

## Sarada Prasad Pradhan

Research Scholar

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### RESEARCH THEME

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- To Investigate Failure Mechanism of Dump Slope in Mahanadi Coal Field, India Vis-a-Vis Flyash Utilisation for long Term Stability, Safety, and Sustainability

### KEY ACADEMIC PROJECTS AND TRAININGS

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- Geo-mechanical Stability of Wellbore – GMI International
- Pressure Transient Analysis – ONGC Academy, Dehradun, India
- Reservoir Management of Mature Fields- ONGC Academy, Dehradun, India
- Natural Gas Processing Including Sour Gas- ONGC Academy, Dehradun, India
- Prospecting and mineral exploration, Mines planning and development, Exploitation of Chromite, Chrome Ore Beneficiation, Sukinda Chromite Mines, Orissa Mining Corporation (OMC) Limited, Orissa.
- Slope Mass Rating and Stress distribution in Jharia Coal Field Area

### KEY ACADEMIC ACHIEVEMENTS

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- Nominated for Shyama Prasad Mookherjee Fellowship - 2009
- Selected for CSIR-Junior Research Fellowship, Dec-2008.
- All India Rank 2 in Geophysics, *Joint Admission Test* to M.Sc. in IITs (JAM), 2007
- All India Rank 8 in Geology, *Joint Admission Test* to M.Sc. in IITs (JAM), 2007
- Passed junior National Talent Search *Contest*.

### POSITIONS OF RESPONSIBILITY

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- Presently working as Reservoir Engineer in ONGC Ltd, Mumbai [2010-]
- Vice President, *CAFET INNOVA International Technical Society*, Maharashtra zone [2009 ]
- Member of Advisory Board, Sai Mandir Educational Trust, Orissa [2010 -]
- Secretary, Society of Petroleum Geophysicists (SPG), student chapter, IIT Bombay [2010 - 11]
- CSIR- Junior Research Fellow, Department of Earth Sciences, IIT Bombay [2009 -10]
- General Secretary, J.M High School, Komna, Orissa [2009-10]

### COMPUTER SKILL

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- **Software:** Oil & Gas - FORGAS, Petrel, Pansys,  
Geomechanical - PFC 2D, FLAC/Slope, LimitGeo, Slide, Phase, PLAXIS,

## AWARDS AND RECOGNITIONS

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- ED-Asset Manager Award, ONGC LTD for excellent performance during the year 2012
- Best Paper Award, Geosummit Conference (DST sponsored), Chennai, 2011
- Young Scientist Award, CAFET Innova Technical Society conferred during International Conference on Earth Science and Engineering, Hyderabad, India, 2010
- Selected as Geologists in Geological Survey Of India, Govt. of India
- Selected as Graduate Software Trainee in TCS-2007.

## PUBLICATIONS

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### Journals:

1. V. Vishal, L. Singh, S. P. Pradhan, T. N. Singh, P. G. Ranjith, 2013, Numerical modeling of Gondwana coal seams in India as coalbed methane reservoirs substituted for carbon dioxide sequestration, *Energy*, Vol 49, pp. 384-394.
2. V. Vishal, P. G. Ranjith, S. P. Pradhan, T. N. Singh, Supercritical CO<sub>2</sub> flow behaviour in Indian coals in a state of deep seam sequestration, *Rock Mechanics and Mining Engineering*. (Revised version submitted)
3. R. Trivedi, V. Vishal, S. P. Pradhan, T. N. Singh, J. C. Jhanwar, 2012, Slope stability analysis in limestone mines, *International Journal of Earth Sciences and Engineering*, Vol 5 (4), pp. 759-766.
4. V. Vishal, S. P. Pradhan, T. N. Singh, 2012, Target potential for zero gas emissions in India: CO<sub>2</sub> sequestration in coal beds, *Earth Science India* (Springer) - 2011 Special Issue (Accepted)
5. V. Vishal, S. P. Pradhan, T. N. Singh, 2011, Tensile strength of rock under elevated temperatures, *Geotechnical and Geological Engineering*, Vol 29, pp. 1127-1133.
6. S. P. Pradhan, V. Vishal, T. N. Singh, 2011, Stability of slope in an open cast mine in Jharia coalfield, India – A Slope Mass Rating approach, *Mining Engineers' Journal*, Vol 12 (10), pp. 36 – 40
7. V. Vishal, S. P. Pradhan, T. N. Singh, 2010, Instability analysis of mine slope by Finite Element Method approach, Dedicated volumes of Jharkhand Mineral Resources, *International Journal of Earth Sciences and Engineering*, Vol. 3 (06), pp. 11 -23
8. T. N. Singh, S. P. Pradhan, V. Vishal, 2010, Stability of slope in a fire prone opencast mine in Jharia coalfield, India, *Arabian Journal of Geosciences (Springer)*, Vol 6, pp. 419 – 427.

### Conferences:

1. S. P. Pradhan, V. Vishal, T. N. Singh, 2013, Influence of bio-stabilisation on dump slopes – A discrete element modeling approach, *47<sup>th</sup> US Rock Mechanics / Geomechanics Symposium*, San Francisco, USA. ARMA – 736.

2. T. N. Singh, V. Vishal, S. P. Pradhan, 2011, Instability analysis of a road cut slope in a hilly terrain for mitigation of landslides, *Landslide Hazard – Consequences and Challenges*, Feb 10-12, Roorkee
3. V. Vishal, S. P. Pradhan, T. N. Singh, 2011, Environmental restoration by greenhouse gas reduction through geological sequestration, *International Congress of Environmental Research*, Dec 15-17, Surat, Gujarat
4. V. Vishal, S. P. Pradhan, T. N. Singh, 2011, Numerical simulation of slopes constituted of weak rocks in a hilly terrain, *Geosummit*, July 27-29, Chennai
5. V. Vishal, S. P. Pradhan, T. N. Singh, 2011, Microstructural characterization of Lower Himalayas geodynamics, *International Conference on Indian Monsoon and Himalayan Geodynamics*, Nov 2 – 5, Dehradun
6. S. P. Pradhan, V. Vishal, T. N. Singh, 2010, Biostabilisation approach to enhance dump stability, *Proceedings of International Conference on Earth Sciences and Engineering*, pp. 15 – 21
7. V. Vishal, S. P. Pradhan, T. N. Singh, 2010, Mine sustainable development vis-a-vis dump stability for a large open cast mine, *Proceedings of International Conference on Earth Sciences and Engineering*, pp. 7 – 14
8. S. P. Pradhan, V. Vishal, T. N. Singh, 2010, Numerical modeling approach to evaluate the mine slope conditions, *Geoyouth Conference Abstracts*, Nov 22-23, Udaipur, pp. 7.
9. T. N. Singh, S. P. Pradhan, V. Vishal, 2010, Analysis of slope in a fire prone surface coal mine in Jharia coalfield, India, *Slope Conference - 2010*, Chiangmai, Thailand, pp. 31 – 37