Dr. Ajay Suri
Curriculum Vitae

Associate Professor
Department of Petroleum Engineering
IIT (ISM) Dhanbad
Jharkhand, India
Mobile: 91-8130135999
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Expertise
Expert in Petroleum and Natural Gas Upstream Technologies and Operations
Sound Knowledge of Oil and Gas Midstream, Downstream Operations and their products

Keywords
Oil and Gas Well Drilling and Completion
Oil and Gas Reservoir Engineering and Well Production
Drilling and Completions Fluids
Water and Polymer Injection Wells
Injection Well Fractures
Wellbore Stability
Natural Gas Hydrate Inhibitors

Summary

I am currently working as an associate professor in the department of Petroleum Engineering at IIT (ISM) Dhanbad, India. Previous to this, I had served as a professor and the R&D director at the Lords Institute of Engineering and Technology (LIET), Hyderabad, and as an associate professor at the University of Petroleum and Energy Studies (UPES), Dehradun, in the department of petroleum engineering. I have taught various courses in petroleum engineering such as drilling technology, petroleum production engineering, geomechanics, hydraulic fracturing, well logging, pressure transient analysis, oil and gas surface operations, and unconventional petroleum resources such as CBM, gas hydrates and shale gas development.

My research expertise is in modelling water and polymer well injectivities and induced fracture growth in vertical and horizontal wells and in the development of gas hydrate inhibitors for natural gas flow assurance. I have authored/co-authored more than 30 publications related to well injectivity modelling, drill-in and completion fluids-design, injection-induced fracture growth and gas hydrate inhibitors. I have worked on numerous research projects and have provided 30 consultancies worldwide on the design of water and polymer injection wells for improved reservoir management. I am an inventor/co-inventor of two commercialized softwares that can 1) simulate formation damage and design drill-in and completion fluids particle sizes, and 2) simulate water/polymer well injectivities and fracture growth. I have two patent grants and one patent under review on novel process development of biodegradable kinetic hydrate inhibitors.

I have a Ph.D. and a Master's of Science from the University of Texas at Austin and a Bachelor

of Technology from the IIT (ISM) Dhanbad, all in Petroleum Engineering.

Early in my career, I worked as an IT integration engineer and an application developer at Vignette Corporation, Austin, TX. USA (now OpenText). My professional work experience spans around 25 years as an engineer, researcher, consultant and an academician, starting from 1997 May as a well-logging field intern at Silchar with Halliburton Logging Services, India Ltd.

Education

Ph.D.	**Petroleum Engineering** University of Texas at Austin, December 2005	**GPA: 3.875 / 4.0**
M.S.	**Petroleum Engineering** University of Texas at Austin, December 2000	**GPA: 3.9 / 4.0**
B. Tech.	**Petroleum Engineering** IIT (ISM), April 1998 (First Class with Distinction)	**GPA: 4.13 / 5.0**

Professional Experience Summary

No	Position	Organization	From	To	Pay / month
1	Logging Intern	HLS India Ltd.	5/1997	7/1997	Rs. 3,000
2	Research Assistant	University of Texas at Austin	8/1998	12/2000	$ 1,000
3	Integration Engineer	Vignette Corporation	12/2000	12/2001	$ 5,000
4	Research Assistant	University of Texas at Austin	8/2002	12/2005	$ 1,200
5	Post-doctoral Fellow	University of Texas at Austin	8/2006	5/2010	$ 5,000
6	Consultant	Austin Geotech Services	5/2010	12/2015	$ 4,000
7	Visiting Professor	UPES Dehradun	1/2014	12/2014	Rs. 1,25,000
8	Associate Professor	UPES Dehradun	1/2015	6/2016	Rs. 1,05,000
9	Professor	Lords College, Hyderabad	7/2016	5/2017	Rs. 1,20,000
10	Associate Professor	IIT (ISM) Dhanbad	6/2017	Current	Rs. 2,05,100

Consultancy Summary

Provided consultancy to the world's largest multinational oil and gas companies in injection well parameters design and management **for more than 10 years.**

Below is the list of more than **30 completed consultancy projects** with some research elements built-in that were done to plan the water and polymer injection into various oil fields worldwide.

- OMV Wisting Field, Water Injection, Phase I, North Sea. (Nov 2014 – Aug 2015).
- Chevron Rosebank Field, Water Injection, Phase III GOM. (July 2014 – Sept 2015).
- OMV Maari Field, Water Injection, offshore New Zealand. (July 2014 - Nov 2014).
- Chevron Captain Field, Water & Polymer Injection (March 2014 - Sept 2014).
- Chevron Tahiti field, Phase II IS004 Injector (March 2014- Aug 2014).
- Anadarko Heidelberg field, Phase II (Feb 2014 - March 2014).
- Anadarko K-2 Field, Gulf of Mexico (March 2013 - Oct 2013).

- BP Angola, (March 2013 - June 2013).
- Anadarko Heidelberg field, (Nov 2012 - August 2013).
- Chevron Rosebank field, Phase II (June – Nov 2012).
- BHP Billiton Australia, Moondyne Horizontal Injection (May 2012 – Sept 2012).
- OMV Austria Vienna, Water and Polymer Injection (March 2012 - April 2013).
- Chevron Tahiti Field, Gulf of Mexico (Nov 2011 - April 2013).
- Chevron Tombua-Landana Field, Offshore Angola (Nov 2011- Oct 2012).
- Energy XXI Water Injection into Main Pass 61/62, GOM (Sep. 2010).
- BHP Shenzi Field, GOM (Starting June 2010).
- Chevron Rosebank Field, North Sea (Dec 2009 – Aug 2010).
- Nexen Buzzard Field in the North Sea (Jan 2009 – May 2010).
- ENI, Produced Water Injection Well (Aug 2009 – April 2010).
- Chevron Bigfoot Field, Gulf of Mexico (May 2009 – Aug 2009).
- Petrobras Guando Field, Bogota, Columbia (Nov 2008 – Dec 2009).
- Anadarko K-2 Field, GOM (May 2008 – May 2009).
- Chevron Tahiti Field, Gulf of Mexico (June 2008 – Dec 2008).
- Shell Bonga Field, offshore Nigeria (Feb 2008 – April 2008).
- Shell BS-4 Block, Offshore Brazil (Nov 2007 – June 2008).
- Chevron Nsiko Field, Gulf of Mexico (Jan 2007 - Aug 2007).
- BHP Shenzi Field, Phase 2, Gulf of Mexico (May 2007).
- Pemex Field in Mexico (Feb 2007 – April 2007).
- Chevron Tombua-Landana Injection Wells, GOM (Nov 2006 – April 2007).
- Conoco-Philips Belanak Field, Offshore Indonesia (Oct 2006 – Nov 2006).
- El-Paso Pinauna Field, Camamu Basin, Offshore Brazil (Sep 2006 – Nov 2006).

Teaching Summary

Taught various sub-disciplinary theory and practical courses in petroleum/general engineering **for more than 10 years**.

