

Curriculum Vitae of Dr. Vikas Mahto, Assistant Professor of Petroleum Engineering

- 1. Name** Dr. Vikas Mahto
- 2. Fathers Name** Shri Dinbandhu Mahto
- 3. Date of Birth** July 7, 1971
- 4. Current Position and Address:** Assistant Professor,
Department of Petroleum Engineering
Indian School of Mines, Dhanbad-826004
(Jharkhand)

5. Academic Qualifications

Sl.No.	Degree	Institute/University	Year of Passing	Division
1	B.Tech (Chemical Tech)	H.B.T.I. Kanpur, U.P.	1996	First
2	M.Tech (Chemical Engg)	N.I.T. Warangal, A.P.	1999	First
3	Ph.D (Petroleum Engg.)	I.S.M.U. Dhanbad, Jharkhand	2004	

Title of M.Tech Dissertation Work: Modelling and simulation of biodegradation of phenolic compounds in a fluidized bed bioreactor

Title of the Ph.D. Work: Development of environmentally safe water based oil well drilling fluids and its effect on formation damage

6. Work Experience

Sl. No	Organization	Designation	Period
1	G.O.M. Industries Ltd, Indore	Junior Chemist	01.06.1996 to 22.09.1996
2	I.S.M. Dhanbad	Senior Research Fellow	21.06.2000 to 30.04.2003
3	B.I.T. Sindri	Part Time Lecturer	24.06.2003 to

			30.06.2004
4	B.I.T. Sindri	Lecturer	01.07.2004 to 31.09.2004
5	I.S.M.U. Dhanbad	Lecturer	11.10.2004 to 05.02.2007
6	I.S.M.U. Dhanbad	Assistant Professor	06.02.2007 to Till date

7. Administrative Position Held at I.S.M. University Dhanbad

S.No.	Position	From	To
1.	N.S.S. Programme Co-ordinator	July 2008	Till date
2.	Warden (Emerald Hostel)	April 2005	March 2007

8. Responsibilities in Petroleum Engineering Department

- i) Faculty Advisor of Petroleum Engineering Department
- ii) Organising Secretary of I.S.M. Petroleum Engineering Society
- iii) Convener cum Treasurer of I.S.M. Petroleum Engineering Society
- iv) Lab- in -charge of Drilling Fluid and Cement Slurry Laboratory
- v) Lab- in -charge of Enhanced Oil Recovery Research Laboratory

9. Area of Specialization: Computer aided process and equipment design, Chemical process modeling and simulation, petroleum drilling and production operations, Petroleum refining and petrochemicals

10. Research Interest: Development of environmentally safe oil well drilling fluids, Petroleum production equipments design and Petroleum engineering operational design.

11. Courses Taught (B.Tech & M.Tech Degree)

1. Chemical Engineering Thermodynamics
2. Chemical Engineering Drawing
3. Material of Construction and Metallurgy
4. Mathematical Methods and Computer Applications
5. Process Equipment Design (Chemical Engg.)
6. Petroleum Engineering Design
7. Petroleum Production Equipment Design
8. Petroleum Engineering Operational Design

9. Artificial Lift Techniques
10. Petroleum Refining and Petrochemicals
11. Drilling Fluids and Cements
12. Energy Management and Policy

12. No. of M.Tech/Ph.D supervised/supervising: 6

13. Honours and Awards

- i) Recipient of **Institute Academic Merit Scholarship** at H.B.T.I. Kanpur for consecutive two years (1993-95)
- ii) Awarded **MHRD Fellowship (1997-1999)** during my M.Tech Programme for qualifying GATE 2007.
- iii) Awarded **Senior Research Fellowship (2000-2003)** by Council of Scientific and Industrial Research, New Delhi during Ph.D. Programme.
- iv) Awarded **“KARMASHEEL”** for excellent organizational capability in the year 1995 by National Service Scheme H.B.T.I. Kanpur
- v) Achieved Certificate from Government of Andhra Pradesh for active participation in **JHANMABHOOMI PROGRAMME** of Government of Andhra Pradesh.

