

Biodata of Dr. Rima Chatterjee Associate Professor, ISM, Dhanbad -826004

1. Educational qualifications:

Degree	University	Fields	Year
B.Sc	Burdwan	Physics	1988
M.Sc. Tech.	ISM	Applied Geophysics	1992
Ph.D	ISM	Applied Geophysics	2003

2. Experience in the Field of Research and Industry

- a) Recipient of ISM Gold Medal and Hari Narain Medal in the Year 1992.
- b) GATE score 95.67 percentile in the year 1992 and CSIR JRF and Lecturer qualified in the year 1991
- c) Worked as Scientist in Advanced Data processing Research Institute, Hyderabad, Deptt. of Space, Govt. of India from 1993 January to 1996 September.
- d) Joined Deptt. of Applied Geophysics ISM as Lecturer in the 1996 and
- e) Continuing as Assistant Professor in the same department of ISM.
- f) Designated as Associate Professor since April, 2008 at ISM
- g) Topic of Ph.D was on “Analysis of well log data and rock stress in hydrocarbon exploration”.
- h) Subject Teacher of Formation evaluation and Electrofacies (M.Tech. Petroleum Exploration), Engineering Geophysics (M. Tech. Engg. Geology), Reservoir Geophysics and Deep water Imaging (Final Year Geophysics and M. Tech. (Petroleum Exploration), Geophysical Exploration (Pre-final year Geology) and Remote Sensing (1st Year Geology).
- i) **Guided 35 numbers of M. Sc. Tech. Dissertation and about 25 M. Tech. (Petroleum Exploration) Project.**
- j) **Supervising one Full Time Ph.D student and One Part Time External Ph.D candidate**

Achievements

- k) **Principal Investigator of the Industry Project Funded by Coal India Limited (R & D Board) of total worth of Rs. 1 crore 68.59 Lakh on “Analysis of In-situ stress for CBM Exploration in Jharia CoalField” (jointly by ISM, Dhanbad and CMPDI, Ranchi)**
- l) **M. Sc. Tech. Students’ Dissertation work have been published in reputed International Conferences like SPG International Conferences in India, Petrotech in Delhi, International Oil & Gas Review Symposium, Mumbai, International Conference on Coal Bed Methane, Alabama, as well as on Gashydrate in the journal GEOHORIZON and papers in Industry Journal like Mine Tech and Petroview.**
- m) **Contributor in the New World Stress map from India (has been released in 2009).**

- n) **Organizing Secretary** of a National Seminar on “Modern Trends in Geophysical Sciences and Techniques” Nov 12-14, 2007 at ISM, Dhanbad to commemorate the Golden Jubilee celebration of the Deptt. of Applied Geophysics.
- o) **Organizing Secretary** of International Seminar on “Recent Advances in Geosciences” Jan. 11-13, 2011.
- p) **Faculty Advisor** of Society of Exploration Geophysicist (SEG) Student Section, ISMU, Dhanbad.
- q) **Organized** Student Interaction programme on August 16th and a Workshop on “Emerging Trends in Deep water Exploration and Exploitation” on August 17th, 2008 under the banner of SEG Student Section, ISM
- r) **Organized** Student Interaction programme on September 4 to 5, 2009 and a Workshop on “Exploration and Exploitation of CBM Resources” on September 6, 2009 under the banner of SEG Student Section, ISM
- s) Papers have been published on Deep water Exploration in International Conferences like IORS-2009, Japan Formation Evaluation Symposium, 2009
- t) Attended 3rd World Stress Conference during October 15-18, 2008 at Potsdam, Germany
- u) **Attended 79th SEG Annual meeting and International Conference** during October 25-30,2009 at Houston, USA
- v) **Organized** All India Student Interaction programme on August 6 to 8, 2010 and a Workshop on “Conventional vs. Non-conventional Energy Resources” on August 8, 2010 under the banner of SEG Student Section, ISM

3. Current Research Interest:

- a) In-situ stress studies in CBM exploration for Indian Coalbasin.
- b) In-situ stress studies and rock physics modeling in Deep water exploration.
- c) Geomechanical modeling in Deep water reservoir as well as Reservoir Characterization.