Theory Courses

- Introduction to Petroleum Engineering
- Drilling Technology
- Reservoir Modelling
- Formation Evaluation and Well Logging
- Well Logging and Well Testing
- Petroleum Production Operations – I
- Petroleum Production Operations – II
- Advanced Production Technology
- Hydraulic Fracturing
- Petroleum Production Engineering and Design
- Coal Bed Methane, Shale Gas/Oil and Gas Hydrates
- Petroleum Geomechanics & Hydraulic Fracturing
- Calculus - I

Practical Courses

- Drilling Fluids and Cement
- Reservoir Engineering

- Drilling and Well Control Simulation
- Reservoir Simulation
- Enhanced Oil Recovery
- Petroleum Product Testing
- Reservoir and Production
- Oil and Gas Equipment Design and Simulation

Books

1. **Suri, A**. 2009. **Cleanup of Filter Cake Formed by Drilling and Completion Fluids.** VDM Verlag Dr. Muller Ag & Co. KG. http://www.amazon.com/Cleanup-Filter-Formed-Drilling-Completion/dp/3639160142

Patents

1. Singh, A., and **Suri, A. Date of Grant. 13/7/2023**. Patentee. IIT (ISM) Dhanbad. **Patent No. 438692.** Application No. 202231061959. Date of Filing. 31/10/2022. A natural, biodegradable kinetic hydrate inhibitor and a process for the preparation thereof (from pectin and a second compound from ethylene glycol (EG) and Methanol (MeOH)). 202231061959 A, IPO Journal No. 01/2023 Dated 06/01/2023, Pg. No. 794. https://search.ipindia.gov.in/IPOJournal/Journal/Patent
2. Singh, A., and **Suri, A.** A natural, biodegradable kinetic hydrate inhibitor composition and a process for the preparation thereof (from iota-carrageenan and alcohols/diols/PVP/PVCap). 202231076188 A, IPO Journal No. 01/2023 Dated 06/01/2023, Pg. No. 801. https://search.ipindia.gov.in/IPOJournal/Journal/Patent
3. Singh, A., and Suri, A. **Date of Grant. 19 Nov. 2024.** Patentee. IIT (ISM) Dhanbad**. Patent No. 554563**. A natural, biodegradable kinetic hydrate inhibitor composition (from lambda-carrageenan and a second compound from aliphatic alcohols, aliphatic diols, PVP or PVCap). 202331028786, IPO Journal No. 17/2023 Dated 28/04/2023 Pg. No. 33243. https://search.ipindia.gov.in/IPOJournal/Journal/Patent

Publications (WOS Q1-Q4/SCIE/SCI/ESCI and SCOPUS)

1. Ankur Singh, **Ajay Suri**, K. Arunprasath, M. Z. A. Yahya, Lavish Singh**.** 2025. Evaluating a Blend of Amide-Based Polymer and Glycol as Methane Hydrate Inhibitor. Macromolecular Symposia. 414. 2400169. https://doi.org/10.1002/masy.202400169
2. Ankur Singh, Shanker Krishna, **Ajay Suri**, Lavish Kumar Singh, Isaac Wilson**.** 2024. Sustainable hydrate inhibition: Pectin and MEG synergy for deep-sea environments. Natural Gas Industry B. Vol 11, Issue 6, Pg 739-749. https://doi.org/10.1016/j.ngib.2024.11.001
3. Singh, A., & **Suri, A.** 2024. Using Casein Peptone as a Sustainable and Natural Solution for Mitigating Gas Hydrate-Induced Flow Assurance Challenges in Natural Gas Pipelines. Paper SPE-218666-MS presented at the SPE Conference at Oman Petroleum and Energy Show. April 22-24, Muscat, Oman. https://doi.org/10.2118/218666-MS
4. A Singh, S Dey, A Mishra, **A Suri**. 2024. Synergistic Performance of Pectin with Monoethylene glycol as Environment Friendly and Sustainable Hydrate Inhibitor. Journal of Environmental Nanotechnology. 2024, Vol 13, Issue 2, Pg 331-338. https://doi.org/10.13074/jent.2024.06.241525

5. Doley, A., Mahto, V., Rajak, V. K., and **Suri**, **A**. 2023. Development of a High-Performance Drilling Fluid Additive for Application in Indian Shale Gas Formations. Energy & Fuels. 2023/8/16, https://doi.org/10.1021/acs.energyfuels.3c02066

6. Singh, A., **Suri**, **A**., and Chandravanshi, D. 2023. Kinetic Hydrate Inhibition by Lambda-Carrageenan and Its Synergistic Compositions with Ethylene Glycol, 4-Methyl-1-Pentanol, Polyvinylpyrrolidone, and Polyvinylcaprolactam. Energy Fuels 2023, 37, 13, 9368–9383. https://doi.org/10.1021/acs.energyfuels.3c00674

7. Singh, A., and **Suri, A**. 2023. Synergistic Kinetic Hydrate Inhibition of Pectin, PVP, and PVCap with Monoethylene Glycol. Energy & Fuels. https://doi.org/10.1021/acs.energyfuels.3c00065

8. **Suri, A**., & Singh, A. 2023. Synergistic Hydrate Inhibition by Iota-Carrageenan with Kinetic Hydrate Inhibitors. Paper SPE-212436-MS presented at the Middle East Oil, Gas and Geosciences Show. February 19-21, Manama, Bahrain. https://doi.org/10.2118/213610-MS

9. Singh, A., & **Suri, A**. 2023. Synergistic Hydrate Inhibition by Bovine Serum Albumin with Kinetic Hydrate Inhibitors. Paper SPE-212781-MS presented at the SPE Canadian Energy Technology Conference and Exhibition. March 15-16, Calgary, Alberta, Canada. https://doi.org/10.2118/212781-MS

10. Singh, A., **Suri, A**., Mamani, E. E., & Mishra, A. 2023. Synergistic Hydrate Inhibition by Red Seaweed Extract K-Carrageenan with Kinetic Hydrate Inhibitors. Paper SPE-212436-MS presented at the SPE Argentina Exploration and Production of Unconventional Resources Symposium. March 20-22, Buenos Aires, Argentina. https://doi.org/10.2118/212436-MS

11. Singh, A., and **Suri, A**. 2022. Enhanced hydrate inhibition using protein synergists with kinetic hydrate inhibitors. Energy & Fuels 36, no. 17: 10395-10404. https://doi.org/10.1021/acs.energyfuels.2c02027

12. Singh, A., and **Suri, A.** 2022. Enhanced Hydrate Inhibition by Plant-Based Polysaccharides as Synergists with Kinetic Hydrate Inhibitors." Energy & Fuels 36, no. 13: 6974-6988. https://doi.org/10.1021/acs.energyfuels.2c01062

13. Singh, A., and **Suri, A**. 2021. Review of Kinetic Hydrate Inhibitors Based on Cyclic Amides and Effect of Various Synergists." Energy & Fuels 35, no. 19: 15301-15338. https://doi.org/10.1021/acs.energyfuels.1c02180

14. Singh, A., and **Suri, A**. 2020. A review on gas hydrates and kinetic hydrate inhibitors based on acrylamides." Journal of Natural Gas Science and Engineering, Vol. 83: 103539. https://doi.org/10.1016/j.jngse.2020.103539

15. Clemens, T., Kienberger, G., Persaud, M., **Suri, A**., Sharma, M. M., Boschi, M., Overland, A. M. 2017. Optimizing Water-Injection Design in a Shallow Offshore Reservoir. SPE Production & Operations Journal, Vol. 32. Issue 4. 551-563. https://doi.org/10.2118/180143-PA

16. **Suri, A**. and Sharma, M., 2016. Apparent Shear Yield Stress of Filter Cakes Determine Flow Initiation Pressures and Near Wellbore Return Permeabilities. Paper SPE-182966-MS. Presented at the Abu Dhabi International Petroleum Exhibition and Conference, 7–10 November, Abu Dhabi, UAE. https://doi.org/10.2118/182966-MS

17. Kienberger, G., Persaud, M., Clemens, T., **Suri, A.**, Sharma, M. M., Overland, A., Boschi, M.

2016. Optimizing Water Injection in a Shallow Off-Shore Reservoir. Paper SPE-180143-MS presented at the SPE Europec featured at the 78th EAGE Conference and Exhibition. May 30 – June 2. Vienna, Australia. https://doi.org/10.2118/180143-MS