14. Visits abroad:

PI has visited Kuwait to present a research paper entitled “Studies on polymer based gel system to control excessive water production in oil fields” in the technical session of International Congress of Chemistry and Environment held on Nov. 18-20, 2007 at Kuwait University, Kuwait

15. Editor/Member of Editorial Board/ Reviewer of Journals

- i) Associate Editor IST Transactions of Environmental Systems-Theory and Applications (ESTA) published by IST Press, Hamilton, ON, Canada.
- ii) Member of Editorial Board of International Journal of Petroleum Engineering
- iii) Reviewers of different International Journals (International Journal of Petroleum Engineering, African Journal of Biological Research, Chemical Engineering Journal etc)

16. Latest Publications in journals/seminars, symposia, and conference proceedings: 35

17. List of Publications:

A) *Latest Publications in International Journals*

1. Mahto, Vikas “Study the effect of various organic polymers on the rheology of water based drilling fluids” (communicated)
2. Mahto, Vikas and Maurya A.K. “ Study the effect of hydroquinone and hexamine on PHPA based polymer gel system for Water shut-off jobs” (Communicated)
3. Mahto, Vikas “Study the combined effect of sodium carboxy methyl cellulose and tamarind gum on rheology of water based drilling fluids” (Communicated)
4. Mahto, Vikas and Sharma, V.P. “Characterization of Indian Bentonite Clay Samples for Water Based Drilling Fluids”. Petroleum Science and Technology, Vol 26, Issue 15, 2008, pp 1859-1868
5. Khan, A.R, Mahto, Vikas, Fazal, S.A. & Laik, S. “Studies of wax deposition onset in case of Indian crude oil” Petroleum Science and Technology , Vol 26, Issue 14, 2008, pp 1706-1715
6. Sharma, V.P. & Mahto, Vikas “ Studies on less expansive environmentally safe polymers for development of water based drilling fluids” website: www.spe.org
7. Mahto, Vikas & Sharma V.P. “ Tragacanth Gum: An effective oil well drilling Fluid additive” Energy Sources Vol 27, No. 3, 2005, pp 299-308
8. Mahto, Vikas & Sharma V.P. “Rheological study of a water based oil well drilling fluid” Journal of Petroleum science and engineering, 45 (2004) 123-128
9. Sharma V.P. & Mahto Vikas “An overview of the recent developments on safety issues & environmental consideration in deep water drilling fluid Technology, May-September 2003, Oil Asia Journal, International Edition, pp. 19, 51-52

* Occupied **three times** position in the **Science Direct Top 25 Hottest Research Articles (20th position on July- Sept 2004, 8th Position on Oct-Dec 2004 and 9th position on April –June 2004)** within the Journal of Petroleum Science and Engineering.

B) Latest Publications in National Journals

1. Sharma, Saurabh, Mahto Vikas, Sharma, V.P. and Laik, S. “ Development of Polyacrylamide-Resorcinol-Formaldehyde System for profile modification in Reservoir Rock” (Communicated)
2. Sharma, U.P, Mahto, Vikas & Sharma, V.P. “Advances in selection criteria of wells for gel treatment: An Overview”, Drilling and Exploration World, March 2009, pp-37-40.
3. Mahto, Vikas & Pathak, A.K. “ Safety and Health Management in Coal Liquefaction Processes” Macmillan Advanced Research Series, Macmillan Publishers India Ltd.,2009,pp- 456-459
4. Kumar, A. Senthil, Mahto, Vikas & Sharma, V.P. “ Behaviour of organic polymers on the rheological properties of Indian bentonite water based drilling fluid system and its effect on formation damage, Indian Journal of Chemical Technology, Vol.10, Sept. 2003, pp 525-530

C) Latest Publications in the Proceedings of International Conferences/Seminars

1. Laik S. & Mahto, Vikas “ Selection of Artificial Lift Systems for the production of Coal Bed Methane Gas: An Overview” (Communicated)
2. Mahto, Vikas “Management of naturally occurring radioactive materials in Petroleum Industry: An Overview” Proceedings of ISFL 2008 held on March 9-12, 2008 at New Delhi
3. Mahto Vikas “Role of Polymer Nanogels for profile modification in Petroleum reservoir rock” Proceedings of APA International conference on Advances in polymer Science & technology held on Jan 28-31 at IIT New Delhi.
4. Mahto, Vikas & Maurya, A.K. “Studies on polymer based gel system to control excessive water production in oil fields” proceedings of International Congress of Chemistry and Environment to be held on Nov. 18-20, 2007 at Kuwait University, Kuwait”.

