Predictions of Flows in Highly Heterogeneous Media and its Applications to CO2 Sequestration, U.S. Department of Energy. Project Duration: Sept. 2010-Sept. 2013.
- Infill Drilling in the Wamsutter Field, RPSEA, September 2008 – September 2010.
- CMG Research in Multi-scale Data Integration Using Facies-based Hierarchical Bayesian Models, National Science Foundation. Duration: September 2007- September 2011.
- Probabilistic History Matching. Sponsored by the Shell Oil Company. Duration: Aug. 2005-Aug. 2010.
- Optimization Methods for Rate Allocation to Injectors/Producers and ICV's for Smart/Complex Wells: ANDR/SDGM Field, Sponsored by the Saudi Arabian Oil Company. Duration: Jan 2007-Jan. 2009.
- Rapid Calibration of High Resolution Geologic Models to Dynamic Data Using Inverse Modeling: Field Application and Validation, U.S. Department of Energy. Duration: Oct. 2005-Oct. 2008.
- CMG Research in Multi-scale Spatial Modeling for Petroleum Reservoirs Using Static and Dynamic Data, National Science Foundation. Duration: September 03- September 06.
- An Integrated Approach to Characterizing Bypassed Oil in Heterogeneous and Fractured Reservoirs Using Partitioning Tracers, U.S. Department of Energy. Duration: May 2002-Dec. 2006.
- Dynamic Data Integration in Fractured Reservoirs. Sponsored by the Saudi Arabian Oil Company. Duration: Jan 2004-Apr. 2005.
- Time Lapse Seismic Monitoring and Performance Assessment for CO_2 Sequestration in Hydrocarbon Reservoirs. U.S. Department of Energy. Project Duration: January 2000-Jan 2010.

- The Description of Reservoir Properties Using Geological, Geophysical and Engineering Data: A Joint Industry Project. Multiple Domestic and International Oil and Service Companies. Duration Nov. 1997- Nov. 2003.
- Rapid Imaging of Interwell Fluid Saturations Using Seismic and Multiphase Production Data. Lawrence Berkeley Laboratory. Duration: May 2001-May 2003.
- Dynamic Data Integration: Berri-Hanifa Field, Saudi Arabia. Sponsored by the Saudi Arabian Oil Company. Duration: June 2001-June 2002.
- Multiscale Modeling and Simulation in Scientific Inference, Sponsored by the National Science Foundation. Project Duration May 1999-May 2002.
- Integrated Reservoir Characterization Using 4-D Seismic, Production and Well Data, Sponsored by the State of Texas Advanced Technology Program. Project Duration Jan 1998-Dec. 1999.
- Reservoir Characterization Research: Unrestricted Grant, Mobil Foundation (1998).
- Characterization of Fractured Rocks Using Static and Dynamic Data: From Sonic and 3-D Seismic to Permeability Distribution, Sponsored by the U.S. Department of Energy. Project Duration: Mar 1996-Nov. 1998.
- Collaborative Research for Advanced Modeling and Numerical Simulation of Surfactant Enhanced Aquifer Remediation, Sponsored by the Mathematical Sciences Division of the National Science Foundation. Project Duration: July 1996-July.2000.
- In-situ Characterization of Dense Non-aqueous Phase Liquids Using Partitioning Tracers, Sponsored by the U.S. Department of Energy. Project Duration: Sept. 1996-Sept. 1999.
- Characterizing Fractured Rocks Through Inverse Modeling: Application to Aspo Hard Rock Laboratory, Sponsored by the Lawrence Berkeley National Laboratory. Project Duration: August 1995-December 1995.
- Characterization of the MI Fractured Zone Using Transient Pressure and Tracer Data, Sponsored by the Regents of the University of California. Project Duration: April 1995-September 1995.
- Subsurface Characterization and Remediation Using High Resolution Seismic and Electromagnetic Measurements, Sponsored by the Burlington Foundation, Equipment Grant.