18. Clemens, T., Finkbeiner, T., Chiotoroiu, M. M., Pettengell, K., Hercus, S., **Suri, A**., Sharma, M.M. 2015. Reservoir Management of a low Permeability off-shore Reservoir Utilizing Water Injection into a Watered-out Horizontal Well under Fracturing Conditions. Paper SPE-174352-MS presented at SPE Europec 2015 held in Madrid, Spain, June 1–4. http://dx.doi.org/10.2118/174352-MS

19. Zechner, M., Clemens, T., **Suri, A**., and Sharma. M. M. 2015. Simulation of Polymer Injection under Fracturing Conditions – An Injectivity Pilot in the Matzen Field, Austria. 2015 SPE Reservoir Evaluation and Engineering. 18 (02): 236-249. http://dx.doi.org/10.2118/169043-PA

20. Zechner, M., Clemens, T., **Suri, A**., and Sharma. M. M. 2014. Simulation of Polymer Injection under Fracturing Conditions – A Field Pilot in the Matzen Field, Austria. Paper SPE-169043-MS presented at the SPE Improved Oil Recovery Symposium, Tulsa, Oklahoma, USA. April 12-16. https://doi.org/10.2118/169043-MS

21. **Suri, A.**, Sharma, M. M., and Peters, E. J. 2011. Estimates of Fracture Lengths in an Injection Well by History Matching Bottomhole Pressures and Injection Profile. SPE Reservoir Evaluation & Engineering. Volume 14, Issue 4. pp. 385-397 http://dx.doi.org/10.2118/132524-PA

22. **Suri**, **A.,** and Sharma M.M. 2010. An Improved Laboratory Method to Estimate Flow Initiation Pressures and Return Permeabilities During Flowback. Paper SPE-132098-MS presented at the SPE Western Regional Meeting, Anaheim, California, USA. 27-29 May. http://dx.doi.org/10.2118/132098-MS

23. Friehauf, K.E., **Suri, A**., and Sharma M.M. 2010. A Simple and Accurate Model for Well Productivity for Hydraulically Fractured Wells. SPE Production & Operations. Volume 25, No. 4. November 2010. pp. 453-460. http://dx.doi.org/10.2118/119264-PA

24. **Suri, A**., and Sharma M.M. 2010. A Model for Water Injection into Frac-Packed Wells. SPE Reservoir Evaluation & Engineering. Volume 13, No. 3. June 2010. pp. 449-464. http://dx.doi.org/10.2118/110084-PA

25. **Suri, A.**, Sharma, M. M., and Peters, E. J. 2010. Estimates of Fracture Lengths and Injection Profile in an Injection Well by History Matching Bottom Hole Pressures. Paper SPE-132524-MS presented at the SPE Western Regional Meeting, Anaheim, California, USA, May 27-29. https://doi.org/10.2118/132524-MS

26. **Suri, A.,** Sharma M.M., and Moreno, J.M.M. 2010. Injectivity of Frac-Packed Wells: A Case Study of the Guando Field. Paper SPE-125897-MS presented at the 2010 SPE International Symposium and Exhibition on Formation Damage Control, Lafayette, Louisiana, USA, Feb. 10-12. http://dx.doi.org/10.2118/125897-MS

27. Chaban, F., Sharma M.M., **Suri, A.,** and Grant, G. 2009. A Unified, Multidisciplinary Approach to the Planning and Design of Deepwater Waterflooding Projects. Paper SPE-124857-MS presented at the 2009 SPE ATCE held in New Orleans, Louisiana, USA, 4-7 October. http://dx.doi.org/10.2118/124857-MS

28. **Suri, A**., and Sharma M.M. 2009. Fracture Growth in Horizontal Injectors. Paper SPE 119379 presented at the SPE Hydraulic Fracturing Technology Conference held in The

Woodlands, Texas, USA, 19–21 January. http://dx.doi.org/10.2118/119379-MS

29. Friehauf, K.E., **Suri, A**., and Sharma M.M. 2009. A Simple and Accurate Model for Well Productivity for Hydraulically Fractured Wells. Paper SPE-119264-MS presented at the SPE Hydraulic Fracturing Technology Conference, The Woodlands, Texas, Jan. 19-21. https://doi.org/10.2118/119264-MS

30. **Suri, A**., and Sharma M.M. 2007. A Model for Water Injection into Frac-Packed Wells. Paper SPE-110084-MS presented at the SPE ATCE, Anaheim, California, Nov. 11-14. https://doi.org/10.2118/110084-MS

31. **Suri, A**., and Sharma, M. M. 2006. Cleanup of Water-Based Kill-Pills in Laboratory-Simulated Perforated Tunnels During Flowback. Paper SPE-102177-MS presented at the SPE ATCE, San Antonio, TX. Sept. 24-27. http://dx.doi.org/10.2118/102177-MS

32. **Suri, A**., and Sharma, M. M. 2004. Strategies for Sizing Particles in Drilling and Completion Fluids. SPE Journal, Volume 9, Issue 1. March 2004. pp. 13-23. http://dx.doi.org/10.2118/87676-PA

33. **Suri, A**., and Sharma, M. M. 2001. Strategies for Sizing Particles in Drilling and Completion Fluids. Paper SPE-68964-MS presented at the SPE European Formation Damage Conference, The Hague, Netherlands, May 21-22. https://doi.org/10.2118/68964-MS

34. Zain, Z., **Suri, A**., and Sharma, M. M. 2000. Mechanisms of Mud Cake Removal during Flowback. Paper SPE-58797-MS presented at the SPE International Symposium on Formation Damage Control held in Lafayette, Louisiana, 23-24 February. http://dx.doi.org/10.2118/58797-MS

Other Publications (Journals and Magazines)

1. Singh. A., **Suri, A**. 2019. A Comprehensive Literature Review on Natural Gas Hydrate Inhibition. March Edition of Dew Journal.

2. **Suri, A.,** and Arora, S. 2017. Mineral, Elemental, and Hydrocarbon Potential Evaluation of a Carbonaceous Shale from a Lignite Opencast Mine in Amod Village, Bharuch, Gujarat, India. Elixir International Journal. https://www.elixirpublishers.com/articles/1488371587_ELIXIR2016115456.pdf.

3. Chaban, F. R., Sharma, M. M., **Suri, A.**, and Gibson, G. T. 2010. Method Optimizes Water Flood Projects. *The American Oil & Gas Reporter*, February. Pg. 122

4. **Suri**, A. and Sharma M. M. 2001. Synopsis of Paper: Sizing of Particles in Drilling and Completion Fluids. JPT November. http://dx.doi.org/10.2118/1101-0029-JPT

Society of Petroleum Engineers' International Conferences Abroad

1. Singh, A., & **Suri, A.** 2024. Using Casein Peptone as a Sustainable and Natural Solution for Mitigating Gas Hydrate-Induced Flow Assurance Challenges in Natural Gas Pipelines. Paper SPE-218666-MS presented at the SPE Conference at Oman Petroleum and Energy Show. April 22-24, Muscat, Oman. https://doi.org/10.2118/218666-MS

2. **Suri, A**., & Singh, A. 2023. Synergistic Hydrate Inhibition by Iota-Carrageenan with Kinetic Hydrate Inhibitors. Paper SPE-212436-MS presented at the Middle East Oil, Gas and Geosciences Show. February 19-21, Manama, Bahrain. https://doi.org/10.2118/213610-MS

