CURRICULUM VITAE

PINNADUWA H.S.W. KULATILAKE
Director, Rock Mass Modeling and Computational Rock Mechanics Laboratories
Professor-Geological (Specialty: Geotechnical) Engineering

PERSONAL DATA

Citizenship: U. S. Citizen

MAILING ADDRESS AND CONTACT INFORMATION

Geological Engineering Program, Department of Materials Science and Engineering, University of Arizona,
1235 E. James E. Rogers Way, Mines Building, Room 131, Tucson, AZ 85721, USA
Phone: 520-621-6064; Mobile: 520-591-9560; Fax: 520-577-6515; E-mail: kulatila@u.arizona.edu

EDUCATION

Ph.D. in Civil Engineering, The Ohio State University, Columbus, Ohio, June 1981 (G.P.A.: 3.98/4.00).
Major field: Geotechnical Engineering
Minor fields: Probability and statistics, Engineering Mechanics, Mathematics
Title of the dissertation: Probabilistic Approach to Estimate Deformability and Strength Properties of a Shale
Dissertation director: Professor Tien H. Wu

M. Eng. in Soil Engineering, Asian Institute of Technology, Bangkok, Thailand, April 1978 (Batch top).

B.S. in Civil Engineering, Hons., University of Sri Lanka, Peradeniya, Sri Lanka, April 1976.

Training in Digital Electronics: A number of hands on experience type courses were taken for an Associate Degree Program in Digital Electronics (1982-1984). Present GPA is 4.0/4.0. Only three courses are left to complete the degree.

REGISTRATION

Professional Civil Engineer – California; since 1985; License No. C 039679

MAJOR FIELDS OF RESEARCH

Rock Mechanics & Rock Engineering; Application of Probabilistic, Statistical and Numerical Methods to Geo-engineering; Rock mass Hydrogeology and Soil Engineering.

EMPLOYMENT

Academic:

August 2004 – Date	Professor, Geological Engineering Program, Director, Rock Mass Modeling and Computational Rock Mechanics Laboratory, Department of Materials Science & Engg., and Department of Mining and Geological Engg., University of Arizona, Tucson, Arizona
Oct. 1981 – August 2004	Assistant Professor, Associate Professor and Professor of Geological Engineering, Director, Rock Mass Modeling and Computational Rock Mechanics Laboratory, Department of Mining and Geological Engg., University of Arizona, Tucson, Arizona
Jul. 1981 - Oct. 1981	Senior Research Associate, Geotechnical Engineering, Department of Civil Engineering, The Ohio State University, Columbus, Ohio

Oct. 1978 - June 1981	Graduate Research Associate, Geotechnical Engineering, Department of Civil Engineering, The Ohio State University, Columbus, Ohio.
Sep. 1980 - June 1981	Graduate Teaching Associate, Mathematics, Department of Mathematics, The Ohio State University, Columbus, Ohio.
Jul. 1978 - Sep. 1978	Graduate Scholar and Teaching Associate, Geotechnical Engineering, Department of Civil Engineering, University of Calgary, Calgary, Alberta, Canada.
Aug. 1976 - Apr. 1978	Graduate Scholar, Geotechnical Engineering, Asian Institute of Technology, Bangkok, Thailand.
May 1976 - Aug. 1976	Chief Instructor in Geotechnical Laboratory and Instructor in Civil Engineering, University of Sri Lanka, Peradeniya, Sri Lanka.
June 1988 - Nov.1988	Visiting Research Fellow at the Norwegian Geotechnical Institute. (Sabbatical Leave)
Dec.1988 - Aug. 1989	Visiting Research Professor - Lulea University of Technology. (Sabbatical Leave)
Summer 1990	Visiting Research Professor - Lulea University of Technology, Sweden

Industrial:

Civil Engineer at:

1. Dept. of National Housing, Colombo, Sri Lanka - 3 months
2. U.N. Gunasekara & Co., Sri Lanka - 6 months
3. Water Supply & Drainage Board, Sri Lanka - 3 months

LIST OF PUBLICATIONS

Refereed Articles and Invited Papers:

1. Kulatilake, P.H.S.W. and T.H. Wu, "Estimation of Mean Trace Length of Discontinuities," Rock Mechanics and Rock Engineering, Vol. 17, pp. 215-232, 1984.

2. Kulatilake, P.H.S.W. and T.H. Wu, "Sampling Bias on Orientation of Discontinuities," Rock Mechanics and Rock Engineering, Vol. 17, pp. 243-254, 1984.

3. Kulatilake, P.H.S.W. and T.H. Wu, "The Density of Discontinuity Traces in Sampling Windows," Int. Jour. of Rock Mechanics and Mining Sciences, Vol. 21, pp. 345-347, 1984.

4. Kulatilake, P.H.S.W., "Estimating Elastic Constants and Strength of Discontinuous Rock," Journal of Geotechnical Engineering, ASCE, Vol. 111, No. 7, pp. 847-864, July 1985.

5. Kulatilake, P.H.S.W., "Fitting of Fisher Distribution on Discontinuity Orientation Data," Journal of Geological Education, Vol. 33, pp. 266-269, November 1985.

6. Kulatilake, P.H.S.W., "Bivariate Normal Distribution Fitting on Discontinuity Orientation Clusters," Journal of International Association for Mathematical Geology, Vol. 18, No. 2, pp. 181-195, February 1986.

7. Kulatilake, P.H.S.W. and S. Ouyang, "Target Detection Probabilities for Continuous Line Search," Journal of Computing in Civil Engineering, ASCE, Vol. 1, No. 1, pp. 1-19, January 1987.

8. Wu, T.H., R.L. Williams, J.E. Lynch and P.H.S.W. Kulatilake, "Stability of Slopes in Red Conemaugh Shale of Ohio," Journal of Geotechnical Engineering, ASCE, Vol. 113, No. 3, pp. 248-264, March 1987.

9. Kulatilake, P.H.S.W., "Modeling of Cyclical Stratigraphy Using Markov Chains," Int. Journal of Mining and Geological Engineering, Vol. 5, pp. 121-130, June 1987.

10. Ghosh, A. and Kulatilake, P.H.S.W., "A Fortran Program for Generation of Multivariate Normally Distributed Random Variables," Int. Journal for Computers and Geosciences, Vol. 13, No. 3, pp. 221-233, June 1987.

11. Kulatilake, P.H.S.W. and K. Fuenkajorn, "Factor of Safety of Tetrahedral Wedges: A Probabilistic Study," Int. Journal of Surface Mining, Vol. 1, No. 2, pp. 147-154, Sept. 1987.

12. Kulatilake, P.H.S.W., "A Computer Simulation Technique to Study Probability of Detection of Geologic Targets," Application of Computers and Mathematics in the Mineral Industry, Vol. 20, pp. 271-278, October 1987.

13. Kulatilake, P.H.S.W., "Probabilistic Characterization of Shear Strength Parameters Using Triaxial Test Data," ASTM STP on Advanced Triaxial Testing of Soil and Rock, pp. 553-566, 1988.

14. Kulatilake, P.H.S.W., "Minimum Rock Bolt Force and Minimum Static Acceleration in Tetrahedral Wedge Stability: A Probabilistic Study," Int. Journal of Surface Mining; Vol. 2, No. 1, pp. 19-26, 1988.