PUBLICATIONS

Books:
Applied Statistical Modeling and Data Analytics, Srikanta Mishra and Akhil Datta-Gupta, Elsevier Inc. (October 2017). ISBN: 978-0-12-803279-4.

Subsurface Imaging and Fluid Flow, D. W. Vasco and Akhil Datta-Gupta, Cambridge University Press (August 2016). ISBN: 978-0-521-51633-4.

Streamline Simulation: Theory and Practice, Akhil Datta-Gupta and M. J. King, Textbook Series #11, Society of Petroleum Engineers, Richardson, TX, ISBN 978-1-55563-111-6 (Nov. 2007).

Editor, History Matching and Conditioning Geologic Models to Dynamic Data, Society of Petroleum Engineers Reprint Series, ISBN 978-1-55563-210-6 (April, 2009).

Other Significant Publications (Peer-Reviewed):

The Oil Spill Recovery Institute: Past, Present and Future, The National Academies Press, Washington D.C. (2003), 165 pages (ISBN: 0-309-08514-4). Co-authored as part of the 'Committee to Review the Oil Spill Recovery Institute's Research Program', National Research Council of the National Academies.

Guidance for Complying with BOEM NTL No. 2010-N06 on Worst Case Discharge for Offshore Wells, Society of Petroleum Engineers (2010). Co-authored as part of the Worst Case Discharge Calculations Committee, Society of Petroleum Engineers.

Peer-reviewed Journal Articles:

1. Feyi Olalotiti-Lawal and Akhil Datta-Gupta, A Multiobjective Markov chain Monte Carlo Approach for History Matching and Uncertainty Quantification, *Journal of Petroleum Science and Engineering*, 2018, https://doi.org/10.1016/j.petrol.2018.03.062.
2. Satyajit Taware, Ahmed H. Alhuthali, Mohan Sharma, Akhil Datta-Gupta, Optimal rate control under geologic uncertainty: water flood and EOR process, *Optimization and Engineering*, 2017 (1), 18:63–86 doi:10.1007/s11081-016-9345-y.
3. Changdong Yang, Vishal Kumar Sharma, Akhil Datta-Gupta, Michael J. King, Novel approach for production transient analysis of shale reservoirs using the drainage volume derivative, *Journal of Petroleum Science and Engineering*, Volume 159, 2017, Pages 8-24.
4. Dongjae Kam, Jichao Han, Akhil Datta-Gupta, Streamline-based history matching of bottomhole pressure and three-phase production data using a multiscale approach, *Journal of Petroleum Science and Engineering*, Volume 154, 2017, Pages 217-233.
5. Peerapong Ekkawong, Jichao Han, Feyi Olalotiti-Lawal, Akhil Datta-Gupta, Multiobjective design and optimization of polymer flood performance, *Journal of Petroleum Science and Engineering*, Volume 153, 2017, Pages 47-58.
6. Watanabe, S., Han, J., Hetz, G., Datta-Gupta, A., King, M. J., & Vasco, D. W. (2017, August). Streamline-Based Time-Lapse-Seismic-Data Integration Incorporating Pressure and Saturation Effects. Society of Petroleum Engineers Journal. doi:10.2118/166395-PA.
7. Changdong Yang, Aditya Vyas, Akhil Datta-Gupta, Shreya B. Ley, Partha Biswas, Rapid multistage hydraulic fracture design and optimization in unconventional reservoirs using a novel Fast Marching Method, *Journal of Petroleum Science and Engineering*, Volume 156, 2017, Pages 91-101.
8. Fujita, Y., Datta-Gupta, A., & King, M. J. (2016, December 1). A Comprehensive Reservoir Simulator for Unconventional Reservoirs That Is Based on the Fast Marching Method and Diffusive Time of Flight. *Society of Petroleum Engineers Journal*. doi:10.2118/173269-PA.
9. Cui, J., Yang, C., Zhu, D., & Datta-Gupta, A. (2016, December 1). Fracture Diagnosis in Multiple-Stage-Stimulated Horizontal Well by Temperature Measurements With Fast Marching Method. Society of Petroleum Engineers. doi:10.2118/174880-PA.
10. Kam, D., and Datta-Gupta, A. (2016, April 1). Streamline-Based Transport Tomography With Distributed Water Arrival Times. Society of Petroleum Engineers. doi:10.2118/169105-PA.
11. Zhang, Y., Bansal, N., Fujita, Y., Datta-Gupta, A., King, M. J., and Sankaran, S., From Streamlines to Fast Marching: Rapid Simulation and Performance Assessment of Shale Gas Reservoirs Using Diffusive Time of Flight as a Spatial Coordinate, *SPE Journal* doi:10.2118/168997-PA. (October 2016).