3. Singh, A., & **Suri, A**. 2023. Synergistic Hydrate Inhibition by Bovine Serum Albumin with Kinetic Hydrate Inhibitors. Paper SPE-212781-MS presented at the SPE Canadian Energy Technology Conference and Exhibition. March 15-16, Calgary, Alberta, Canada. https://doi.org/10.2118/212781-MS

4. Singh, A., **Suri, A**., Mamani, E. E., & Mishra, A. 2023. Synergistic Hydrate Inhibition by Red Seaweed Extract K-Carrageenan with Kinetic Hydrate Inhibitors. Paper SPE-212436-MS presented at the SPE Argentina Exploration and Production of Unconventional Resources Symposium. March 20-22, Buenos Aires, Argentina. https://doi.org/10.2118/212436-MS

5. **Suri, A**. and Sharma, M., 2016. Apparent Shear Yield Stress of Filter Cakes Determine Flow Initiation Pressures and Near Wellbore Return Permeabilities. Paper SPE-182966-MS. Presented at the Abu Dhabi International Petroleum Exhibition and Conference, 7–10 November, Abu Dhabi, UAE. https://doi.org/10.2118/182966-MS

6. Kienberger, G., Persaud, M., Clemens, T., **Suri, A.**, Sharma, M. M., Overland, A., Boschi, M. 2016. Optimizing Water Injection in a Shallow Off-Shore Reservoir. Paper SPE-180143-MS presented at the SPE Europec featured at the 78th EAGE Conference and Exhibition. May 30 – June 2. Vienna, Australia. https://doi.org/10.2118/180143-MS

7. Clemens, T., Finkbeiner, T., Chiotoroiu, M. M., Pettengell, K., Hercus, S., **Suri, A**., Sharma, M.M. 2015. Reservoir Management of a low Permeability off-shore Reservoir Utilizing Water Injection into a Watered-out Horizontal Well under Fracturing Conditions. Paper SPE-174352-MS presented at SPE Europec 2015 held in Madrid, Spain, June 1–4. http://dx.doi.org/10.2118/174352-MS

8. Zechner, M., Clemens, T., **Suri, A**., and Sharma. M. M. 2014. Simulation of Polymer Injection under Fracturing Conditions – A Field Pilot in the Matzen Field, Austria. Paper SPE-169043-MS presented at the SPE Improved Oil Recovery Symposium, Tulsa, Oklahoma, USA. April 12-16. https://doi.org/10.2118/169043-MS

9. **Suri**, **A.,** and Sharma M.M. 2010. An Improved Laboratory Method to Estimate Flow Initiation Pressures and Return Permeabilities During Flowback. Paper SPE-132098-MS presented at the SPE Western Regional Meeting, Anaheim, California, USA. 27-29 May. http://dx.doi.org/10.2118/132098-MS

10. **Suri, A.**, Sharma, M. M., and Peters, E. J. 2010. Estimates of Fracture Lengths and Injection Profile in an Injection Well by History Matching Bottom Hole Pressures. Paper SPE-132524-MS presented at the SPE Western Regional Meeting, Anaheim, California, USA, May 27-29. https://doi.org/10.2118/132524-MS

11. **Suri, A.,** Sharma M.M., and Moreno, J.M.M. 2010. Injectivity of Frac-Packed Wells: A Case Study of the Guando Field. Paper SPE-125897-MS presented at the 2010 SPE International Symposium and Exhibition on Formation Damage Control, Lafayette, Louisiana, USA, Feb. 10-12. http://dx.doi.org/10.2118/125897-MS

12. Chaban, F., Sharma M.M., **Suri, A.,** and Grant, G. 2009. A Unified, Multidisciplinary Approach to the Planning and Design of Deepwater Waterflooding Projects. Paper SPE-124857-MS presented at the 2009 SPE ATCE held in New Orleans, Louisiana, USA, 4-7 October. http://dx.doi.org/10.2118/124857-MS

13. **Suri, A**., and Sharma M.M. 2009. Fracture Growth in Horizontal Injectors. Paper SPE 119379 presented at the SPE Hydraulic Fracturing Technology Conference held in The

Woodlands, Texas, USA, 19–21 January. http://dx.doi.org/10.2118/119379-MS

14. Friehauf, K.E., **Suri, A**., and Sharma M.M. 2009. A Simple and Accurate Model for Well Productivity for Hydraulically Fractured Wells. Paper SPE-119264-MS presented at the SPE Hydraulic Fracturing Technology Conference, The Woodlands, Texas, Jan. 19-21. https://doi.org/10.2118/119264-MS

15. **Suri, A**., and Sharma M.M. 2007. A Model for Water Injection into Frac-Packed Wells. Paper SPE-110084-MS presented at the SPE ATCE, Anaheim, California, Nov. 11-14. https://doi.org/10.2118/110084-MS

16. **Suri, A**., and Sharma, M. M. 2006. Cleanup of Water-Based Kill-Pills in Laboratory-Simulated Perforated Tunnels During Flowback. Paper SPE-102177-MS presented at the SPE ATCE, San Antonio, TX. Sept. 24-27. http://dx.doi.org/10.2118/102177-MS

17. **Suri, A**., and Sharma, M. M. 2001. Strategies for Sizing Particles in Drilling and Completion Fluids. Paper SPE-68964-MS presented at the SPE European Formation Damage Conference, The Hague, Netherlands, May 21-22. https://doi.org/10.2118/68964-MS

18. Zain, Z., **Suri, A**., and Sharma, M. M. 2000. Mechanisms of Mud Cake Removal during Flowback. Paper SPE-58797-MS presented at the SPE International Symposium on Formation Damage Control held in Lafayette, Louisiana, 23-24 February. http://dx.doi.org/10.2118/58797-MS

Indian Conferences

1. Singh, A., **Suri, A**. 2022. Enhanced hydrate inhibition by blending pectin with kinetic and thermodynamic hydrate inhibitors. Presented at Energy Summit held at UPES, Dehradun, India. 21-23 November

2. Singh, A., **Suri, A**. 2021 Review of Kinetic Hydrate Inhibitors Based on Cyclic Amides and acrylamides. Presented at 1st International Oil & Gas Technology Conference held virtually, 14-15 Dec, 2021

3. Singh, A., **Suri, Ajay**. A Review on Gas Hydrates and Identification of High Performing Kinetic Hydrate Inhibitors Based on Acrylamides. Presented at the 3rd International Oil & Gas Chemistry, Chemicals, and Additives Conference held virtually, 24-26 September 2020

4. Singh, A., and **Suri, A.** 2020. Review of gas hydrates and identification of high-performing KHIs based on acrylamide." 3rd International Oil & Gas Chemistry, Chemicals and Additives Conference (IOGCA 2020)", 24 - 26 September 2020.

5. Singh, A., and **Suri, A**. 2019. A Comprehensive Literature Review on Natural Gas Hydrate Inhibition." International Conference on Unconventional Energy Resource held at RGIPT, Rai Bareli, U.P. India, 27 Feb – 1 March.

Invited Presentations, Webinars and Industry Lectures

1. **Suri, A.** 2021. Well Injectivity and Fracture Growth Modelling. Invited webinar delivered to the Department of Petroleum Engineering, AMET Deemed to be University, Chennai, 28 May. https://www.youtube.com/watch?v=NTvseQv9Vpo

2. **Suri, A**. 2018. Oil and Gas Well Production Analysis. Lectures under the Reservoir Engineering Competency Development Program for ONGC engineers

3. **Suri, A.** 2017. Petroleum Production Issues. Lectures to IOCL engineers under a departmental consultancy project.
4. **Suri, A.** 2016. Apparent Shear Yield Strength of Filter Cakes Determine Flow Initiation Pressures and Return Permeabilities." Invited Presentation at Institute of Drilling Technology, ONGC, Dehradun, India.
5. **Suri, A.** 2006. Cleanup of Internal Filter Cake During Flowback. Presented at the University of Rajiv Gandhi Institute of Petroleum Technology, Rai Bareli, Uttar Pradesh, India

Inauguration Address

1. **Suri, A.** 2023. Challenges and Advances in Upstream Oil and Gas Industry. Inaugural address presentation to the Department of Petroleum Engineering, AMET Deemed to be University, Chennai, Feb 6 for the one-week faculty development program.