5. Mahto Vikas. "Development of water based drilling fluids using tamarind gum and partially hydrolyzed polyacrylamide" Proceedings of MPT-2007, International Seminar on Mineral Processing Technology, February 22-24, 2007
6. Sharma, V.P. & Mahto, Vikas " Studies on less expansive environmentally safe polymers for development of water based drilling fluids" Proceedings of 2006 SPE , Asia Pacific oil and Gas Conference and Exhibition, Australia
7. Sharma, V.P. & Mahto, Vikas, "Environmental Management of Petroleum hydrocarbon contaminated soil and ground water" Proceedings of 4th International symposium on Fuels and Lubricants (ISFL-2004) , October 27-29, 2004, New Delhi
8. Sharma V.P. & Mahto Vikas " An overview of the recent developments on safety issues & environmental consideration in deep water drilling fluid technology, Proceedings of PETROTECH-2003 held at New Delhi on January 9-12, 2003

D) Latest Publications in the Proceedings of National Conferences/Seminars

1. Mahto, Vikas & Pathak, A.K. " Safety and Health Management in Coal Liquefaction Processes" presented on conference on Advances in chemical engineering held at Thapar University Patiala on February 27-28 2009
2. Mahto, Vikas "Emerging Technologies for the Treatment of produced water from oil fields: An Overview" Proceedings of the National Conference on "Recent Advances in Waste Management (RAWM-2009) held at ITBHU Varanasi on February 20-21,2009.
3. Kumari, Sudha & Mahto, Vikas "Recent strategies for the production of biodiesel from waste cooking oil: An overview" Proceedings of National Seminar on Environmental Issues on Geotechnics and Mineral Industry, B.I.T. Sindri, Dhanbad, April 4-5, 2008.
4. Mahto, Vikas "Environmental management in oil well drilling operations: An overview" Proceedings of NCFCE 2007 on Dec.12-14 2007 at IIT Guwahati.
5. Mahto, Vikas "Commercial production of natural gas hydrates: Options and Challenges" National Seminar on Gas Hydrates-A potential source of Energy to be held at NGRI, Hyderabad on February 5-6, 2007.
6. Mahto, Vikas " Recent advances in waste minimization techniques at oil well drill site: An overview" Proceedings of All India Seminar on Catalysing Vision 2020: Challenges of Indian Chemical Engineers, N.I.T. Rourkela, January 2007

7. Mahto Vikas & Kumar Dheeraj. "Emerging Developments of Drilling Technologies for underground coal gasification process wells: An Overview, Proceedings of UMC-2006, National Conference on Underground Coal Mining held at Indian School of Mines, Dhanbad on Nov. 9-10, 2006, p 379-383.
8. Mahto, Vikas. "Recent advances in waste minimization techniques at oil well drill site: An overview" Accepted for oral presentation on CV-2020, Catalyzing Vision: 2020: Challenges of Indian Chemical Engineers held on January 6-7, 2007.
9. Mahto, Vikas & Singh, S.P. "Simulation of biodegradation of phenolic compounds in a fluidized bed bioreactor" Proceedings of REACTOR-2006, National conference on Reactor Design, Simulation & Operation held at H.I.T. Haldia on 24-25 March 2006
10. Mahto, Vikas & Singh, S.P. "Solid waste management in Petroleum Refining Industries" Proceedings of Waste management in chemical and allied industries: A vision 2020(WMCI-2005) held at N.I.T. Rourkela on 1-2 Oct. 2005, pp- 138-142
11. Mahto, Vikas & Laik, S. "Environmental aspects of coal bed methane production technology" Proceedings of First Indian Mineral Congress held at I.S.M. Dhanbad on February 28-March1, 2005, pp. 106-111
12. Laik, S. & Mahto, Vikas "Emerging developments on Coal bed methane production technology: An overview" Proceedings of First Indian Mineral Congress held at I.S.M. Dhanbad on February 28-March1, 2005, pp. 106-111
13. Singh, S.P. & Mahto, Vikas " Direct prediction of expanded bed height as a function of reduced Reynolds number in a Gas solid Fluidization, Proceedings of Ist National conference of research scholars and young scientists in chemical engineering held at I.I.T. Kharagpur on September 25-27, 2004
14. Sharma, V.P., Mahto, Vikas & Nath, J.D. "An overview of the recent technological development for removal of hydrocarbons from oil contaminated soils and ground water" Proceedings of the conference on Environment Management & Emerging Trends in Petroleum Sector held at Goa on February 25-27, 2004.