12. Xie, J., Gupta, N, King, M. J. and Datta-Gupta, A., Depth of Investigation and Depletion Behavior in Unconventional Reservoirs Using Fast Marching Methods *SPE Journal*, Volume 20 (4) (August, 2015).

13. Xie, J., Yang, C., Gupta, N., King, M. J., and Datta-Gupta, A., Integration of Shale Gas Production Data and Microseismic for Fracture and Reservoir Properties Using Fast Marching Method, *SPE Journal* Volume 20 (2) (April, 2015).

14. Improved Characterization and Performance Prediction of Shale Gas Wells by Integrating Stimulated Reservoir Volume and Dynamic Production Data, *Journal of Petroleum Science and Engineering*, http://dx.doi.org/10.1016/j.petrol.2015.01.030 (February 2015).

15. Park, H. and Datta-Gupta, A., Handling Conflicting Multiple Objectives Using Pareto-based Evolutionary Algorithm During History Matching of Reservoir Performance, *Journal of Petroleum Science and Engineering,* Volume 125, January 2015, Pages 48-66.

16. Kang, S., Datta-Gupta, A., and Lee, W. J., Impact of Natural Fractures in Drainage Volume Calculations and Optimal Well Placement in Tight Gas Reservoirs, *Journal of Petroleum Science and Engineering*, Volume 109, September 2013, Pages 206-216.

17. Park, H. Y and Datta-Gupta, A., Reservoir Management Using Streamline-based Flood Efficiency Maps and Application to Rate Optimization, *Journal of Petroleum Science and Engineering*, Volume 109, September 2013, Pages 312-326

18. Mondol, A., Mallick, B., Efendiev, Y. and Datta-Gupta, A. Bayesian Uncertainty Quantification for Subsurface Inversion Using a Multiscale Hierarchical Model, *Technometrics*, DOI:10.1080/00401706.2013.838190 (2013)

19. Bhark, E., Datta-Gupta, A. and Jafarpour, B., Subsurface Flow Model Calibration With a Spectral-domain Parameterization Adaptive to Grid Connectivity and Prior Model Information, *Mathematical Geosciences*,44, 673–710 (2012).

20. Rey, A., Bhark, E., Gao, K., Datta-Gupta, A. and Gibson, R., Streamline-based integration of time-lapse seismic and production data into petroleum reservoir models," *Geophysics*, 77 (6), December (2012).

21. Zhang, Y., King, M. J. and Datta-Gupta, A., Robust Streamline Tracing Using Inter-Cell Fluxes in Locally Refined and Unstructured Grids, *Water Resources Research*, 48, W06521, doi:10.1029/2011WR011396 (2012).

22. Watanabe, S., and Datta-Gupta, A., Use of Phase Streamlines for Covariance Localization in Ensemble Kalman Filter for Three-Phase History Matching, *SPE Reservoir Evaluation and Engineering*, 15(3), June 2012. Pages 273-289.

23. Bhark, E., Rey, A., Datta-Gupta, A. and Jafarpour, B., A Multiscale Workflow for History Matching in Structured and Unstructured Grid Geometries, *SPE Journal*, 17(3), September 2012, Pages 828-848.