15. Kulatilake, P.H.S.W., "Stochastic Joint Geometry Modeling: State-of-the-Art", Proceedings of the Symposium on Reliability - Based Design in Civil Engineering; Lausanne, Switzerland, Vol. 2, pp. 67-91, 1988 - **Invited paper**.

16. Kulatilake, P.H.S.W., "Stochastic Joint Geometry Modeling: State-of-the-Art", Proceedings of the First Mexican National Symposium on Rock Mechanics Applied to Mining; Hermosillo, Mexico, pp. CI-12-CI-36, 1989 - **Invited paper**.

17. Kulatilake, P.H.S.W., "Probabilistic Potentiometric Surface Mapping", ASCE, Journal of Geotechnical Engineering, Vol. 115, pp. 1569-1587, 1989.

18. Kulatilake, P.H.S.W., T.H. Wu and D.N. Wathugala, "Probabilistic Modeling of Joint Orientation", Int. Journal for Numerical and Analytical Methods in Geomechanics, Vol. 14, pp. 325-350, 1990.

19. Kulatilake, P.H.S.W., D.N. Wathugala, M. Poulton, and O. Stephansson, "Analysis of Structural Homogeneity of Rock Masses," Int. Jour. of Engineering Geology, Vol. 29, pp. 195-211, 1990.

20. Kulatilake, P.H.S.W. and D.N. Wathugala, "Three Dimensional Fracture Network Modelling and Verification," Int. Conf. on Mechanics of Jointed and Faulted Rock, Vienna, Austria, pp. 71-82, - **A Special Lecture**, 1990.

21. Wathugala, D.N., Kulatilake, P.H.S.W., Wathugala, G.W. and Stephansson, O., "A General Procedure to Correct Sampling Bias on Joint Orientation Using a Vector Approach," Computers and Geotechnics, Vol. 10, pp. 1-31, 1990.

22. Kulatilake, P.H.S.W. and D.N. Wathugala, "Stochastic Three Dimensional Joint Geometry Modelling Including a Verification to an Area in Stripa Mine, Sweden", Int. Symp. on Excavations in Soils and Rocks, Including Earth Pressure Theories, Buried Structures and Tunnels, Bangkok, Thailand, pp. 545-555, 1991 - **Invited paper**.

23. Kulatilake, P.H.S.W., Closure to the discussion on the paper entitled "Probabilistic Potentiometric Surface Mapping", ASCE, Journal of Geotechnical Engineering, Vol. 117, pp. 1457-1459, 1991.

24. Kulatilake, P.H.S.W. and Lacasse, S., "Probabilistic Equivalent Linear Soil Spring Stiffness Analysis for Gravity Platforms: Conceptual Model," Computers and Geotechnics, Vol.12, pp. 1-28, 1991.

25. Kulatilake, P.H.S.W., Lacasse, S. and Gabr, M.A., "Probabilistic Equivalent Linear Soil Spring Stiffness Analysis for Gravity Platforms: Illustrative Example", Computers and Geotechnics, Vol. 12, pp. 29-54, 1991.

26. Kulatilake, P.H.S.W., "Joint Network Modelling and Some Scale Effects in Rock Masses", Proceedings of the International Conf. on Geomechanics '91, Ostrava, Czechoslovakia, - **A main invited lecture**, pp. 139-152, 1992.

27. Kulatilake, P.H.S.W., "Stochastic Three Dimensional Fracture Network Modelling Including Validations," Engineering for Energy (a Russian journal), Vol. 12, pp. 23-28, 1992 - **an invited paper**. Also, presented as an invited lecture at the Int. Seminar on Numerical Methods in Geomechanics, Moscow, Russia, March 1992.

28. Kulatilake, P.H.S.W., "Scale Effects in Rock Masses," Engineering for Energy (a Russian journal), Vol. 8, pp. 24-28, 1992 - **an invited paper**. Also, presented as an invited lecture at the Int. Seminar on Numerical Methods in Geomechanics, Moscow, Russia, March 1992.

29. Kulatilake, P.H.S.W., Ucpirti, H., Wang, S., Radberg, G. and Stephansson, O., "Use of the Distinct Element Method to Perform Stress Analysis in Rock with Non-Persistent Joints and to Study the Effect of Joint Geometry Parameters on the Strength and Deformability of Rock Masses," Rock Mechanics and Rock Engineering, Vol. 25, pp. 253-274, 1992.

30. Kulatilake, P.H.S.W., Wathugala, D.N. and Stephansson, O., "Stochastic Three Dimensional Joint Size, Intensity and System Modelling and a Validation to an area in Stripa Mine Sweden," Soils and Foundations, Vol. 33, No. 1, pp. 55-70, 1993.

31. Kulatilake, P.H.S.W., "Application of Probability and Statistics in Joint Network Modeling in Three Dimensions", Proceedings of the Conference on Probabilistic Methods in Geotechnical Engineering, Canberra, Australia, pp. 63-87, 1993 - **An invited paper**.

32. Kulatilake, P.H.S.W., Wang, S. and Stephansson, O., " Effect of Finite Size Joints on Deformability of Jointed Rock at the Three Dimensional Level," Int. J. Rock Mech. & Min. Sci., Vol. 30, No. 5, pp. 479-501, 1993.

33. Kulatilake, P.H.S.W., Wuthagala, D.N. and Stephansson, O., "Joint Network Modelling, Including a Validation to an Area in Stripa Mine, Sweden," Int. J. Rock Mech. & Min. Sci., Vol. 30, No. 5, pp. 503-526, 1993.

34. Wang, S. and Kulatilake, P.H.S.W. "Linking Between Joint Geometry Models and a Distinct Element Method in Three Dimensions to Perform Stress Analyses in Rock Masses Containing Finite Size Joints", Soils and Foundations, Vol. 33, No. 4, pp. 88-98, 1993.

35. Kulatilake, P.H.S.W., "Scale Effects on Rock Mass Deformability," Proceedings of the Int. Conf. on Geomechanics '93, Hradec, Ostrava, Czech Republic, **an invited keynote paper**, pp. 151-158, 1994.

36. Kulatilake, P.H.S.W., Ucpirti, H. and Stephansson, O., "Effect of Finite Size Joints on the Deformability of Jointed Rock at the Two Dimensional Level," Can. Geotech. J., Vol. 31, pp. 364-374, 1994.

37. Kulatilake, P.H.S.W. and Swoboda, G., “Geomechanical Modelling of Jointed Rock,” Felsbau, Vol. 12, No. 6, pp. 387-394, 1994.

38. Kulatilake, P.H.S.W., Shou, G., Huang, T.-H. and Morgan, R.M., “New Peak Shear Strength Criteria for Anisotropic Rock Joints,” Int. J. Rock Mech. and Min. Sci., Vol. 32, No. 7, pp. 673-697, 1995.

39. Kulatilake, P.H.S.W., Shou, G. and Huang, T.-H., “A Spectral Based Peak Shear Strength Criterion for Rock Joints,” ASCE, J. Geotech. Engrg., Vol. 121, No. 11, pp. 789-796, 1995.

40. Kulatilake, P.H.S.W., Chen, J., Teng, J., Shufang, X. and Pan, G., “Discontinuity Geometry Characterization for the Rock Mass Around a Tunnel Close to the Permanent Shiplock Area of the Three Gorges Dam Site in China,” Int. J. Rock Mech. and Min. Sci., Vol. 33, pp. 255-277, 1996.

