ADITYA PANDEY

Department of Mining Engineering
BIT Sindri
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PERSONAL INFORMATION

Date of birth: 11th November 1986
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YEAR	COURSE	INSTITUTION
2015 - present	Ph.D. in Mining Engineering	Department of Mining Engineering, Indian Institute of Technology Kharagpur, India
2012 - 2015	M. Tech in Mining Engineering	Department of Mining Engineering, Indian Institute of Technology Kharagpur, India
2005 - 2009	B.Sc. Engineering in Mining	B.I.T. Sindri, Vinoba Bhave University, Jharkhand, India
2002 - 2004	All India Senior School Certificate Examination (Class 12)	Saraswati Vidya Mandir, Sindri, Jharkhand, India
1992 - 2002	Council for the Indian School Certificate Examinations (Class 10)	Saraswati Vidya Mandir, Sindri, Jharkhand, India

- **Jan 2022 – Present:** Assistant Professor, Department of Mining Engineering, BIT Sindri, Jharkhand
- **Aug 2012- Sep 2013:** Management Trainee (Technical), Kiriburu Iron Ore Mines, Jharkhand. Steel Authority of India Ltd.
- **Oct 2013- June 2015:** Junior Manager, Bolani Iron Ore Mines, Odisha. Steel Authority of India Ltd.
- **Sep 2009- June 2011:** Senior Mining Engineer, Sonshi mines, Goa, SESA Goa Limited (Vedanta)

RESEARCH EXPERIENCE

- **Doctoral Thesis Research:** *"Modeling of Transient Heat Flow in Shallow Mine Entries"* under Prof. B. S. Sastry, Indian Institute of Technology Kharagpur.
- **Publications (SCI/Scopus):** 6
- **Book Chapters:** 1

SCIENTIFIC/TECHNICAL SKILLS

- Expertise in subsurface mine ventilation.
- Expertise in various licensed and open-source software such as Python, R, Matlab, LaTex, Origin, MS Excel VBA, Ventsim Light.
- Hands-on experience on instruments including Assmanns Psycrometer, Fortin barometer, Aniroid barometer, Kata thermometer, Pitot tube, Slow speed wind tunnel, TSI 8710 DP-CALC Differential Micro Manometer.
- Active participation in the field studies, report writing, and data analysis work in several research projects during Ph.D. tenure.
- Mentoring of several undergraduate and post graduate students.

ACHIEVEMENTS

- Recipient of Ph.D. Research Fellowship (2015-2020) sponsored by Ministry of Human Resource and Development (MHRD), Government of India.
- Qualified Graduate Aptitude Test in Engineering (GATE-2009, 2011, 2019) in Mining conducted by National Coordination Board - GATE, Department of Higher Education, Ministry of Human Resource and Development (MHRD), Government of India.
- All India Rank (AIR) – 9 in GATE 2009, AIR – 47 in GATE 2011, AIR – 250 in GATE 2019

LIST OF PUBLICATIONS

Research Articles in International Journals:

1. **Pandey, A.**, Sridharan, S. J., & Sastry, B. S. (2022). A transient model for predicting psychrometric properties of air at an intake shaft bottom of shallow depth working. *Arabian Journal of Geosciences*, 15(16), 1-12. **https://doi.org/10.1007/s12517-022-10679-1**

2. **Pandey, A.**, Mondal, C., & Sastry, B. S. (2022). Multiple Logistic Regression Based Prediction of Heat Flow Direction in an Intake Incline of Shallow Depth by Integrating Thermal Flywheel Effect: A Case Study. *Applied Thermal Engineering*, 118765. **https://doi.org/10.1016/j.applthermaleng.2022.118765**

3. **Pandey, A.**, Kattamuri, P. K., & Sastry, B. S. (2021). Measurement of Thermal Conductivity of Sandstone Using Lee's Apparatus: A Case Study. *Mining, Metallurgy & Exploration*, *38*(5), 1997-2003. **https://doi.org/10.1007/s42461-021-00461-4**

4. **Pandey, A.**, Jayaraman Sridharan, S., Naik, A., Ahmad, A., & Sastry, B. S. (2021). A New Perspective of Wet Kata Cooling Power as a Predictor for Thermal Stress in Underground Mines. *Mining, Metallurgy & Exploration*, 1-9. **https://doi.org/10.1007/s42461-021-00473-0**

5. Mondal, C., **Pandey, A.,** Pal, S. K., Samanta, B., & Dutta, D. (2021). Prediction of gross calorific value as a function of proximate parameters for Jharia and Raniganj coal using machine learning based regression methods. *International Journal of Coal Preparation and Utilization*, 1-14. **https://doi.org/10.1080/19392699.2021.1995376**

6. Mondal, C., **Pandey, A.,** Pal, S. K., Samanta, B., & Dutta, D. (2021). technique based rapid determination of coal quality parameters of Jharia and Raniganj basin coal. Infrared Physics & Technology, 128, 104504. **https://doi.org/10.1016/j.infrared.2022.104504**

Book Chapter:

1. **Pandey, A.**, S. Jayaraman Sridharan, and B. S. Sastry. "A direct equation for sigma heat and wet-bulb temperature for underground ventilation applications." Underground Ventilation. CRC Press, 2023. 192-199. **https://doi.org/10.1201/9781003429241-20**

International Conference presentations:

1. **8th Asian Mining Congress (November, 2019, Kolkata, India)**
   "Comparative study of wet-kata cooling power to some selected heat stress indices."
2. **25th World Mining Congress (June, 2018, Astana, Kazakhstan)**
   "Role of diurnal and seasonal variations in psychrometric properties of inlet air on the prediction of climate in shallow mine entries - a case study."
3. **7th Asian Mining Congress (November, 2017, Kolkata, India)**
   "Determination of thermal conductivity of rocks using lee's method."
4. **The Mine Ventilation Society of South Africa Conference 2017: Meeting the challenges of 21st Century mining (July, 2017, Johannesburg, South Africa)**
   "Shallow depth diurnal variations of rock to air heat transfer in an intake incline."

National Conference presentations:

1. **Recent Advances in Mining Technology (RAMT) (May, 2019, Bengaluru, India)**
   "Current developments in mine air-cooling systems: case study of an Indian coal mine using different cooling strategies."
2. **Recent Advances in Mining Technology (RAMT) (May, 2019, Bengaluru, India)**
   "Relative comparison of wet-kata cooling power prediction models by regressing observed vs. predicted data."