24. Bhark, E., Jafarpour, B. and Datta-Gupta, A., "A Generalized Grid-Connectivity-Based Parameterization for Subsurface Flow Model Calibration, *Water Resources Research*, 47, W06517, doi:10.1029/2010WR009982 (2011).

25. Rey, A., Datta-Gupta, A., and Ballin, P., "Assisted history matching in the presence of frequent well interventions using generalized travel time inversion," *Journal of Petroleum Science and Engineering*, 78 (2), August 2011, Pages 415-30.

26. Yin, J., Park, H-Y, Datta-Gupta, A., and King, M. J. "A hierarchical streamline-assisted history matching approach with global and local parameter updates," *Journal of Petroleum Science and Engineering*, 80 (1), December 2011, Pages 116-30.

27. Li, Z., Yin, J., Zhu, D, and Datta-Gupta, A., "Using downhole temperature measurement to assist reservoir characterization and optimization," *Journal of Petroleum Science and Engineering*, 78 (2), August 2011, Pages 454-63.

28. Akella, S., Datta-Gupta, A. and Efendiev, Y., "Assimilation of Coarse-Scale Data Using the Ensemble Kalman Filter," *International Journal for Uncertainty Quantification*, 1(1):49-76, 2011.

29. Datta-Gupta, A., Xie, J., Gupta, N., King, M. J. and Lee, W. J., "Radius of Investigation and its Generalization to Unconventional Reservoirs," *Journal of Petroleum Technology*, July 2011, Pages 52-55.

30. Bhark, E., Jafapour, B. and Datta-Gupta, A., "An adaptively scaled frequency-domain parameterization for history matching," *Journal of Petroleum Science and Engineering*, 75 (3-4), January 2011, Pages 289-30.

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Yang, Changdong, Simulation and Analysis of Unconventional Reserviors Using Fast Marching Method and Transient Drainage Volume, August 2017

Han, Jichao, Multiobjective Design and Optimization of Polymer Flood Performance, May 2016

Huang, Jixiang, Analysis of Hydraulic Fracture Propaation and Well Performance Using Geomechanical Models and Fast Marching Method, August 2016

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Arun Khargoria, Development of a Field-scale Streamline Simulator, May 2003

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Adel Malallah, Data Integration into High Resolution reservoir Models Using Geostatistics and Multiscale Markov Random Fields, August 2001

Kari Kulkarni, Estimation of Absolute and Relative Permeability Using Production Data, May 2000

Seongsik Yoon, Dynamic Data Integration into High Resolution Reservoir Models Using Streamline Based Inversion, May 2000

Sang Heon Lee, Integrated Reservoir Characterization Using Non-Parametic Regression and Mulitscale Markov Random Fields, May 2000

Eduardo A. Hurtado, Characterization and Ranking of Reservoir Models Using Geostatistics and Streamline Simulation, December 1999

Indranil Barman, Use of Non-Parametric Regression and Inverse Modeling for Reservoir Characterization, May 1999

Salis Aprilian, Integrating Multiphase Produciton Data Into Reservoir Characterization Using Stochastic Inverse Modeling, March 1998

Sriram Peddibhotla, Rapid Simulation Multiphase Flow in Heterogeneous Reservoirs Using 3-D Streamlines, May 1997

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Chen, Rongqiang, Streamline Tracing and Time of Flight Diagnostics for Waterflooding Optimization: Theory and Application, December 2015.

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Nam Ill, Pressure History Matching based on Electrofacies in a Gas Reservoir, October 2003

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Manoj Chowdhury, Reservoir Management Using Streamline Simulation, December, 2000

Trond Mathisen, Ranking of Geostatistical Models Using Production Data, May 2000

Rafael Cobenas, A Closer Look at Non-Uniqueness During Dynamic Data Integration, December 1997

Douglas Tunison, Streamline Simulation of Surfactant-Enhanced Aquifer Remediation, December 1996

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