

Taraprasad Bhowmick

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Personal Information:

Date of Birth: 22nd July, 1991 (Age 26)
Nationality: Indian
Gender: Male
Communicating Languages: English, Hindi, and Bengali (Professional Proficiency).

Experience:

Volunteer, NGOs, Elementary and Middle Schools, India (March – November, 2016):

Involvement in the middle school as a faculty, helping residential students in upbringing, taking part in agriculture; in Bhalopahar, a NGO located in West Bengal, India.

Involvement in the middle school as faculty and advisor, learning Yoga and Pranayama, and spiritual practicing in the Ashram, in SVF School, located in Uttarakand, India.

Graduate Teaching Assistant, UAF, Alaska, USA (Fall, 2013 – Spring, 2015):

Instructor for Introduction to Mineral Preparation Lab (MIN F313) for Fall, 2013 term.

Teaching Assistant for Quantitative Methods in Mining Engineering (MIN F225), Engineering Statics (ES F209), Surface Mining Methods (MIN F484).

Graduate Research Assistant, UAF, Alaska, USA (Winter Break, 2013 - Fall, 2015):

Research in a project under NIOSH, CDC of USA, in environmental pollution in Arctic.

Simulating “Fugitive Dust Dispersion in Open-pit Mines” using ANSYS CFD and CRADLE CFD Simulation packages in 3D for Mines in Arctic and Subarctic regions.

Technical Assistant at Gas Flow Laboratory, IEST Shibpur, India (May – August 2013):

Assisting PhD candidates for experiments on Coal Bed Methane (CBM) and Carbon sequestration

Working and preparing manuals for laboratory experiments; installation and maintenance of the instrument set up for Isotherm Analysis, Permeability test.

Summer Intern, Uranium Corporation India Limited, India (May – July, 2012):

Assistance in several Unit operations: Surveying, drilling (Jumbo Drills), Explosive Charging, Blasting, Loading (LHD) and Transportation in Mechanized Underground Cut and Fill Mining.

Brief knowledge about the Uranium Processing Plants in India and Grade Control Methods.

Summer Intern, Singareni Collieries Company Ltd, India (May – June, 2011):

Assistance in several unit operations for Bord & Pillar Semi-Mechanized Coal Mining using conventional solid blasting and SDL for production, with depillaring of pillars and backfilling.

Short trainings in Longwall mine, Highwall coal mine, mechanized open-pit coal mines.

Winter Intern, ECL, Coal India Limited, India (December, 2010 – January, 2011):

Assistance in unit operations for Bord & Pillar Semi-Mechanized Coal Mining using conventional solid blasting and SDL for production.

Trainee at Indian Institute of Technology, Kharagpur, India (June, 2010):

Short Term Course on C++ and JAVA in Continuing Education Program

Education:

PhD (May, 2017 – Present), Major - Physics, Politecnico di Torino, Italy

ESR1 in Cloud-MicroPhysics-Turbulence-Telemetry (COMPLETE) Project.

Research on “Transport across Warm Turbulent Cloud interfaces” with objective of improving the understanding about Cloud behaviors.

Master of Science (2013 - 15), Major - Mining Engineering, University of Alaska Fairbanks, USA (GPA: 3.87/4)

MS Thesis entitling “Three Dimensional Computational Fluid Dynamics Models of Fugitive Dust Dispersion in High-Latitude Open-Pit Mines”. Advisory committee chair Dr. Sukumar Bandopadhyay, Department of Mining Engineering, UAF, Alaska, USA.

Graduate courses on Atmospheric Sciences, Heat Transfer Engineering, Fluid Dynamics, Mine Planning, Geostatistics, Research Methods and Rock Mechanics.

Bachelor of Engineering (2009 - 13), Major - Mining Engineering, IEST Shibpur, India (Grade: First class with Honors (83.6%), CGPA: 9.11/10)

Final Year dissertation on “Design of A Magnetically Propelled Underground Hoisting System” under guidance of Dr. Pratik Dutta, Department of Mining Engineering, IEST Shibpur, India. This thesis was selected for final presentation in Innovative Student Projects Award–2013 in Indian National Academy of Science (INAE).

Publication:

1. Bhowmick, T., Raj, K. V. and Bandopadhyay, S. (2015), “Three-dimensional modeling of fugitive dust dispersion in idealized openpit mines”, Mining Engineering, Vol. 67, No. 10, pp. 45-52.
2. Bhowmick, T., Raj, K. V. and Bandopadhyay, S. (2015), “Constraints and Consequences in 3-Dimensional CFD Modeling of Open-Pit Mines”, Preprint 15-018, SME Annual Meeting (2015), Denver, CO, pp. 1–6.
3. Bhowmick, T., Bandopadhyay, S. and Ghosh, T. (2015), “Three-dimensional CFD modeling approach to approximate air pollution conditions in high latitude open-pit mines”, WIT Transactions on The Built Environment, Vol. 168, Sustainable Development, Vol. 2, ISSN 1743-3509 (on-line), pp. 741-753.
4. Bhowmick, T. and Bandopadhyay, S. (2015), “Comparison of Turbulence Models for Estimation of Fugitive Dust Retention in Open-Pit Mines”, Proceedings of 15th North American Mine Ventilation Symposium, 2015, Blacksburg, Virginia, pp. 1-6.

5. Bhowmick, T. and Bandopadhyay, S. (2015), “Geostatistical prediction of Fugitive Dust in mine haul roads”, Proceedings of the 37th International Symposium, Application of Computers and Operations in the Mineral Industry (APCOM 2015), pp. 1182-1189.
6. Bhowmick, T. and Dutta, P. (2015), “A Conceptual Approach to Design a Magnetically-Propelled Integrated Underground Hoisting System,” Proceedings of the 37th International Symposium, Application of Computers and Operations in the Mineral Industry (APCOM 2015), pp. 810-824.
7. Bhowmick, T., Gupta, T., Chen, G., Bandopadhyay, S. and Ghosh, T. (2015), “Evaluation of Various Mining Methods to Design an Underground Coal Mine Using Flac 2D”, Proceedings of the 37th International Symposium, Application of Computers and Operations in the Mineral Industry (APCOM 2015), pp. 420-429.

Computer Skills:

Operating System:	Microsoft Windows and XP, LINUX.
Programming Language:	C, C++, Java.
Software Package:	Ansys ICEM CFD and Fluent, Cradle CFD, Vulcan, Flac, Matlab, GS+, Geostokos (Ecosse), Autocad Mechanical, Surpac, Minex, Cs Mine, Microsoft Office 365 (2016 version).

Affiliation, Accreditation and Awards:

Served as organizing committee member, session chair, and paper reviewer in APCOM 2015 in USA.

Reviewer of Technical Papers in the Mining Engineering journal of SME, and the International Journal of Mining and Mineral Engineering (IJMME).

Recipient of SME APCOM Scholarship, 2015.

Recipient of SME Grand Canyon Section Scholarship, 2014.

All India Rank (AIR): 26 in GATE 2013, India examination in Mining Engineering Discipline.

Gold Medalist in Vocal Classical, and was awarded SANGEET SHREE and VASWAR.

University (IEST Shibpur) MERIT scholarship and GAABESU scholarship awardee.

Extracurricular Activities:

Performing Arts: (1) Indian Classical Music (Vocalist, and performer of percussion instruments and bamboo flutes); (2) Drawing (Sketch with Graphite Pencils); (3) Dramatics (Performer in main-stage, background musician and playback singer)

Other interests: (1) Reading (Bengali Novels and Short Stories, English Novels); (2) Film (Classic and International movies watching); (3) Cooking (Indian Vegetarian Cuisine)