

AMITAVA GHOSH

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Amitava Ghosh, born in Calcutta, graduated from the Indian Institute of Technology, Kharagpur, India, with B. Tech. (Honours) in Mining Engineering. He received the Institute Silver medal and the Chandrakala medal for securing the first position in the class of 1978. He earned his M. S. (1983) and Ph. D. (1990) in Mining Engineering from the University of Arizona under the guidance of Professor Jaak J. K. Daemen. The Office of Surface Mining and the United States Bureau of Mines partially funded the research for his master's thesis entitled "A New Analytical Predictor of Ground Vibration Induced by Blasting." A paper describing part of the Ph. D. dissertation "Fractal and Numerical Model of Explosive Rock Fragmentation" was the graduate division winner of 1989 Outstanding Student Paper competition of the Society for Mining, Metallurgy, and Exploration, Inc. Currently, he is working as a Post-Doctoral Research Fellow at the University of Nevada, Reno.

After graduating from the Indian Institute of Technology, he worked as a Technical Services engineer at IDL Chemicals Limited, an explosive manufacturer in India. At the University of Arizona, he has worked on three research projects, taught independently three courses, and also carried partial responsibilities for several geomechanics and other courses. He has worked with Hargis + Associates for an in-situ leaching project. He is member of International Society for Rock Mechanics, Society for Mining, Metallurgy, and Exploration, Inc., and International Association for Mathematical Geology. He has reviewed papers for Society for Mining, Metallurgy, and Exploration, Inc. and Geotechnical and Geological Engineering. He has published fifteen papers and reports. A list of major publications follows.

- [1] *Estimation of In-Situ Rock Block Size Distribution With Fractal Theory* with J. J. K. Daemen, Rock Mechanics and Rock Engineering (submitted).
- [2] *Fractal Characterization of Particle Size Distribution* with J. J. K. Daemen. American Society of Civil Engineers (submitted).
- [3] *Fractal Characteristics of Rock Discontinuities* with J. J. K. Daemen. Engineering Geology (submitted).
- [4] *Validation of Exponential Decay Blast Vibration Prediction with Case Studies* with J. J. K. Daemen, Mining Engineering (submitted).
- [5] *Fractal-Based Approach to Determine the Effect of Discontinuities on Blast Fragmentation* with J. J. K. Daemen and D. van Zyl, 31st U.S. Symposium on Rock Mechanics, Colorado, 1990.
- [6] *An Investigation into Accuracy of Spatial Variation Estimation Using Static Cone Penetrometer Data* with P. H. S. W. Kulatilake, First International Symposium on Penetration Testing, Orlando, Florida, 1988.
- [7] *An Expert System Approach to Geomechanics Design Problems* with J. J. K. Daemen, Third International Conference on Innovative Mining Systems, University of Missouri at Rolla, 1987.
- [8] *A Fortran Program for Generation of Multivariate Normally Distributed Random Variables* with P. H. S. W. Kulatilake, Computers & Geosciences, vol. 13, no. 3, 1987.
- [9] *Best Source Modelling of Blast Vibration : Cube-Root Scaling, Square-Root Scaling or Site-Specific Scaling* with J. J. K. Daemen, International Symposium on Environmental Geotechnology, Lehigh University, 1986.
- [10] *Effect of Variability of Joint Orientation and Strength on Factor of Safety of Wedge Stability* with P. H. S. W. Kulatilake and R. E. Finley, International Symposium on Rock Joint, Bjorkliden, Lapland, Sweden, 1985.
- [11] *Statistics -- A Key to Better Blast Vibration Predictions* with J. J. K. Daemen, 26th U.S. Symposium on Rock Mechanics, South Dakota School of Mines & Technology, 1985.
- [12] *A New Analytical Predictor of Ground Vibrations Induced by Blasting*, Volume IV of 'Ground and Air Vibrations Caused by Surface Blasting', Report to United States Bureau of Mines, September 1983.

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Education :

Ph.D. (1990) and M.S. (1983) in Mining Engineering, Advisor : Professor Jaak J. K. Daemen, University of Arizona.
B.Tech.(Honours) Mining Engineering, Indian Institute of Technology, Kharagpur, India, (1978).

Employment :

Post Doctoral Research Fellow, University of Nevada, Reno, Sponsor : U. S. Bureau of Mines. Research Assistant, University of Arizona, Sponsors : National Science Foundation, U. S. Bureau of Mines, and Office of Surface Mining. Teaching Associate, University of Arizona : Taught independently three courses and partial responsibilities in several geomechanics and other courses. Consultant to Hargis + Associates, Inc. and Technical Services Engineer at IDL Chemicals Ltd., India.

Awards :

Graduate Division Winner of the 1989 SME Outstanding Student Paper Contest, Sulzer Memorial Scholarship at the University of Arizona, Institute silver medal and Chandrakala medal (first position in Mining Engineering batch of 1978), and National Scholarship (for academic excellence in High School).

Professional :

International Society for Rock Mechanics, Society for Mining, Metallurgy, and Exploration, Inc., and International Association for Mathematical Geology.

Reviewer : Society for Mining, Metallurgy, and Exploration, Inc. and Geotechnical and Geological Engineering.

Major Publications :

- [1] *Estimation of In-Situ Rock Block Size Distribution With Fractal Theory* with J. J. K. Daemen, Rock Mechanics and Rock Engineering (submitted).
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- [7] *An Expert System Approach to Geomechanics Design Problems* with J. J. K. Daemen, Third International Conference on Innovative Mining Systems, University of Missouri at Rolla, 1987.
- [8] *A Fortran Program for Generation of Multivariate Normally Distributed Random Variables* with P. H. S. W. Kulatilake, Computers & Geosciences, vol. 13, no. 3, 1987.
- [9] *Best Source Modelling of Blast Vibration : Cube-Root Scaling, Square-Root Scaling or Site-Specific Scaling* with J. J. K. Daemen, International Symposium on Environmental Geotechnology, Lehigh University, 1986.
- [10] *Effect of Variability of Joint Orientation and Strength on Factor of Safety of Wedge Stability* with P. H. S. W. Kulatilake and R. E. Finley, International Symposium on Rock Joint, Bjorkliden, Lapland, Sweden, 1985.
- [11] *Statistics -- A Key to Better Blast Vibration Predictions* with J. J. K. Daemen, 26th U.S. Symposium on Rock Mechanics, South Dakota School of Mines & Technology, 1985.
- [12] *A New Analytical Predictor of Ground Vibrations Induced by Blasting*, Volume IV of 'Ground and Air Vibrations Caused by Surface Blasting', Report to United States Bureau of Mines, September 1983.