International Posters

1. Singh, A., **Suri, A.,** and Krishna, S. 2023. Synergistic Hydrate Inhibition of K-carrageenan with PVP and PVCap. Poster No. P61. Abstract ID 681 presented at the 10th International Conference on Gas Hydrates (ICGH10). 9-14 July. https://icgh10.com/wp-content/uploads/2023/07/ICGH10-Prog-Book-e-book.pdf
2. Kudapa, V**., and Suri, A.** 2015. A Model for Shale Gas Production. Presented at the Shale gas workshop, **DGH. Delhi**
3. **Suri, A**., and Sharma, M. M. 2006. Cleanup of Water-Based Kill-Pills in Laboratory-Simulated Perforated Tunnels During Flowback. Presented at the **2006 SPE ATCE**, 24-27 September, San Antonio, TX.

Journal Papers Submitted

1. Ankur Singh, **Ajay Suri,** Sumeet Chakraborty, Shanker Krishna. 2024. Addressing flow assurance challenges in natural gas pipelines arising from gas hydrate formation through the utilization of whey protein as an environmentally friendly and sustainable hydrate inhibitor. Chemical Engineering Science. Manuscript Number: CES-D-24-01814
2. Ankur Singh, **Ajay Suri,** Sumeet Chakraborty, Shanker Krishna. 2024. Addressing flow assurance challenges in natural gas pipelines arising from gas hydrate formation through the utilization of whey protein as an environmentally friendly and sustainable hydrate inhibitor. Ocean Engineering Science. Manuscript Number: OE-D-24-02933
3. Ankur Singh; Shanker Krishna; **Ajay Suri**; Sumeet Chakraborty. 2024. Tackling flow assurance challenges in natural gas pipelines using whey protein as a sustainable and eco-friendly hydrate inhibitor. MRS Energy & Sustainability (MRES).

Research Projects

S. No.	Sponsor, PI/Co-PI	Project Title	Cost	Execution Dates
1	DST-SERB CRG (CRG), PI	Evaluation and Synthesis of Green Hydrate Inhibitors with Enhanced Hydrate Inhibition and Biodegradability	Rs 17.87 Lakh	Jan 2023 – Jan 2026

2	Greenfield Oil and Trading Services (GOTS) Pvt. Ltd., PI	Development of an Economical and Innovative Set-up for Sand Retention and Sand Control Screen Performance Testing	Rs 25 Lakh	Not enough funds
3	DST-SERB CRG, Co-PI	Development of an Economical Set-up and an Innovative Methodology for Generating Absolute and Relative Permeability Data for Estimating Gas and Water Production Rates from Gas Hydrate Sediment Systems	Rs 33.58 Lakh	Not accepted 2024
4	IIT ISM Dhanbad, PI	Studies on formation and dissociation of natural gas hydrates	Rs 11.58 Lakh	2018-2021
5	Sand Control and Fracturing Joint Industry Project, UT Austin, Co-Investigator	Development of a Transverse and Longitudinal Fracture Growth Model and a Polymer Injection Model into University of Texas Well Injectivity Decline Simulator for Horizontal Injectors	$ 80,000	2008 Oct -2010 May
6	Water Injection Joint Industry Project at UT Austin, Co-Investigator	Development of a Pressure Transient Model in UTWID for Modelling Injection wells' Startups and Shutdowns and Fracture Growth, Recession and Closure	$ 80,000	2007 Oct – 2008 Oct
7	Water Injection Joint Industry Project at UT Austin, Co-Investigator	Development of a Well Injectivity Model for Frac-packed Wells into UTWID (University of Texas at Austin's Well Injectivity Decline Simulator)	$ 80,000	2006 Sept -2007 Sept
8	Improved Well Performance Joint Industry Project, UT Austin, Co-Investigator	Development of a Model and Software for Estimating the Depth and Degree of Formation Damage due to Solid Particles in Drill-in and Completion Fluids	$ 80,000	1998 Aug -2000 Aug

Consulting Projects (CI/Co-CI with Prof. M. M. Sharma, UT Austin)

No.	Sponsoring Authority	Topic/Field	Year	Consultancy Charge (Rs.)
1	Austin Geotech Services in collaboration with **OMV**	Application of a Well Injectivity Simulator to **Wisting Field** in Barents Sea, Norway, OMV	2015-16	$5,000
2	Austin Geotech Services in collaboration with **Chevron**	Sensitivity study for water injection and injection well performance in the **Rosebank field's Colsay1 and**	2014-15	$5,000

		Colsay3 reservoirs, Phase III		
3	Austin Geotech Services in collaboration with **OMV**	**Horizontal** well injection into **Maari Field** in Austria, OMV	2014-15	$10,000
4	Austin Geotech Services in collaboration with **Chevron**	Sensitivity study for water and polymer injection into **Captain field**, Chevron	2014-15	$5,000
5	Austin Geotech Services in collaboration with **Chevron**	Sensitivity study for water injection into **Tahiti field** using IS004 Injector, Phase II	2014-15	$5,000
6	Austin Geotech Services in collaboration with **Anadarko**	Sensitivity study for water injection and injection well performance for 10 years in **Heidelberg field**	2013-14	$5,000
7	Austin Geotech Services in collaboration with **Anadarko**	Feasibility of water injection into **K2 field'**s M14 and M20 sands, Phase II, Anadarko	2013-14	$5,000
8	Austin Geotech Services in collaboration with **BP Angola**	Study of water injection into two **frac-packed wells** A and B of **BP Angola, offshore**	2013-14	$5,000
9	Austin Geotech Services in collaboration with **Anadarko**	Sensitivity study for water injection and injection well performance for 10 years in **Heidelberg field**	2013-14	$10,000
10	Austin Geotech Services in collaboration with **Chevron**	Sensitivity study for water injection and injection well performance in the **Rosebank field's Colsay1 and Colsay3 reservoirs, Phase II**	2012-13	$5,000
11	Austin Geotech Services in collaboration with **BHP Billiton**	**Horizontal** injection well sensitivity study on water injection in the **Moondyne reservoir of BHP-Billiton**	2012-13	$10,000
12	Austin Geotech Services in collaboration with **OMV**	Sensitivity study for water injection in the **Matzen** field of OMV	2012-13	$10,000
13	Austin Geotech Services in collaboration with **Chevron**	Sensitivity study for water injection into cased hole **frac-packed injectors of Tahiti field, Chevron**	2012-13	$5,000
14	Austin Geotech Services in collaboration with **Chevron**	Sensitivity study for **Tombua-Landana water injectors**, offshore Angola, Phase I and II, Chevron	2012-13	$5,000
15	Austin Geotech Services in collaboration with **Energy XXI**	History matching and diagnostic study for the **frac-packed** injectors in the **Main Pass 61/62** field in the Gulf of Mexico	2011-12	$5,000
16	Austin Geotech Services in collaboration with **BHP**	Sensitivity study for water injection and injection well performance for **CHFP injectors** in the Shenzi field, Chevron	2011-12	$5,000
17	Austin Geotech Services in collaboration with	Sensitivity study for water injection and injection well performance in the	2010-11	$10,000