41. Kulatilake, P.H.S.W. and Panda, B. B., "Relation Between Fracture Tensor Properties and the Jointed Rock Hydraulic Behaviour Based on Numerical Simulation on Two Dimensional Joint Networks," Proc. Of the Int. Conf. On Geomech. '96, pp. 189-194, Roznov p.R., Czech Republic. - **An invited paper**.

42. Kulatilake, P.H.S.W., "New Peak Shear Strength Criteria for Anisotropic Rock Joints", Proc. Of the Int. Conf. On Geomech. '96, pp. 31-38, Roznov p.R., Czech Republic. - **An invited keynote paper**.

43. Shirono, T. and Kulatilake, P.H.S.W., "Accuracy of the Spectral Method in Estimating Fractal/Spectral Parameters for Self-Affine Roughness Profiles," Int. J. Rock Mech. and Min. Sci., Vol. 34, No. 5, pp. 789-804, 1997.

44. Kulatilake, P.H.S.W., Fiedler, R. and Panda, B.B., "Box Fractal Dimension as a Measure of Statistical Homogeneity of Jointed Rock Masses," Int. J. Engineering Geology, Vol.48, Nos. 3-4, pp.217-230, 1997.

45. Kulatilake, P.H.S.W., Um, J. and Pan, G., "Requirements for Accurate Estimation of Fractal Parameters for Self-Affine Roughness Profiles Using the Line Scaling Method," Rock Mechanics & Rock Engineering, Vol.30, No.4, pp. 181-206, 1997.

46. Kulatilake, P.H.S.W, Um, J. and Pan, G., "Requirements for Accurate Quantification of Self-affine Roughness Using the Variogram Method," Int. J. Solids and Structures, Vol. 35, Nos. 31-32, pp.4167-4189, 1998.

47. Kulatilake, P.H.S.W., "General Report for the session entitled Numerical Modelling – Part B," Proceedings of the 3rd North American Rock Mechanics Conference, pp. 151-158, Cancun, Mexico, June 1998—**Invited Paper**.

48. Kulatilake, P.H.S.W., Um, J., Panda, B.B. and Nghiem, N., "Accurate Quantification of Joint Roughness and Development of a New Peak Shear Strength Criterion for Anisotropic Rock Joints," Proceedings of the International Conference on Geomechanics/ Ground Control in Mining and Underground Construction, Wollongong, Australia, pp. 33-48, July 1998—**Invited Keynote Paper**.

49. Panda, B.B. and Kulatilake, P.H.S.W., "Influence of Discontinuity Geometry Parameters and Transmissivity on Hydraulic Behavior of Discontinuous Rock," ASCE, Journal of Engineering Mechanics, Vol.125 No. 1, pp.41-50, 1999.

50. Panda, B.B. and Kulatilake, P.H.S.W., "Relations Between Fracture Tensor Parameters and Permeability Tensor Parameters for Discontinuous Rock," ASCE, Jour. of Engineering Mechanics, Vol. 125 No. 1, pp. 51-59, 1999.

51. Kulatilake, P.H.S.W. and UM, J., " Requirements for Accurate Quantification of Self-affine Roughness Using the Roughness-Length Method," Int. Jour. of Rock Mechanics and Mining Sci., Vol.36 No.1, pp. 1-18, 1999.

52. Kulatilake, P.H.S.W., Um, J., Panda, B.B. and Nghiem, N., "Development of a New Peak Shear Strength Criterion for Anisotropic Rock Joints," ASCE, Jour of Engineering Mechanics, Vol. 125, No.9, pp. 1010-1017, 1999.

53. Kulatilake, P.H.S.W., and Um, J., "Development of a New Peak Shear Strength Criterion for Anisotropic Rock Joints," Proceedings of the '99 Japan-Korea Joint Symposium on Rock Engineering, Fukuoka, Japan, pp.41-55, August 1999----**Invited Keynote Paper.**

54. Kulatilake, P.H.S.W. and Panda, B.B., "Effect of Block Size and Joint Geometry on Jointed Rock Hydraulics and REV," ASCE, Jour. of Engineering Mechanics, Vol. 126, No. 8, pp.850-858, 2000.

55. Kulatilake, P.H.S.W., and Um, J., "Development of a New Peak Shear Strength Criterion for Anisotropic Rock Joints," Proceedings of the First Central Asian Geotechnical Symposium, Astana, Kazakhstan Vol.1, pp. 317-330, May 2000----**Invited Keynote Paper**.

56. Wang M., Kulatilake, P.H.S.W., Panda, B.B. and Rucker, M.L., " Groundwater resources evaluation case study via discrete fracture fluid flow modeling", Int. Jour. of Engineering Geology, Vol. 62, No. 4, pp. 267-291, 2001.

57. Kulatilake, P.H.S.W., Liang, J. and Gao, H., " Experimental and numerical simulations of jointed rock block strength under uniaxial loading, ASCE Jour. of Engineering Mechanics, Vol. 127, No. 12, pp. 1240-1247, 2001.

58. Kulatilake, P.H.S.W., Malama, B. and Wang, J., " Physical and particle flow modeling of jointed rock block behaviour" Int. Jour. of Rock Mech., Vol. 38, No. 5, pp. 641-657, 2001.

59. Um, J. and Kulatilake, P.H.S.W., "Kinematic and block theory analyses for shiplock slopes of the Three Gorges Dam site in China", Int. Jour. Geotechnical and Geological Engineering, Vol. 19, pp. 21-42, 2001.

60. Wang, M., Kulatilake, P.H.S.W., Um, J. and Narvaiz, J., "Estimation of REV size and three dimensional hydraulic conductivity tensor for a fractured rock mass through a single well packer test and discrete fracture fluid flow modeling", Int. Jour. of Rock Mechanics and Mining Sciences, Vol. 39, No. 7, pp. 887-904, 2002.

61. Kulatilake, P.H.S.W., Um, J. and Morin B., "A case study on open pit mine rock slope stability", Proceedings of the Int. Coastal Geotechnical Engineering Conf., Atyrau, Kazakhstan, pp. 53-62, May 2002--------**Invited Keynote Paper.**

62. Kulatilake, P.H.S.W., Malama, B. and Park, J., "A new rock mass strength criterion for biaxial loading conditions", Proceedings of the Int. Conference on Advancing Rock Mechanics Frontiers to Meet the Challenges of 21st Century, New Delhi, India, pp. KN15—KN 28, September 2002--------**Invited Keynote Paper.**

63. Kulatilake, P.H.S.W., and Um, J., "Spatial variation of cone tip resistance for the clay site at Texas A & M University", Geotechnical Special Publication No. 121, pp. 41-60, published by the American Society of Civil Engineers, 2003.

64. Kulatilake, P.H.S.W., and Um, J., "Spatial variation of cone tip resistance for the clay site at Texas A & M University", Int. Jour. of Geotechnical and Geological Engineering, Vol. 21, No. 2, pp 149-165, 2003 .