4. Research Projects undertaken as Principal Investigator (P.I) and Co-PI

- a) Minor Research Project on “Well breakout analysis using Finite Element modeling” funded by Indian school of Mines-----Principal Investigator (1998-2000)

Sanctioned Project cost: Rs. 0.2 Lakh Project status: Completed

- b) “Numerical Modelling for Stress analysis for the Mahanadi offshore basin” funded by CSIR-----Co-PI (1999-2002)

Sanctioned Project Cost: Rs. 5.00 Lakh Project status: Completed

- c) Pilot project on Mahanadi basin entitled “Stress Modelling for rifted eastern continental shelf of India using borehole breakout” funded by Deptt. of Science

and Technology, Govt. of India----Principal Investigator (2001-2002).

Sanctioned Project cost: Rs. 1.08 Lakh Project status: Completed

- d) “Stress Modelling for the Krishna-Godavari and Cauvery basins using borehole breakouts” funded by Deptt. of Science and Technology, Govt. of India----Principal Investigator (2003-2006).

Sanctioned Project cost: Rs. 8.68 Lakh Project Status: Completed

- e) A Pilot Project on “ Modeling for changes CBM Reservoir permeability due to stress” funded by Deptt. of Science and Technology, Govt. of India----Principal Investigator (2008-2009).

Sanctioned Project cost: Rs. 3.00 Lakh

Project Status: Completed

- f) Coal India Limited (R&D Board funded project on “**Analysis of In-situ stress for CBM Exploration in Jharia CoalField**” (jointly by ISM, Dhanbad and CMPDI, Ranchi) ----- **Principal Investigator (2009-2012)**

Sanctioned Project cost: Rs. 1crore 68.59 Lakh

Project Status: Ongoing

5. List of Publication:

International Journal

Chatterjee, R. and Pal, P. K., 2010, Estimation of Stress magnitude and Physical properties for Coal seam of Rangamati area, Raniganj coalfield, India, *International Journal of Coal Geology*, 81(1), 25-36.

Chatterjee, R., Tarafder, G. and Paul, S., 2010, Groundwater Quality Assessment of Dhanbad District, Jharkhand, India, *Bulletin of Engineering Geology and The Environment*, 69(1), 137-141.

Chatterjee, R., 2008, Effect of Normal Faulting on In-Situ Stress: A Case Study from Mandapeta Field, Krishna-Godavari basin, India, *Earth and Planetary Science Letters*, vol. 269/3-4, p. 457-466.

Chatterjee, T. K., **Chatterjee, R.** and Singh, S. K., 2005, Classification of black decorative stones based on geotechnical parameters from Warangal District, Andhra Pradesh, India : *Bulletin of Engineering Geology and the Environment*, vol.64, no.2 p.167-173.

Chatterjee, R. and Mukhopadhyay, M., 2003, Stress modeling for the Oil and Gas fields of Krishna-Godavari and Cauvery basins, India, using Finite Element Technique, *Petrophysics*, vol.44, no. 5, p. 342- 350.

Chatterjee, R. and Mukhopadhyay, M., 2002, Effects of rock mechanical properties on stress field of the Mahanadi basin, India –Results from finite element modeling, *Geophysical Research Letters*, vol. 29, no. 11, p.28-1 – 28-4.

Chatterjee, R. and Mukhopadhyay, M., 2002, Petrophysical and Geomechanical properties of rocks from the oil fields of the Krishna-Godavari and Cauvery basins, India: *Bulletin of Engineering Geology and the Environment*, vol. 61, p. 169-178.

Chatterjee, R. and Mukhopadhyay, M., 2002, In-situ stress determination using well log data for the oil fields of the Krishna-Godavari basin, India: *Petrophysics*, vol. 43, no. 1, p. 26-37.

Chatterjee, R. and Mukhopadhyay, M., 2000, Stress studies in the Mahanadi offshore basin, India, determined to 4.0 km from wellbore breakout data: *Petrophysics*, vol. 41, no. 6, p. 481-491.

National Journal

Chatterjee, R., Nandi, U, Gupta, S. K. and Pandit, S. N., 2009, Variation of coal seam permeability with horizontal stress: A case study from Raniganj coalfield, *Mine Tech*, 30(4), 61-68.

Boruah, N. and **Chatterjee, R.**, 2010, Rock Physics Template (RPT) Analysis of Well Logs And Seismic Data For Lithology and Fluid Classification, Petroview, 3, July, 13-27.