	Chevron	**Rosebank field's Colsay1 and Colsay3 reservoirs**		
18	Austin Geotech Services in collaboration with **Nexen**	Sensitivity study for 7 water injection wells in the **Buzzard field, North Sea, Nexen**	2010-11	$10,000
19	Austin Geotech Services in collaboration with **ENI**	Sensitivity study for water injection in the **Vandji field**, Nigeria	2009-10	$5,000
20	Austin Geotech Services in collaboration with **Chevron**	Sensitivity study for water injection and injection well performance for **CHP, and CHFP injectors** in the Bigfoot field, Chevron	2010-11	$5,000
21	Austin Geotech Services in collaboration with **Petrobras**	**History matching** simulation and diagnostic study for **Guando field injectors**, Colombia	2009-10	$10,000
22	Austin Geotech Services in collaboration with **Anadarko**	Feasibility of water injection into **K2 field'**s M14 and M20 sands, Phase I, Anadarko	2008-09	$5,000
23	Austin Geotech Services in collaboration with **Chevron**	Sensitivity study for water injection into cased hole **frac-packed injectors of Tahiti field, Chevron**	2008-09	$5,000
24	Austin Geotech Services in collaboration with **Shell**	Frac-pack water injection and history matching study for **Bonga field** injectors, offshore Nigeria	2008-09	$5,000
25	Austin Geotech Services in collaboration with **Shell**	Sensitivity study for water injection and injection well performance in **BS-4 field in Santos Basin**, Offshore Brazil	2008-09	$5,000
26	Austin Geotech Services in collaboration with **Chevron**	Sensitivity study for water injection and injection well performance in the **Nsiko field, offshore Nigeria**	2007-08	$10,000
27	Austin Geotech Services in collaboration with **BHP**	Sensitivity study for water injection and injection well performance for **CHFP injectors** in the Shenzi field, Chevron	2007-08	$2,000
28	Austin Geotech Services in collaboration with **PEMEX**	Sensitivity study for water injection into **unfractured and fractured wells** of X field, Mexico	2007-08	$5,000
29	Austin Geotech Services in collaboration with **Chevron**	Sensitivity study for water injection and fracture propagation in the **Tombua-Landana wells, GOM**	2006-07	$5,000
30	Austin Geotech Services in collaboration with **Conoco-Philips**	Sensitivity study for water injection and fracture propagation in the **horizontal** and vertical wells of **Belanak field, offshore Indonesia**	2006-07	$5,000
31	Austin Geotech Services in collaboration with **El Paso Energy**	Water injection and fracture propagation study for the **Pinauna field's** Sergi formation in Camamu basin, offshore Brazil	2006-07	$5,000

Ph. D. supervision

No.	Name of Candidate	Registration No. with date	Status	Sole or Joint Guide
1	Dr. Ankur Singh	17DR000580 Reg. date: 3/1/2018 PhD completion date: 1/8/2023	Completed Letter No. 2188/Exam/2199/PhD/PE/AS/23 Notification No. Exam/219905/Ex.Bd/2007-08 (Vol. III) dated 01.08.2023	Sole
2	Ranvijay Singh	18DR000747 Reg: 28/07/2018 Continuing	80% work done	Sole
3	Sidharth Dewal	20DR0139, 25/08/2020 Left	Guided 1 year. The candidate could not obtain a 6.5 OGPA at the end of coursework.	Sole
4	Pashupati Sah	21DP0006 Reg: 11/8/2021 Left	Guided 6 months. The candidate left for an industry job after the end of coursework.	Sole
5	Vikram Kumar	21DR0214 Reg: 13/8/2021 Left	Guided 2 years. The candidate left after passing the comprehensive exam, research proposal presentation, 1 publication + 3 papers pending.	Sole
6	Dr. Vamsi Krishna Kudapa	Guided at UPES Dehradun, 2014-16	Completed	Sole

Innovation in the Teaching-Learning Process

- Developed new course curriculum and course notes / PowerPoint presentations for various new departmental theory and lab courses in Google Classroom, https://classroom.google.com/h
    - Petroleum Geomechanics and Hydraulic Fracturing
    - Advanced Petroleum Production Technology
    - Introduction to Petroleum Engineering
    - Reservoir Geomechanics
    - Drilling and Well Control Simulation
    - Introduction to Python and Petroleum Data Analytics
    - Enhanced Oil Recovery Lab

SPE Student Paper Contest

1. Guided M.S. research student (Divyanshu Vyas), who won 1st prize in the SPE Inter Chapter Research Exchange, organized by Texas A&M, USA in the Post-Graduate category, 2020.

Administrative & Extra-Curricular Work

1) Created a new Drilling simulation Lab (advised and evaluated hardware and software for the lab)
   Took the initiative to investigate and propose new drilling software systems for the new drilling simulation lab. The drilling lab hardware and software have been acquired and the lab is in the curriculum. New teaching material for the entire lab has been developed in conjunction with other faculty.

2) Indented multiple Laboratory Equipment
   i) An educational set up for measuring liquid level and flow rate in process control
   ii) An educational set up for measuring the metacentric height of a floating vessel
   iii) Autoclave Reactor for Hydrate Formation and Dissociation
   iv) Respirometric Sensor System for BOD and Biodegradability Testing

3) MoU with Greenfield Oil and Trading Services (GOTS)
   Initiated the process of forming a new lab on sand control management with Mr. V.C. Babu Sivakumar, Principal Petroleum Engineering Consultant, Greenfield Oil and Trading Services Pvt Ltd, https://www.greenfield.energy

4) MoU with Caliche Private Ltd. https://www.calicheglobal.com/

5) International Judge, SPE Inter-chapter Research Exchange Presentation and Competition

6) Webinar
   Delivered an invited webinar to the Department of Petroleum Engineering, AMET Deemed to be University, Chennai on " Well Injectivity and Fracture Growth Modelling" on 28.05.2021 successfully which was very much appreciated
   https://www.youtube.com/watch?v=NTvseQv9Vpo

7) Industry Expert Lectures and Workshop
   Arranged industry expert lectures and workshop on Sand Management and SandMaster software demonstration for the department
   https://www.youtube.com/watch?v=B2hGnH5bPd0

8) Departmental Library In charge prior to 2022
   Attend regularly the institute library committee meetings and arrange for new books for the department.

9) Departmental Time Table In charge prior to 2021

10) Visited New Delhi to Advanced Research International for training, discussion and evaluation of their Drilling Simulator for departmental purchase and research collaboration

11) Participated in an Industry-Academia meet sponsored by Oil India Limited held at Assam on enhanced oil recovery

12) Documented all the departmental faculty publications for India Today Ranking. Documented all lab facility data at the departmental level. Member of departmental space

committee.

Details of participation in Institute level activities

S. No.	Name of the activity	Nature of activity	Role in the activity	Specific Contribution
1	Creche/Preschool Initiative at IIT (ISM) Dhanbad	Initiate and educate young children	Member of the Initiative Team	Prepared the list of the employees interested in the crèche for sending their children.