65. Kulatilake, P.H.S.W., Um, J., Wang, M., Escandon R.F. and Narvaiz, J., "Stochastic fracture Geometry modeling in 3-D including validations for a part of Arrowhead East Tunnel site, California, USA", Int. Jour. of Engineering Geology, Vol. 70, Issues 1-2, pp. 131-155, 2003.

66. Zhang Z. and Kulatilake P.H.S.W., "A new stereo-analytical method for determination of removal blocks in discontinuous rock masses", Int. Jour. of Numerical and Analytical Methods in Geomechanics, Vol. 27, pp. 791-811, 2003.

67. Kulatilake, P.H.S.W., Um, J. and Morin, B., "Investigation of slope stability for a section of Phelps Dodge Sierrita Open Pit Mine", *Transactions of the Society for Mining, Metallurgy, and Exploration*, Vol. 314, pp. 177-182, 2003.

68. Kulatilake, P.H.S.W., Park, J. and Um, J., "Fracture network modeling including validations and Estimation of rock mass strength and deformability in 3-D for a 30m Cube located at a Depth of 485m at ASPO Hard Rock Laboratory, Sweden", —**Keynote Paper** at the International Conference on Computer Methods in Mechanics, Wisla, Poland, pp. 35-37 (abstract), CDROM (full paper), June 2003.

69. Malama, B. and Kulatilake, P.H.S.W., "Models for normal fracture deformation under compressive loading", Int. Jour. of Rock Mechanics and Mining Sciences, Vol. 40, No. 6, pp. 893-901, 2003.

70. Kulatilake, P.H.S.W., Park, J. and Um, J., "Fracture network modeling including validations and Estimation of rock mass strength and deformability in 3-D for a 30m Cube located at a Depth of 485m at ASPO Hard Rock Laboratory, Sweden", —**Invited Paper** at the 4th International Workshop on Applications of Computational Mechanics in Geotechnical Engineering, Ouro Preto, Brazil, pp. 217-233, August 2003.

71. Kulatilake, P.H.S.W., Park, J. and Um, J., "Estimation of rock mass strength and deformability in 3-D for a 30m cube at a depth of 485m at Äspö Hard Rock Laboratory, Sweden", Int. Jour. of Geotechnical and Geological Engineering, Vol. 22, No. 3, pp. 313-330, 2004.

72. Kulatilake, P.H.S.W., Um, J., Wang, M., Escandon R.F. and Narvaiz, J., "Stochastic fracture geometry modeling in 3-D including validations and estimation of REV size and three dimensional hydraulic conductivity tensor for a fractured rock mass through discrete fracture fluid flow modeling ", **Invited Keynote Paper** at the International Geotechnical Conference on Construction of Large Scale and Unique Projects, Almaty, Kazakhstan, September 23-25, 2004.

73. Kulatilake, P.H.S.W., Um, J., Wang, M., Escandon R.F. and Narvaiz, J., "Stochastic fracture geometry modeling in 3-D including validations and estimation of REV size and three dimensional hydraulic conductivity tensor for a fractured rock mass through discrete fracture fluid flow modeling ", **Invited Keynote Paper** at the 2nd Iranian Rock Mechanics Conference, Tehran, Iran, December 14-15, 2004.

74. Kulatilake, P.H.S.W., Park, J., Balasingam, P. and McKenna, S.A. "Hierarchical probabilistic regionalization of volcanism for Sengan region, Japan", **Invited Keynote Paper** at the International Geotechnical Symposium on Geotechnical Aspects of Natural and Man-Made Disasters, Astana, Kazakhstan, pp. 37-54**,** June 1-3, 2005.

75. Kulatilake, P.H.S.W., Park, J., Balasingam, P. and McKenna, S.A. "Hierarchical probabilistic regionalization of volcanism for Sengan region, Japan", **Invited Paper** at the International Conference on Geotechnical Engineering for Disasters Prevention and Rehabilitation, Semarang, Indonesia, August 3-4, 2005.

76. Kulatilake, P.H.S.W., Park, J. and Malama, B. "A new rock mass strength criterion for biaxial loading conditions", Int. Jour. of Geotechnical and Geological Engineering, Vol. 24, No. 4, pp. 871-888, 2006.

77. Kulatilake, P.H.S.W., Balasingam, P., Park, J. and Morgan, R. "Natural rock joint roughness quantification through fractal techniques", Int. Jour. of Geotechnical and Geological Engineering, Vol. 24, No. 5, pp. 1182-1202, 2006.

78. Kulatilake, P.H.S.W., Park, J., Balasingam, P. and McKenna, S.A. "Hierarchical probabilistic regionalization of volcanism for Sengan region, Japan", Int. Jour. of Geotechnical and Geological Engineering, Vol. 25, No. 1, pp.79-102, 2007.

79. Wang, M. and Kulatilake, P.H.S.W. "Understanding of hydraulic Properties from configurations of stochastically distributed fracture networks", Journal of Hydrological Processes, Vol. 22, No. 8, pp. 1125-1135, 2008.

80. Kulatilake, P.H.S.W., Park, J., Balasingam, P. and Morgan, R. "Quantification of aperture and relations between aperture, normal stress and fluid flow for natural single rock fractures", Int. Jour. of Geotechnical and Geological Engineering, Vol. 26, No. 3, pp. 269-281, 2008.

81. Kulatilake, P.H.S.W., Um, J., Crum, G. and Irvine, G. " Rock Slope Stability Analysis for an area of the Mt. Lemmon Highway, Tucson, Arizona", **Invited Keynote Paper**, Proceedings of the COBRAMSEG 2008, the XIVth Brazilian Congress on Soil Mechanics and Geotechnical Engineering, pp. 315-328, Armação de Búzios, Brazil, August, 2008.

82. Kulatilake, P.H.S.W. "Recent Developments on Rock Joint Roughness, and Rock Joint and Rock Mass Strength and Deformability", **Invited Keynote Paper**, Proceedings of the ISRM International Symposium 2008, 5th Asian Rock Mechanics Symposium, pp. 119-132, Tehran, Iran, November 24-26, 2008.

83. Kulatilake, P.H.S.W. "Case Studies on Open Pit Mine Rock Slope Stability and Estimation of Strength and Deformability in Three-Dimensions for a Jointed Rock Mass Located at a Depth of 485m Underground", **Invited Plenary Lecture Abstract**, Proceedings of the Geomin 2009 Conference, Antofagasta, Chile, June 10-12, 2009.

84. Kulatilake, P.H.S.W. “Tensorial Approach to Rock Mass Strength and Deformability Estimations in Three Dimensions”, **Invited Keynote Paper**, Proceedings of the 9th International Conference on Analysis of Discontinuous Deformation, pp. 59-72, Singapore, November 25-27, 2009.

85. Kulatilake, P.H.S.W. (**Guest Editor**) “Special Issue on Sri Lankan Geotechnical Society’s First International Conference on Soil & Rock Engineering”, Int. Jour. of Geotechnical and Geological Engineering, Vol. 28, No. 3, 2010.

86. Kulatilake, P.H.S.W., Qiong, Wu, Hudaverdi, T. and Kuzu, C. “Mean Particle Size Prediction in Rock Blast Fragmentation Using Neural Networks”. Int. Jour. of Engineering Geology, Vol. 114, pp. 298-311, 2010.

