

## Sekhar Bhattacharyya

Centennial Career Development Professor in Mining Engineering  
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### Professional Highlights

Over 24 years' experience in mining industry and academia. Research in mine safety and health.

### Certifications

- Registered Professional Engineer (PE), Utah.
- Certified Underground Mine Foreman - Pennsylvania and West Virginia.
- Qualified Person (QP) in Recognized Overseas Professional Organization (ROPO).

### Education

- Ph.D., Mining Engineering, the University of Utah, 2009.
- M.S., Mining Engineering, Montana Tech of the University of Montana, 2002.
- M.B.A., Financial Management, the University of Calcutta, India, 1999.
- B.E. (Bachelor of Engineering), Mining Engineering, the University of Calcutta, India, 1994.

### Work and Research

- The Pennsylvania State University, Associate Professor, August 2017 – Present
- New Mexico Tech, Associate Professor, Sept 2015 – July 2017
- The University of Utah, Visiting Faculty, Jan 2015 – Sept 2015
- Norwest Corporation (now Stantec), Senior Mining Engineer May 2013 – Jan 2015
- Consol Energy Inc., Section Foreman and Mine Engineer May 2009 – May 2013
- Joy Global Corp. (now Komatsu), Manager of Projects Dec 2005 – July 2008
- Calcutta Electric Supply Corp., Deputy Manager of Mining Prj July 1994 – Aug 2000

### Publications and Presentations

- Bhattacharyya, S., and F. Calizaya, *Performance of a New Fan Silencer Prototype*, Revised draft under peer review for publication in "Mining Metallurgy & Exploration," Springer publishing, 2019.
- Calizaya, F., and S. Bhattacharyya, *Auxiliary Ventilation Layouts for Noise Control in Underground Coal Mines*, Accepted for SME (Society for Mining, Metallurgy & Exploration) Annual Meeting, 2019, Denver, CO.
- Gendru, N., Liu, S., Fan, L., & Bhattacharyya, S., *Gas Migration Behavior Near the Longwall Face: Experimental and Numerical Simulation Using PSU Scaled Mine Model*, Accepted for SME Annual Conference, SME, 2019, Denver, CO.
- Calizaya, F., and S. Bhattacharyya, *Re-packable Silencers to Reduce Noise Levels Generated by Mine Fans*, NOISE-CON, 2018, Chicago, IL.
- Bhattacharyya, S., and F. Calizaya, *Testing the Performance of a New Fan Silencer Prototype for Auxiliary Ventilation*, SME Annual Meeting, 2018, Minneapolis, MN.
- Calizaya, F., and S. Bhattacharyya, *Improved Silencer Design Specifications for Representative Mine Conditions*, NOISE-CON, 2017, Grand Rapids, MI.
- Calizaya, F., and S. Bhattacharyya, *Attenuation of Noise from Auxiliary Ventilation in Underground Mines*, Mine Ventilation Symposium, 2017, Denver, CO.
- Bhattacharyya, S., and F. Calizaya, *Noise Attenuation of Auxiliary Fans and Reduction of Noise Exposure in Underground Mines*, NOISE-CON, 2016, Providence, RI.
- Bhattacharyya, S., and M. G. Nelson, *Ground Control Tools in Underground Coal Mines – Conveniences and Precautions - ARMPs*, SME Annual Meeting, 2016, Phoenix, AZ.
- Bhattacharyya, S., and F. Calizaya, *Reduction of Noise Exposure in Underground Mines by Improving Auxiliary Ventilation Technologies*, SME Annual Meeting, 2016, Phoenix, AZ.
- Bhattacharyya, S., and M. G. Nelson, *Ground Control Tools in Underground Coal Mines – Conveniences and Precautions*, Preprints, SME Annual Meeting, 2015, Denver, CO.
- Bhattacharyya, S., A. C. Tripp, and R. L. McNearny, *Soil Moisture Effects on Temporal Subsidence*

*Estimates Using InSAR*, International Journal of Surface Mining, Reclamation and Environ, 21(2): p 88-95, Jun 2007.

- Bhattacharyya, S., and M. G. Nelson, *Ground Control in a Western U.S. Coal Mine: Analysis using LAMODEL*, Got Mining - Preprints, SME Annual Conference, p 267-272, 2005, Salt Lake City, UT.
- Bhattacharyya, S., *Safety and Health in Mines: Noise and Dust*, Guest Lecture, Tata Steel Noamundi Iron Mine, 2018, Jharkhand, India.
- Bhattacharyya, S., *Mining Engineering: Current Research and Opportunities*, Guest Lecture, Indian Institute of Technology, 2018, Kharagpur, India.
- Bhattacharyya, S., *Mining Engineering*, Guest Lecture, Weber State University, Utah, Ogden, Utah, 2016.
- Bhattacharyya, S., *Coal Bed Methane and Methane Drainage – Potentials in India*, Journal of Mines Metals and Fuels, 2018, Kolkata, India.
- Bhattacharyya, S., *Role of Foremen in Underground Mining*, Guest Lecture, The University of Utah, 2014, Salt Lake City, Utah.
- Bhattacharyya, S., *Longwall Development*, Guest Lecture, Indian Institute of Engineering Science and Technology, 2011, Kolkata, India.

### **Sponsored Research**

“Reduction of Noise Exposure in Underground Mines by Improving Auxiliary Ventilation Technologies.” Investigators: Felipe Calizaya and Sekhar Bhattacharyya. Sponsored by National Institute for Occupational Safety and Health (NIOSH). 2015-2017.

“Characterization of Respirable Dust for Identification of Health Issues Associated with Elongate Mineral Particles” Investigators: Sekhar Bhattacharyya. Funded by Penn State College of Earth and Mineral Sciences.

### **Service**

- Advisor, Penn State Mount Nittany Student Mine Rescue Team. Will host mine rescue contest at Penn State in State College in 2019.
- Advisor, Boy Scout of America and Cub Scouts – *Earth Rocks* and *Mining in Society*.
- SME (Society for Mining, Metallurgy & Exploration) involvements:
  - Coal & Energy Division - Executive Board Member and Member of Mine Improvement and Innovation Unit Committee.
  - Member of PE (Professional Engineer) Examination Committee.
  - Representative of Health and Safety Division to PE Examination Committee.

### **Associations and Awards**

- Registered Member of Society for Mining Metallurgy and Exploration, Inc. (SME)
- Member of Rocky Mountain Coal Mining Institute
- Member of Pittsburg Coal Mining Institute of America
- Student Advisory Committee (SAC) – Graduate Chair at the University of Utah.
- All India 8th rank at GATE (Graduate Aptitude Test in Engineering).