International Conferences/Symposium

Chatterjee R., Pal P. K., Nandi U., and Paul S, 2010, Prediction of CBM Reservoir Parameters, Jharia CoalField, India. 8th Biennial International Conference and Exposition on Petroleum Geophysics, Hyderabad, India, February 1 – 3, 2010 (**Paper Id: 108**)

Paul S., **Chatterjee R.**, and Kundan A. (2010) Determination of In-situ Stress Magnitudes for an Offshore Basin of Eastern India. 8th Biennial International Conference and Exposition on Petroleum Geophysics, Hyderabad, India, February 1 – 3, 2010 (**Paper Id: 151**).

Nandy, J., **Chatterjee, R.**, Ghosh, A., Malik, S., Chavan, G.M. and Sundaram, K.M, 2010, An approach to Water Saturation Estimation using NMR data in Water-Wet Rocks: A Case Study, 8th Biennial International Conference and Exposition on Petroleum Geophysics, Hyderabad, India, February 1 – 3, 2010 (**Paper Id: 147**).

Chatterjee, R. and Dattagupta, S. and Farooqui, M. Y., 2010, Evaluation of Low Resistivity Reservoir in Cambay Basin, India, 17th Annual India Oil & Gas Review Summit and International Exhibition, Mumbai, India, September 09 - 10, 2010 (**Paper Id: 01**).

Chatterjee R., Paul S., and Kundan A., 2010, Estimation of Pore Pressure and Fracture Gradient from Well logs: A Case Study from an Offshore Basin, Eastern India, 17th Annual India Oil & Gas Review Summit and International Exhibition, Mumbai, India, September 09 - 10, 2010 (**Paper Id: 22**).

Chatterjee R., Paul S., Pal P. K. and Srivastava V. K. (2010) Formation Evaluation and Characterization of CBM Reservoir Rocks from Well Logs of Jharia Coalfield, India. PETROTECH 2010, 9th International Oil & Gas Conference and Exhibition, New Delhi, India, October 31 – November 3, 2010 (**Paper Id: 20100259**).

Chatterjee, R., Gupta, S. K., Pal, P. K. and Srivastava, V. K., 2009, Relationship of Coal bed Permeability with Vertical Stress from Well Log data: A Case study from Raniganj CoalField, India in *SEG International Exposition and 79th Annual meeting*, Houston, Texas, USA, October 25-30.

Mitra, A. and **Chatterjee, R.**, 2009, Application of Back Propagation Neural Network in identifying Oil / Gas sands from Well Logs : A case study from Gulf of Cambay, India, *DEVEX-09*, May 12-13, Aberdeen U.K.

Chatterjee, R., Paul, S and Kundan, A, 2009, Estimation of Pore Pressure and Fracture Gradient from Well logs: A Case Study from an Offshore Basin, Eastern India, *15th Formation Evaluation Symposium of Japan*, October 1-2, Chiba, Japan.

Paul, S., **Chatterjee, R.** and Kundan, A., 2009, Estimation of Pore Pressure Gradient and Fracture Gradient from Well Logs: A Theoretical Analysis of Techniques in use, *16th Indian Oil & Gas Review Symposium and International Exhibition*, September 11-12, Mumbai, India.

Nandy, J., **Chatterjee, R.**, Ghosh, A. and Malik, S., 2009, Water Saturation Determination using Resistivity Independent method, *16th Indian Oil & Gas Review Symposium and International Exhibition*, September 11-12, Mumbai, India.

Srivastava, V. K., **Chatterjee, R.** and Pal, P. K., 2009, Estimation of Coal Bed Permeability from a Gondwana Coalfield, India, *Ninth International Mine Ventilation Congress*, November 10-13, New Delhi, India.

Chatterjee, R. and Mukhopadhyay, M., 2008, In-situ Stress Results from east coast of India in *3rd World Stress Map Conference*, October 15-17, Potsdam, Germany.

Chatterjee, R. and Tarafder, G., 2008, Modeling of Stress Dependent flow in CBM Reservoir, *International Oil & Gas Review Symposium (IORS-2008)*, September 1-2, Mumbai, India.