87. Hudaverdi, T., Kulatilake, P.H.S.W. and Kuzu, C. “Prediction of Blast Fragmentation Using Multivariate Analysis Procedures”, Int. Jour. for Numerical and Analytical Methods in Geomechanics, Vol. 35 (12), pp. 1318-1333, 2011.

88. Qiong Wu, Kulatilake, P.H.S.W. and Tang Hui-ming “Comparison of Rock Discontinuity Mean Trace Length and Density Estimation Methods Using Discontinuity Data from an Outcrop in Wenchuan Area, China”. Int. Journal of Computers and Geotechnics, Vol. 38, pp. 258-268, 2011.

89. Kulatilake, P.H.S.W., Qiong Wu, and Hudaverdi, T., “New Prediction Models for Mean particle size in rock blast fragmentation” **Invited Keynote Paper**, Proceedings of the Symposium on “Explosives & Blasting Techniques for Mining, Quarrying & Infrastructure Industry”, Mangalore, India, Feb. 2011.

90. Kulatilake, P.H.S.W., Wang, L., Tang, H. and Liang, Y. “Evaluation of Rock Slope Stability for Yujian River Dam Site by Kinematic and Block Theory Analyses”. Int. Jour. of Computers and Geotechnics, Vol. 38, pp. 846-860, 2011.

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Study on Geometrical Measurement of Joint Network and Anisotropic Strength Criterion of Jointed Rock Masses—PI: Dr. Xin Chen from CUMTB, China; Foreign Investigator: P. H. S. W. Kulatilake, $ 40,000, Chinese Natural Science Research Council, February 2012 to January 2016. Grant No.: 11102224.

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Previous Research Funding and Some of the Reports Resulted from the Completed Projects:

Research funding was secured from the following granting agencies as the sole Principal Investigator: US National Science Foundation, Petroleum Research fund of American Chemical Society, Metropolitan Water District of Southern California, Phelps Dodge Mining Company, Sandia National Laboratories, Swedish Nuclear Fuel & Waste Management Company, Freeport-McMoRan Mining Company, US Army Engineer Waterways Experiment Station, Exxon Production Research Company, US Bureau of Mines, Arizona Mining and Mineral Resources Research Institute, Agra Earth & Environmental Inc. and University of Sonora Mexico.

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95. Xing, Yan and Kulatilake, P.H.S.W., “investigation of rock mass stability around tunnels in an underground mine”. To be presented at the 2016 SME Meeting, Phoenix, Arizona, February 2016.

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100. Shreedharan, S. and Kulatilake, P.H.S.W., “Distinct element method based stability analysis of tunnels in a deep coal mine in China”, Proceedings of the 50th US Rock Mechanics/Geomechanics Symposium, Houston, Texas, USA, June 26th-29th, 2016.

101. Xing, Y. and Kulatilake, P.H.S.W., “Investigation of rock mass stability around tunnels in an underground mine in USA by 3-D numerical modeling”, Proceedings of the 35th Ground Control Conference, Morgantown, West Virginia, USA, July 26-28, 2016.

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103. He, P., Kulatilake, P.H.S.W., Liu, D., He, M., “A new empirical failure criterion for coal masses at the 3-D level”, Proceedings of the 9th Asian Rock Mechanics Symposium, Bali, Indonesia, October 18-20, 2016.

Unpublished Reports:

1. Kulatilake, P.H.S.W., "Study of Relevance of Secondary Compression to Bangkok Subsidence," M. Eng. Thesis, Asian Institute of Technology, Bangkok, Thailand, April 1978.

2. Kulatilake, P.H.S.W., "Probabilistic Approach to Estimate Deformation and Strength Properties of a Shale," Ph.D. Dissertation, Ohio State University, Columbus, Ohio, June 1981.

ACADEMIC ACTIVITIES

Courses Taught:

GEn 560X	Underground Rock Mechanics & Rock Engineering
GEn 510X	Fractal Theory and Applications in Geo-engineering
GEn/MnE 696A	Graduate Seminar Director
GEn 607X	Block Theory and Rock Engineering
GEn 606X	Computational Rock Mechanics II
GEn 605X	Computational Rock Mechanics I
GEn 604X	Stochastic Rock Mass Modeling II
GEn 603X	Stochastic Rock Mass Modeling I
CE 649/GEn 649	Probabilistic Methods in Geo-engineering
GEn/MnE 629	Rock Slope Engineering
GEn 425	Geotechnical Investigations
GEn 424/524	Fundamentals of Geotechnics
GEn/MnE 402/502	Probability and Statistical Concepts in Geologic Media
GEn 120	Introductory Geotechnical Engineering (one third or one fourth of the course)

CE 543	Block Theory and Rock Engineering
CE 411/511	Research Methods and Data Analysis in Civil Engineering
CE 214	Statics

Teaching Load:

2-3 courses per year (usually 1-2 graduate and one undergraduate)

New Courses Designed:

1. Rock slope engineering - GEn 629X. The course was first offered in the fall of 1984 for ten graduate students in geological, mining and civil engineering.

2. Probabilistic methods in geo-engineering - GEn 649/CE 649. The course was offered in the spring of 1987 for eleven graduate students in geological, civil and mining engineering.

3. Stochastic Rock Mass Modeling I - GEn 603X. The course was offered in the Fall of 1987 for seven graduate students in geological and mining engineering.

4. Stochastic Rock Mass Modeling II - GEn 604X. The course was offered in the spring of 1988 for five graduate students in geological and mining engineering.

5. Computational Rock Mechanics I - GEn 605X. The course was offered in the Fall 1990 for eight graduate students in geological, mining, civil and systems engineering.

6. Computational Rock Mechanics II - GEn 606X. The course was offered in the Spring 1991 for six graduate students in geological, mining, and civil engineering.

7. Block Theory and Rock Engineering - GEn 607X. The course was offered in the Fall 1991 for eight graduate students in geological, mining, and civil engineering.

8. Fractal Theory and Applications in Geo-engineering - GEn 510X. The course was offered in the Fall 1996 for nine graduate students in geological and electrical engineering.

9. Underground Rock Mechanics & Rock Engineering- GEn 560X. The course was offered in Fall 2002 for 7 graduate students in geological engineering.

Former and Current Graduate Students and Visiting Scholars: R. Southworth, K.M. Miller, A.A. Hernandez, P. Reed, A. Ghosh, S. Ouyang, D.N. Wathugala, S Wang, H. Ucpirti, R.M. Morgan, K. Fuenkajorn, D. Crouthamel, B.B. Panda, G. Shou, R. Fiedler, Dr. J. Chen, J. Teng, G. Pan, J. Um, T. Shirono, W. He, L. Xiangdong, Dr. Hong Wang, Wang Mingyu, Hualin Gao, Jialai Wang, Jianghua Liang, Ben Morin, B. Malama, Jinyong Park, Y. Jian, Dr. Zixin Zhang, Mijia Yang, Prof. Bo An Jang, P. Varatharajah, P. Balasingam, N. Alrogibah, T. Hudaverdi, Dr. Lianquing Wang, Yu Zhengxing, Ye Liang, Qiong Wu, Xin Wang, Dr. Xu Qing, Dr. Qing Yan Ren, Cheng Yan, Binglei Li, Dr. Wenhui Tan, Taghi Sherizadeh, Wen Gao, Biao Shu, Pengfei He, Yunfeng Ge, Zheng Jun, Xiang Fan, Dr. Wenling Chen, Dr. Chai Bo, Dr. Sun Shaorui, Dr. Wei Jihong, Yan Xing, Yang Xuxu, Taoying Liu, Prof. Wan Zhijun, Dr. Chen Yuanjiang, Dr. Changqing Qi, Srisharan Shreedharan, Mohammad Mehranpour, Gang Huang, Ni Xiaoyan, Xueliang Xu, Zhongjie Fan, Bing Liu, Dr. Peiju Yang, Xin Zhang, Dong Menglong, Ruixuan Tang, Yinhe Zheng, Li Meng, Prof. Jiebing Zhu, Dr. Zhonghu Zhao, Xiaobo Zhang and Huilin Le.