Work Experience Details

2017 June – Present Associate Professor, Petroleum Engineering, IIT(ISM) Dhanbad, India

Teaching Experience

Year & Sem	No	Course Name	Course No.	Students	L/T/P
2017-18 M	1	Petroleum Production Operations – II (New)	PEC-15102	56 BT V Sem	3/1/0
	2	PE Practicals – I (Drilling Fluids & Cements)	PEC-13201	56 BT III Sem	0/0/2x2
	3	PE Practicals – III (Product Testing)	PEC-15201	56 BT V Sem	0/0/2x2
2017-18 W	4	CBM, Shale Gas/Oil and Gas Hydrates (New)	PEC18102	71 BT 7 1PhD	3/1/0
	6	PE Practicals (Reservoir Engineering)	PEC-52201	30 MT II Sem	0/0/2
	7	Petroleum Production Operations –II	PEC-15102	6 BT V Sem	3/1/0
2018-19 M	8	Drilling Technology (New)	PEC 93102	15 BE III Sem	3/1/0
	9	Petroleum Production Operations –II	PEC-15102	59 BT V Sem	3/1/0
2018-19 W	10	CBM, Shale Gas/Oil and Gas Hydrates	PEC93102	55 BT 8S 5 PhD	3/0/0
	11	Petroleum Production Operations – I	PEC-94101	15 BE IV Sem	3/1/0
2019-20 M	12	PE Practicals - I (Drilling Fluids & Cements)	PEC-13201	65 BT III Sem	0/0/2x2
	13	Practical 1: Reservoir Characterization Lab	PEC 506	28 MT I Sem	0/0/2
	14	Advanced Production Technology (New)	PEC-504	28 MT 8 PhD	3/0/0
2019-20 W	15	CBM, Shale Gas/Oil and Gas Hydrates	PEE-18102	59 BT VII	2/0/0
	16	Petroleum Geomechanics & Fracturing (New)	PEC-508	28 MT	3/0/0
2020-21 M	17	Introduction to Petroleum Engineering (New)	PEE-201	44 BT I Sem	3/0/0
	18	Advanced Production Technology	PEC-504	32 MT 12 PhD	3/0/0
2020-21 W	19	Petroleum Geomechanics & Fracturing	PEC-508	32 MT	3/0/0
	20	Drilling System Design & Simulation Lab (New)	PEC-210	77 BT 3rd Sem	0/0/2x2
2021-22 M	21	Introduction to Petroleum Engineering	PEE-201	202 BT All	3/0/0
	22	Advanced Production Technology	PEC-504	54 MT and PhD	3/0/0
2021-22 W	23	Drilling Simulation Lab	PEC210	74 BT VI	0/0/2x2
	24	Petroleum Geomechanics and Fracturing	PEC508	28 MT I	3/0/0
2022-23 M	25	Advanced Production Technology	PEC504	23 MT PhD	3/0/0
	26	Introduction to Petroleum Engineering	PEE201	158 BT III V	3/0/0
2022-23 W	27	Enhanced Oil Recovery Practical	PEC308	74 BT VI	0/0/2x2
	28	Petroleum Geomechanics and Fracturing (New)	PEC508	21 MT I	3/0/0
2023-24 M	29	Advanced Production Technology	PEC504	37 MT I PhD	3/0/0
	30	Reservoir Characterization / Simulation Lab	PEC506	36 MT I	0/0/2
2023-24 W	31	Petroleum Geomechanics and Fracturing	PEC508	30 MT	3/0/0
	32	Reservoir Characterization / Simulation Lab	PEC506	80 BT IV	0/0/2x2
2024-25 M	33	Advanced Production Technology	NPEC501	55 MT & PhD	3/1/0
	34	Reservoir Engineering Lab	NPEC102	88 BT I Sem	0/0/2x2

2024-25 W	35	Petroleum Geomechanics and Hydraulic Fracturing	NPEC507	44 MT 4 PhD	3/1/0
	36	Reservoir Characterization / Simulation Lab	PEC506	99 BT VI	0/0/2x2

Development of new lab/experiments:

- Indented various new lab equipment in the petroleum department:
    - Gas hydrate autoclave for forming and dissociating gas hydrates
    - Process control for measuring liquid level and flow rate
    - Metacentric height for an offshore floating structure
    - Drilling simulators for the new well control and drilling simulation lab
    - Sand control simulators
    - Respirometric sensor system for BOD and biodegradability testing
- Single-handedly took the initiative and investigated, proposed and finalized the plan for a new drilling software lab in the department of Petroleum Engineering.
- Visited and spent 5 days in New Delhi with Advanced Research International for training, discussion and evaluation of their Drilling Simulator for departmental purchase and research collaboration. Arranged their visit and meeting at IIT (ISM) Dhanbad for the demonstration.

2016 Aug – 2017 May Professor, Dept. of Petroleum Engineering, LIET, Hyderabad, India

Teaching

No	Course Name	No. of Students	L/T/P
1	Well Logging	40 BT	3/1/0
2	Petroleum Production Engineering and Design	45 BT	3/1/0
3	Oil and Gas Equipment Design and Simulation Lab	40 BT	0/0/2x2
4	Reservoir Modelling	45 BT	3/1/0
5	Reservoir Engineering Lab	50 BT	0/0/2
6	Petroleum Production Engineering and Design	45 BT	0/0/2

2015 Jan – 2016 July Associate Professor, Dept. of Petroleum Engineering, UPES, India

Teaching

No	Course Name	No. of Students	L/T/P
1	Well Logging and Well Testing	50 BT	3/1/0
2	Introduction to Production Engineering	35 MT	3/1/0
3	Petroleum Production Engineering I	45 BT	3/1/0
4	Reservoir and Production Lab	40 BT	0/0/2x2
5	Well Logging and Well Testing	50 BT	3/1/0

2014 Jan - 2015 Dec Visiting Faculty, UPES, India

Teaching (to Geo-Informatics, Geo-Science and Applied Petroleum Engineering)

No	Year	Semester	Course Name	No. of Students	L/T/P
1	13-14	Winter	Hydraulic Fracturing	50 BT	3/1/0
2	14-15	Monsoon	Formation Evaluation & Well Logging	65 BT	3/1/0

2010 May – 2016 Dec Research Consultant, Austin Geotech Services, TX, USA

Completed 31 consultancy projects with some research elements on water and polymer injection wells' performance.

1. OMV Wisting Field - Water Injection, Phase I, North Sea. (Nov 2014 – Aug 2015).
2. Chevron Rosebank - Field Water Injection, Phase III GOM. (July 2014 – Sept 2015).
3. OMV - Maari Field Water Injection, offshore New Zealand. (July 2014 - Nov 2014).
4. Chevron - Captain Field Water and Polymer Injection in Soft Res. (March 2014 - Sept 2014).
5. Chevron – Tahiti field Phase II IS004 Injector (March 2014- Aug 2014).
6. Anadarko– Heidelberg field Phase II (Feb 2014 - March 2014).
7. Anadarko–K-2 Field Gulf of Mexico (March 2013 - Oct 2013).
8. BP–Angola (March 2013 - June 2013).
9. Anadarko– Heidelberg field (Nov 2012 - August 2013).
10. Chevron– Rosebank field – Phase II (June – Nov 2012).
11. BHP-Billiton Australia – Moondyne Horizontal Injection (May – Sept 2012).
12. OMV Austria Vienna – Water and Polymer Injection (March 2012 - April 2013).
13. Chevron – Tahiti Field, Gulf of Mexico (Nov 2011 - April 2013).
14. Chevron – Tombua-Landana Field, Offshore Angola (Nov 2011- Oct 2012).
15. Energy XXI – Water Injection into Main Pass 61/62, GOM (Sep. 2010).
16. BHP – Shenzi Field, GOM (Starting June 2010).
17. Chevron – Rosebank Field, North Sea (Dec 2009 – Aug 2010).
18. Nexen – Buzzard Field in North Sea (Jan 2009 – May 2010).
19. ENI – Produced Water Injection Well (Aug 2009 – April 2010).
20. Chevron – Bigfoot Field, Gulf of Mexico (May 2009 – Aug 2009).
21. Petrobras – Guando Field, Bogota, Columbia (Nov 2008 – Dec 2009).
22. Anadarko – K-2 Field, GOM (May 2008 – May 2009).
23. Chevron – Tahiti Field, Gulf of Mexico (June 2008 – Dec 2008).
24. Shell – Bonga Field, offshore Nigeria (Feb 2008 – April 2008).
25. Shell – BS-4 Block, Offshore Brazil (Nov 2007 – June 2008).
26. Chevron – Nsiko Field, Gulf of Mexico (Jan 2007 - Aug 2007).
27. BHP – Shenzi Field Phase 2, Gulf of Mexico (May 2007).
28. Pemex– Field in Mexico (Feb 2007 – April 2007).
29. Chevron – Tombua-Landana Injection Wells, GOM (Nov 2006 – April 2007).
30. Conoco-Philips – Belanak Field, Offshore Indonesia (Oct 2006 – Nov 2006).
31. El-Paso – Pinauna Field, Camamu Basin, Offshore Brazil (Sep 2006 – Nov 2006).