Chatterjee, R. and Sarkar, S., 2007, Modeling of a Wellbore under Compressive Stress CDROM in *International Conference and Exhibition PETROTECH-2007*, January, New Delhi, India.

Chatterjee, R., Mishra, C.K. and Singh, S.K., 2006, Finite element modeling of fracture propagation in CBM well *in International Symposium on Coal Bed Methane*, Tuscaloosa, Alabama, Paper no. 0613.

Chatterjee, R., 2006, Reservoir stress modeling for an oilfield, Cauvery basin, CDROM *in 6th International Conference & Exposition on Petroleum Geophysics* organized by Society of Petroleum Geophysicists, January, Kolkata, India.

Chatterjee, R. and Chanda, S., 2005, Finite element reservoir models in Kamalapuram Formation, Cauvery basin, CDROM in *International Conference and Exhibition PETROTECH-2005*, January, New Delhi, India.

Chanda, S. and **Chatterjee, R.**, 2005, Geostatistical approach to porosity distribution in Bassein Formation, Mumbai Offshore Basin, CDROM in *International Conference and Exhibition PETROTECH-2005*, January, New Delhi, India.

Chatterjee, R. and Mukhopadhyay, M., 2003, Numerical modeling of stress around a wellbore, CDROM in SPE Asia Pacific Oil & Gas Conference and Exhibition, April 15-17, Jakarta, Indonesia, paper no. 80489.

Chatterjee, R. and Mukhopadhyay, M., 2001, Stress-induced borehole elongation upto 3.6 km depth in the Cauvery basin, India, in 42nd Annual logging Symposium: Society of Professional Well Log Analysts, Texas, USA, June 17-20, paper no. AA, p. 1-13.

Chatterjee, R. and Mukhopadhyay, M., 2001, Stress modeling in the wellbores of the Mahanadi Offshore basin, CDROM in 4th International Petroleum Conference and Exhibition, Jan. 9-12, New Delhi, India.

Chatterjee, R. and Mitra, A., 2001, Classification of lithology in the volcanic reservoir using Back Propagation Neural Network, CDROM in 4th International Petroleum Conference and Exhibition, Jan. 9-12, New Delhi, India.

Mitra, D., **Chatterjee, R.** and Dasgupta, S., 2001, Delineation of hydrocarbon prospects using Geographic Information System: A case study, CDROM in 4th International Petroleum Conference and Exhibition, Jan. 9-12, New Delhi, India.

Chatterjee, R. and Mukhopadhyay, M., 1999, Wellbore breakout stress analysis for the Mahanadi Offshore basin, in Proceedings of Third International Petroleum Conference & Exhibition, PETROTECH-99, New Delhi, India, vol. IV, p.309-316.

National Conferences/Symposium

Chatterjee, R., Srivastava, V. K. and Khan, P. K., 2007, Finite Element Stress Modelling of Rock Block: a Preliminary Approach, in Proceedings of 2nd Indian Mineral Congress, April 8-9, ISMU, Dhanbad, p. 184-196.

Varma, A.K., Banerjee, S., and **Chatterjee, R.**, 2006, Carbon Dioxide Sequestration Modeling in Coal Seams of Raniganj Coalbasin, *Frontier areas in Geological and Technological Aspects of Fossil Fuel and Mineral resources* (GTFM), Deptt. of Applied Geology, ISMU, Dhanbad, India. Edited by Varma, A. K., Venkatesh, A. S., Dhar, Y. R. and Saxena, V. K., Allied Publishers Pvt. Ltd., p.85-92.

Chatterjee, R. and Sarkar, S., 2005, Application of finite element technique in reservoir modeling, presented in National Seminar on Recent Advances in Theoretical & Applied Seismology, March 3-4, Indian School of Mines, Dhanbad.

Chatterjee, R. and Mukhopadhyay, M., 2004. In-situ stress and stress modeling results in the oil fields from the east coast basins, presented in, National Symposium on Non-Seismic Methods in Exploration: Potential, Challenges and Road Ahead, Society of Petroleum Geophysicist, Mumbai, India.

Chatterjee, R. and Sinha, S., 2003, Two-dimensional finite element models, Abstract published *in* SAP (UGC) Seminar on Advances in Theoretical and Applied Seismology, Oct. 29-30, Indian School of Mines, Dhanbad, India.