Master's and Doctoral Committees Served:

Served on 30 completed Ph.D. dissertation committees, 30 Ph.D. preliminary or qualifying examination committees and 22 completed master's degree committees. Director for 22 completed Ph.D. dissertations, 15 completed M.S. thesis, 8 ongoing Ph.D. dissertations, 1 MS thesis and 1 Visiting Research Associate Professor.

HONORS, RECOGNITIONS AND AWARDS

Delivered two 1-hour lectures based on recently published rock mechanics journal papers at The Road Development Authority, Sri Lanka, September 22, 2016. The Road Development Authority covered some of the local expenses.

Delivered a 2-hour lecture on Development of a new 3-D coal mass strength criterion at The China University of Mining and Technology Beijing, China, May 31, 2016. The China University of Mining and Technology, Beijing covered all the local expenses.

Delivered two 1-hour lectures based on recently published rock mechanics journal papers at The China University Geosciences, Beijing, May 31, 2016. The China University Geosciences, Beijing covered all the local expenses and also provided an honorarium.

Delivered a 1-hour lecture based on recently published rock mechanics journal papers at the Northeastern University, Shenyang, June 1, 2016. The Northeastern University covered all the local expenses and also provided an honorarium.

Delivered two 1-hour lectures based on recently published rock mechanics journal papers at the Lanzhou University, China, June 2, 2016. The Lanzhou University covered all the local expenses and also provided an honorarium.

Delivered two 1-hour lectures based on recently published rock mechanics journal papers at the Chang'an University, Xian, China, June 3, 2016. The Chang'an University covered all the local expenses and also provided an honorarium.

Delivered two 1-hour lectures based on recently published rock mechanics journal papers at the Hohai University, Nanjing, China, June 16, 2016. The Hohai University covered all the local expenses and also provided an honorarium.

Delivered two 1-hour lectures based on recently published rock mechanics journal papers at the Anhui University of Science & Technology, Huainan, China, June 17, 2016. The AUST covered all the local expenses and also provided an honorarium.

Played a very important role in a two-day workshop to explore possibilities of initiating a research cooperation with Changjiang Water Resources Research Institute (CRSRI) and also delivered three 1-hour lectures based on recently published rock mechanics journal papers at the CRSRI, Wuhan, June 18-19, 2016. The CRSRI covered all the local expenses and also provided an honorarium.

Delivered a 1-hour lecture based on recently published rock mechanics journal papers at the Wuhan University, China, June 20, 2016. The Wuhan University covered all the local expenses and also provided an honorarium.

Delivered two 1-hour lectures based on recently published rock mechanics journal papers at the China University of Geosciences, Wuhan, China, June 20, 2016. The CUG Wuhan covered all the local expenses and also provided an honorarium.

Delivered two 1-hour lectures based on recently published rock mechanics journal papers at the Central South University, Changsha, June 21, 2016. The Central South University covered all the local expenses and also provided an honorarium.

Peter Cundall Award recipient for the best paper submitted to 4th Itasca Symposium which was held in Peru in March 2016.

Delivered a 2-hour lecture on Development of a new 3-D coal mass strength criterion at The China University of Mining and Technology Beijing, China, October 12, 2015. The China University of Mining and Technology, Beijing covered all the expenses.

Delivered three 1-hour lectures based on recently published rock mechanics journal papers at The China University Geosciences, Beijing, October 13, 2015. The China University Geosciences, Beijing covered all the local expenses and also provided an honorarium.

Delivered three 1-hour lectures based on recently published rock mechanics journal papers at the China University of Mining & Technology, Xuzhou, October 14-16, 2015. The China University of Mining & Technology, Xuzhou covered all the local expenses and also provided an honorarium.

Delivered two 1-hour lectures based on recently published rock mechanics journal papers at the Institute of Rock & Soil Mechanics, Wuhan, China, October 20th morning, 2015. The Institute of Rock & Soil Mechanics covered all the local expenses and also provided an honorarium.

Delivered two 1-hour lectures based on recently published rock mechanics journal papers at the Wuhan University, China, October 20th afternoon, 2015. The Wuhan University covered all the local expenses and also provided an honorarium.

Delivered three 1-hour lectures based on recently published rock mechanics journal papers at the Central South University, Changsha, October 21, 2015. The Central South University covered all the local expenses and also provided an honorarium.

Delivered three 1-hour lectures based on recently published rock mechanics journal papers at the Hohai University, Nanjing, October 22, 2015. The Hohai University covered all the local expenses and also provided an honorarium.

Delivered three 1-hour lectures based on recently published rock mechanics journal papers at the Zhejiang University, Hangzhou, China, October 23, 2015. The Zhejiang University covered all the local expenses.

Delivered three 1-hour lectures based on recently published rock mechanics journal papers at the Jacobs Associates, San Francisco, California, October 26, 2015. The Jacobs Associates covered all the local expenses.

Delivered a lecture on “Investigation of Stability of the Rock Block System that Initiated the Jiweishan Landslide in China” at the Chang’an University, Xian, China, October 23, 2014. The Chang’an University covered all the local expenses and also provided an honorarium.

Delivered a lecture on “REV and equivalent continuum/discontinuum 3-D stability analyses of a tunnel” at the Hohai University, Nanjing, China, October 26, 2014. The Hohai University covered all the local expenses and also provided an honorarium.

Delivered a lecture on “Roof stability investigations in three dimensions for a room and Pillar coal mine in USA” at the China University of Mining and Technology (CUMT), Xuzhou, China, October 29, 2014. The CUMT covered all the local expenses and also provided an honorarium.

Delivered a lecture on “REV and equivalent continuum/discontinuum 3-D stability analyses of a tunnel” at the China University of Petroleum, Beijing, June 2014. The China University of Petroleum covered all the local expenses.

Delivered a lecture on “REV and equivalent continuum/discontinuum 3-D stability analyses of a tunnel” at the University of Science & Technology Beijing, June 2014. The University of Science and Technology Beijing covered all the local expenses.

Delivered a lecture on “Rock mass stability research associated with tunnels at the Ministry of Irrigation and Mahaweli, Jawatta, Sri Lanka, July, 2014. The Ministry of Irrigation and Mahaweli covered the local expenses.

Delivered an **Invited Lecture** on “Development of an orthotropic constitutive model for a jointed rock mass and equivalent continuum/discontinuum 3-D stability analyses of a tunnel” at UTRE Workshop, Singapore, November 2013. The workshop organizing committee covered all my expenses and also provided an honorarium.

Peter Cundall Award-Honorable Mention recipient for a paper submitted to 3rd Flac-Dem Symposium held in China in October 2013.