2006 Sept – 2010 May Post-Doctoral Fellow, University of Texas at Austin, Texas, USA

Enhanced UTWID, an injection well performance simulator at the University via inclusion of following simulation capabilities:

1. Modeling of frac-packed injectors
2. Modeling of horizontal injectors
3. Inclusion of pressure transience during injection
4. Inclusion of injection shutdowns and varying injection rates
5. Inclusion of Chinese language option
6. Commercialized UTWID at UT Austin and published relevant papers in SPE Journals
7. Sold simulator copies to upstream oil and gas companies; ex. Chevron Inc. and ENI for

$65,000 each.

2005 Aug – 2005 Dec Instructor, College of Engineering, UT Austin

1. Provided UG students with an opportunity to enhance their problem-solving skills in differential and integral calculus through individual and collaborative instructions
2. Tutored students with weak calculus skills at the Learning Skills Center

1998 Aug - 2000 Dec and 2002 Aug - 2005 Dec Research Assistant, PE, UT Austin

1. Developed UTDamage, a Visual-Basic application to estimate the damage caused by drill-in and completion fluids as a part of M.S. thesis; the package was sold to Shell for 10,000 USD
2. Conducted experiments using an improved laboratory method to estimate the flow initiation pressure and return permeabilities during the production of hydrocarbons.
3. Simulated injection of liquid CO_2 into hydraulic fractures using the compositional and thermal modelling capability of commercial reservoir simulators such as VIP and GEM.
4. Evaluated electrical, optical, and acoustic techniques for measuring the particle size distribution in drill-in and completion fluids.

2000 Aug – 2001 Dec Integration Engineer, Vignette Corp., Austin, TX

1. Integrated Vignette's following internal computer applications: Oracle Financials (ERP), IT Help Desk, Sales Commission System, Customer Information Center, Share Holder Services, and Vignette Online Support System using Vignette's Business Integration Studio, Oracle, Java, XML, and PL/SQL programming.
2. Worked with the IT application development team to design, develop and support data integration between the different business units.

1997 May – 1997 July, Intern Engineer, Halliburton Logging Services India Ltd.

1. Member of logging team involved in wire-line data acquisition and perforation of oil wells.
2. Assisted in calibration and testing of wire-line logging tools.
3. Tried designing a "Depth Encoder" for the wire-line data acquisition unit.

Ph.D. Dissertation

Title: Cleanup of Internal Filter Cake during Flowback,
Supervisor: Dr. Mukul M. Sharma
https://repositories.lib.utexas.edu/handle/2152/2337

1. Designed and evaluated an improved flowback method to better characterize the formation damage caused by drill-in and completion fluids.
2. Conducted experiments on cores with a wide range of permeability and with more commonly used water-based fluids in open-hole and lab-simulated perforated completions.
3. Measured filter cake shear yield strength using a controlled strain rheometer.

4. Developed a model for cleanup of internal filter cake during flowback.

M.S. Thesis

Title: A Model for Multi-Component Filtration, 2000
Supervisor: Dr. Mukul M. Sharma

Computer Skills

Proficient in Word, Excel, and PowerPoint

Engineering Software

- Reservoir simulators - CMG-IMEX, GEM, STARS, Eclipse, VIP, Merlin, UTWID
- Production software – PETEX Prosper, SandMaster, Petroleum Production Systems
- Finite element modeling software - Femlab
- Data acquisition software - Softwire, Sarto Connect

Programming

- Visual Basic, Java, Fortran, C++, Pascal
- JSP, Servlets, Java script, DHTML
- PL/SQL, XML, JDBC, RMI, Unix shell scripting

Databases

- Oracle, MSAccess, Sybase, SQL-2000, Vignette BIS, IBM MQSERIES

Generic Software

- Office, Dream weaver, Home Site, Microsoft Visual Interdev, Front Page, Adobe PhotoShop, Matlab, Olectra-Chart

Laboratory Skills

1. Skilled in operating Reservoir Engineering Lab
2. Special expertise in core flooding, API static mud filtration experiments.
3. Skilled in ARES, a controlled strain rheometer to measure stress and strain for filter cakes.
4. Worked with SEM-EDS, mercury penetrometer, mini-permeameter, coulter-counter, light scattering instruments and surfactant design methodology.

Accomplishments

1. **Indian Patent Grants on Biodegradable Kinetic Hydrate Inhibitors – 2023, 2024**
2. **Best PhD Guided at IIT (ISM) Dhanbad - 2023**
3. **DST-SERB Research Grant on Development of Hydrate Inhibitors**, 2022-2025
4. **Best Paper Award** to the PhD Student at RGIPT International Conference, 2020
5. **Best Research Presentation Award** to SPE Graduate Student Guided, 2020
6. **Faculty Research Initiation Grant** at IIT (ISM) Dhanbad, 2018
7. Madison's Who's Who, Life-Time Member, 2009
8. **1st Prize**, Texas State Archery Competition, 2009
9. **Petroleum Engineering Department Scholarships**, UT Austin, 2002 - 2005
10. **Texaco Graduate Fellowship** - 2002
11. Member, Society of Petroleum Engineers

12. Invitee, **Phi Kappa Phi National Honor Society** - 2000
13. **Scolomin Award**, Overall Excellence, Indian School of Mines - 1998
14. **University Blues**, University Representative in Athletics and Volleyball, ISM - 1998
15. Executive Committee Member, Student Government, Indian School of Mines - 1997
16. **Sports Secretary**, and **Captain Volleyball**, Indian School of Mines - 1997
17. Certificate "A", Army, National Cadet Corps – 1990

Technical Achievements

1. **Two Indian Patent Grants on Novel Processes for KHIs – 2023, 2024**
2. **Inventee/Co-Inventee of Commercialized Softwares**
    - UTDamage (Simulator for designing drill-in and completion fluids and for estimating formation damage), licensed to Shell for $10,000
    - UTWID (University of Texas Well Injectivity Decline Simulator) for evaluating and forecasting the performance of horizontal and vertical injection wells for water and polymer injection in oil reservoirs, licensed to ENI and Chevron for $65,000 each
3. **30 consultancies worldwide** on injection well performance and fracture growth to leading oil and gas companies for designing their injection well parameters
4. **Authored/co-authored** more than **30 peer-reviewed papers**
5. **2 research projects as PI and 4 research projects as Co-PI**
6. **20 SPE presentations International Conferences**
7. **Reviewer** of ACS, Elsevier, Petroleum Science and Technology and SPE journal papers
8. **Supervised two PhDs, and dozens of MTech and BTech projects**