18. List of Projects implemented

1. a) **Title of the Project:** Study the differential sticking behavior caused by water based drilling fluids
b) **Funding Agency:** ISM
c) **Status:** on going
d) **Principal Investigator:** Dr. Vikas Mahto

2. a) **Title of the project :** Study the variation in rheological properties of Indian Waxy crude oils using organic polymers
b) **Funding Agency:** UGC
c) **Status :** on going
d) **Principal Investigator :** Dr. Vikas Mahto
e) **Co-Investigator:** Dr. V.P. Sharma

3. a) **Title of the Project:** Experimental Studies, Modeling and Simulation of Polymer gel system for profile modification in petroleum reservoir rock
b) **Funding Agency:** CSIR
c) **Status:** on going
d) **Principal Investigator:** Dr. Vikas Mahto

19. Selected Invited Lectures/Special Lectures delivered on different consultancy courses/short -term courses/Training programmes.

- i) Delivered Invited Lecture on “**Hydrofrac in Coalbed Methane Well**” on Executive Training Programme on “Coalbed Methane Exploration and Production Technology” for **CMPDI Ltd** during 12-16 June 2006 at **Central Mining and Research Institute Dhanbad**.

- ii) Delivered Lecture on “**Oil Well Stimulation Techniques**” on Short-Term Course for the executives of **Oil India Ltd** during July 31 to August 4 2006.

- iii) Delivered Lectures on “**Artificial Lift Techniques**” on the Training Programme for the executives of **NTPC Ltd** during February 25-March 08 at I.S.M. University Dhanbad.

- iv) Delivered Lectures on “**Well Problems and Control**” on the Training Programme for the executives of **NTPC Ltd** during February 25-March 08 at I.S.M. University Dhanbad.

- v) Delivered Lectures on “**Drilling Fluid Maintenance Equipments**” on the Training Programme for the executives of **NTPC Ltd** during February 25-March 08 at I.S.M. University Dhanbad

- vi) Delivered lectures on “**Oil Well Cementing Operations**” on the Training Programme for the executives of **NTPC Ltd** during February 25-March 08 at I.S.M. University Dhanbad.

- vii) Delivered lectures on **“Modern Petroleum Refining Operations”** and **“Artificial Lift Techniques”** for the executives of **ONGC Ltd** during June 9- July 11 2008 at I.S.M. University Dhanbad.
- viii) Delivered lectures on **“Drilling Fluids: Types, Functions, Properties and their Optimization”** on Short- term course on Drilling Fluid Technology” during June 02-06, 2008 at I.S.M. University Dhanbad.
- ix) Delivered invited lecture on **“Modern Petroleum Production Operations”** on the short term course on Petroleum Engineering during July 29-31, 2008 organized by Department of Chemical Engineering, G.I.E.T. Gunupur (Orissa)
- x) Delivered invited lectures on **“Enhanced Oil Recovery Techniques”** on the short term course on Petroleum Engineering during July 29-31, 2008 organized by Department of Chemical Engineering, G.I.E.T. Gunupur (Orissa)
- xi) Delivered invited lecture on **“Modern Oil Well Drilling and Cementing Techniques”** on short term course on Petroleum Engineering during July 29-31, 2008 organized by Department of Chemical Engineering, G.I.E.T. Gunupur (Orissa)
- xii) Delivered invited lecture on **“Reservoir Management and Reservoir Simulation”** on short term course during July 29-31, 2008, on Petroleum Engineering organized by Department of Chemical Engineering, G.I.E.T. Gunupur (Orissa)