Delivered an **Invited Lecture** on “Stochastic fracture geometry modeling in 3-D including validations, and estimation of REV size and 3-D hydraulic conductivity tensor for a fractured rock mass through discrete fracture fluid flow modeling” at GSA PENROSE CONFERENCE on Predicting and Detecting Natural and Induced Flow Paths for Geothermal Fluids in Deep Sedimentary Basins, Salt Lake City, Utah, October 19-23, 2013. The workshop organizing committee covered all my expenses.

Delivered an **Invited Plenary Lecture on** “Three-dimensional discontinuum and continuum stress analyses to study stability of a mine tunnel” at 2013 Geomin Conference, Santiago, Chile, July 2013. The conference organizing committee covered all my expenses.

Delivered an Invited lecture on “Rock Mass Fracture Network Modeling and Rock Slope Stability Analyses” at the Geological Survey & Mines Bureau, Pitakotte, Sri Lanka, June, 2013.

Delivered an Invited lecture on “Tools and Techniques to Investigate Deformability, Stability and Fluid Flow behaviors of Discontinuous Rock Mass Structures” at the Mine Reconciliation Summit held in Phoenix, Arizona, January 23, 2013.

Delivered an Invited lecture on “Tools and Techniques to Investigate Deformability, Stability and Fluid Flow behaviors of Discontinuous Rock Mass Structures” at the Geological Survey & Mines Bureau, Pitakotte, Sri Lanka, December 28, 2012.

Delivered a keynote lecture on “A New Procedure to Investigate Stability of Underground Excavations in Discontinuous Rock Masses in Three Dimensions (Including a Case Study)” at the 2nd International Conference on Sustainable Built Environment, Kandy, Sri Lanka, December 15, 2012.

Provided advice on the curriculum revision for the undergraduate Civil Engineering Program and the postgraduate Geotechnical Engineering Program at the University of Sri Lanka, Peradeniya, December 15, 2012.

Delivered four 90 min. lectures based on recently published rock mechanics journal papers at the Federal University of Rio Grande do Sul, November 21-22, 2012. The Federal University of Rio Grande do Sul covered all the local expenses. The University of Arizona covered partial expenses of the International ticket.

Delivered a 2-hour lecture on “A procedure to investigate stability of large underground rock masses in 3-D including a case study”, at The China University Geosciences, Beijing, November 16, 2012. The China University Geosciences, Beijing covered all the local expenses and also provided an honorarium.

Delivered two 1-hour lectures based on recently published rock mechanics journal papers at the Institute of Rock & Soil Mechanics, Wuhan, November 15, 2012. The Institute of Rock & Soil Mechanics, Wuhan covered all the local expenses and also provided an honorarium.

Delivered two 1-hour lectures based on recently published rock mechanics journal papers at the China University of Mining & Technology, Xuzhou, November 14, 2012. The China University of Mining & Technology, Xuzhou covered all the local expenses and also provided an honorarium.

Delivered three 1-hour lectures based on recently published rock mechanics journal papers at the Central South University, Changsha, November 13, 2012. The Central South University covered all the local expenses and also provided an honorarium.

Elected to Editorial Board of Int. Jour. of Advances in Geological and Geophysical Engineering, May 2012.

Received an award in the amount of 515,000 RMB (US$ 81,320) from the Chinese Academy of Sciences to spend one year in China (August 2012- July 2013) as a Senior Visiting Professor on sabbatical leave. Unfortunately, I had to turn down this offer because of very high level of research work in USA.

Elected to Editorial Board of Mining & Science-Turkey, 2011.

Elected to Editorial Board of Coal Science and Technology, 2011.

Delivered a 2-hour lecture on “Approach to Perform Stress Analysis in Large Underground Rock Masses- A case Study” at Coal Research Institute, Beijing, China, August 12, 2011. Coal Research Institute covered all the local expenses and provided an honorarium.

Delivered a 2-hour lecture on “Stochastic Rock Fracture Geometry Network Modeling in 3-D Including Validations for a Part of Arrowhead East Tunnel, California, USA” at University of Science & Technology Beijing, China, August 13, 2011. University of Science & Technology Beijing covered all the local expenses and provided an honorarium.

Delivered a 2-hour lecture on “Rock Slope Stability Analysis—A Case Study” at University of Science & Technology Beijing, China, August 13, 2011. University of Science & Technology Beijing covered all the local expenses and provided an honorarium.

Delivered a 2-hour lecture on “Approach to Perform Stress Analysis in Large Underground Rock Masses- A case Study” and engaged in collaborative research discussions at China University of Geosciences, Wuhan, China, August 16-18, 2011. China University of Geosciences covered the international and local plane tickets and local expenses in Wuhan.

Invited to take part in the International Colloquium on Ultra Deep Gypsum-Salt Bed’s Stress and Wellbore Integrity as a World Renowned Expert in Rock Mechanics, January 16-18, 2011, Beijing, China. Organizing committee covered all the expenses and also provided an honorarium.

Recipient of “Guest Professorship” for 2010-2013 from Wuhan University, China.

Recipient of “Kwang-Hua Visiting Professorship” for 2009-2010 from the College of Engineering, Tongji University, China.

Delivered a 2-hour lecture on “Tensorial Approach for Rock Mass Strength and Deformability” at Tongji University, China, December 10, 2010. Tongji University covered all the expenses and provided an honorarium.

Delivered a 2-hour lecture on “Rock Fracture Geometry Network Modeling in 3-D and Estimation of REV Size and Three-Dimensional Hydraulic Conductivity Tensor for a Rock Mass Through 3-D Discrete Fracture Fluid Flow Modeling” at Wuhan University, China, December 14, 2010. Wuhan University covered all the expenses.

Delivered a 2-hour lecture on “Rock Slope Stability Analysis” at Wuhan University of Technology, China, December 15, 2010. Wuhan University of Technology covered all the expenses and also provided an honorarium.

Delivered a 2-hour lecture on “Tensorial Approach for Rock Mass Strength and Deformability” at the Institute of Geology and Geophysics, Bejing, China, December 22, 2010. The Institute of Geology and Geophysics covered all the expenses and provided an honorarium.

Delivered three 2-hour lectures based on recently published rock mechanics journal papers at the China University of Geosciences in Wuhan, June 19, 2010. The China University of Geosciences, Wuhan covered all the expenses and also provided an honorarium.

Delivered a 2-hour lecture on “Rock Slope Stability Analysis” at the Institute of Rock and Soil Mechanics, Wuhan, China, June 18, 2010. The Institute of Rock and Soil Mechanics covered all the expenses.

Delivered a 2-hour lecture on “Tensorial Approach for Rock Mass Strength and Deformability” at the Changjiang River Scientific Research Institute, Wuhan, China, June 18, 2010. The Changjiang River Scientific Research Institute covered all the expenses.

Delivered a 2-hour lecture on “Tensorial Approach for Rock Mass Strength and Deformability” at the Xian University of Technology, Xian, China, June 14, 2010. The Xian University of Technology covered all the expenses.

Delivered a 2-hour lecture based on recently published rock mechanics journal papers at the University of Science & Technology, Beijing, China, June 11, 2010. The University of Science & Technology, Beijing covered all the expenses.

Delivered a 2-hour lecture on “Tensorial Approach for Rock Mass Strength and Deformability” at the China University of Mining & Technology, Beijing, June 10, 2010. The China University of Mining & Technology covered all the expenses and also provided an honorarium.

Delivered an Invited Keynote Lecture on “Tensorial Approach for Rock Mass Strength and Deformability” at the 9th ICADD Conference on Analysis of Discontinuous Deformation, Singapore, November 27th, 2009. The Conference organizing committee covered all my expenses.

Delivered an Invited Keynote Lecture on “Rock mass fracture network modeling including validations-from case histories” at the UTRE Workshop, Singapore, November 24th, 2009. The workshop organizing committee covered all my expenses.

Delivered a 2-hour lecture on “Recent Developments on Rock Joint Roughness, and Rock Joint and Rock Mass Strength and Deformability” at the Nanyang Technological University (NTU), Singapore, August 5, 2009. NTU covered all the local expenses.

Delivered a 2-hour lecture on “Recent Developments on Rock Mass Strength and Deformability” at Monash University, Melbourne, Australia, July 28, 2009. Monash University covered the domestic air ticket and all the expenses in Melbourne.

Delivered four 2-hour lectures based on recently published rock mechanics journal papers at the China University of Geosciences in Wuhan and Institute of Rock and Soil Mechanics, Wuhan, July 8-11, 2009. The two Institutes covered all the expenses and also provided honorariums.

Received an invitation to deliver a plenary lecture on “Case Studies on Open Pit Mine Rock Slope Stability and Estimation of Strength and Deformability in Three-Dimensions for a Jointed Rock Mass Located at a Depth of 485m Underground” at the Geomin 2009 Conference which was held in Antofagasta, Chile, June 10-12, 2009. The conference committee covered all the local expenses in Chile.

Delivered an invited keynote lecture on “Recent Developments on Rock Joint Roughness, and Rock Joint and Rock Mass Strength and Deformability” at the ISRM International Symposium 2008, 5th Asian Rock Mechanics Symposium, Tehran, Iran, November 24-26, 2008. The conference committee covered all the expenses.

Delivered an invited keynote lecture on “Steep Rock Slopes in Urban Areas” at the XIVth Brazilian Congress on Soil Mechanics and Geotechnical Engineering, Armação de Búzios, Brazil, August, 2008. The conference committee covered all the local expenses in Brazil.

Delivered a lecture on “A case history on Rock Slope Stability Analysis” at the Association of Engineering Geologists (AEG) meeting, Phoenix, Arizona, May 2008. AEG covered all the expenses.

Delivered the Invited LEEP lecture at the University of North Dakota, February 2008. University of North Dakota covered all the expenses.

Invited Member at Large, American Rock Mechanics Awards Committee, 2006.

Delivered lectures based on recently published rock mechanics journal papers at Southwest Research Institute, Texas, May 11, 2006. Southwest Research Institute covered all the expenses.

Delivered lectures based on recently published rock mechanics journal papers at Stanford University, Palo Alto, California, April 26, 2006. Stanford University covered the local expenses for one day.

Delivered lectures based on recently published rock mechanics journal papers at Lawrence Berkeley Laboratory. California, April 25, 2006. Lawrence Berkeley Laboratory covered all the expenses.

Delivered lectures based on recently published rock mechanics journal papers at Shell, Houston, April 12, 2006. Shell covered the expenses for one day.

Delivered lectures based on recently published rock mechanics journal papers at Technical University of Graz,

Austria, April 7, 2006. Technical University of Graz covered the local expenses for one day and also provided an honorarium.

Delivered lectures based on recently published rock mechanics journal papers at Korea Institute of Construction Technology, South Korea, January 12, 2006. Korea Institute of Construction Technology covered the local expenses for one day and also provided an honorarium.

Delivered lectures based on recently published rock mechanics journal papers at Seoul National University, Seoul, South Korea, January 13-14, 2006. Seoul National University covered the local expenses for 4 days and also provided an honorarium.

Recipient of "Honorary Professorship" at the Eurasian National University, Kazakhstan, December 2005.

Delivered lectures for the Ph.D. Program in Geotechnical Engineering (according to the western style) at the Eurasian National University, Astana, Kazakhstan, December, 2005. The Eurasian National University provided an Honorarium and covered all the expenses related to the travel.

Delivered an invited lecture on "Investigation of slope stability for a section of Phelps Dodge Sierrita Open Pit Mine" at Freeport Indonesia Mine, Tembagapura, Indonesia, August 5, 2005. The Freeport Indonesia Mine covered all the expenses related to the travel.

Delivered an invited lecture on "Hierarchical probabilistic regionalization of volcanism for Sengan region, Japan", at the International Symposium on Geotechnical Engineering for Disaster Prevention and Rehabilitation, Semarang, Indonesia, August 2-4, 2005. The conference committee covered partial expenses related to the travel.

Delivered an invited keynote lecture on "Hierarchical probabilistic regionalization of volcanism for Sengan region, Japan", at the International Symposium on Geotechnical Aspects of Natural and Man-Made Disasters, Astana,. Kazakhstan, June 1-3, 2005. The Conference committee covered all the expenses related to the travel.

Took part in an invited initial collaboration to develop a Ph.D. Program in Geotechnical Engineering according to western style at the Eurasian National University, Astana, Kazakhstan, May-June, 2005. The Eurasian National University provided an honorarium and covered all the expenses related to the travel.

Received an invitation to deliver a keynote lecture on "Rock Fracture Geometry Network Modeling in 3-D and Estimation of REV Size and Three-Dimensional Hydraulic Conductivity Tensor for a Rock Mass Through 3-D Discrete Fracture Fluid Flow Modeling", at the 2nd Iranian Rock Mechanics Conference, December 2004. The Conference committee offered to cover all the expenses related to the travel. However, due to a flight delay, I was not able to travel to Iran and deliver this lecture.

Delivered an invited keynote lecture on "Applications of Probability and Statistics to Rock Mechanics and Rock Engineering", at the International Workshop on Risk Assessment in Site Characterization and Geotechnical Design", Bangalore, India, November 26-27, 2004.

Received an invitation to deliver a keynote lecture on "Rock Fracture Geometry Network Modeling in 3-D and Estimation of REV Size and Three-Dimensional Hydraulic Conductivity Tensor for a Rock Mass Through 3-D Discrete Fracture Fluid Flow Modeling", at the International Geotechnical Conference on Geotechnical Problems On Construction of Large-Scale and Unique Projects, Almaty, Kazakhstan, September 23-25, 2004. However, I could not find time to travel to Kazakhstan and deliver this lecture.

Served as the invited external examiner for the dissertation entitled "Rock Mass Modeling in Poly-axial Stress State" which was completed at the Indian Institute of Technology, Delhi, India, in 2004.

Delivered an invited lecture on "Estimation of REV Size and Three-Dimensional Hydraulic Conductivity Tensor for a Rock Mass Through 3-D Discrete Fracture Fluid Flow Modeling", 5th International Workshop on Application of Physics in Porous Media, Puerto Vallarta, Mexico, Nov. 7-11, 2003. The Conference committee covered most of the expenses in Mexico.

Delivered an invited lecture on “Fracture Network Modeling Including Validations and Estimation of Rock Mass Strength and Deformability in Three Dimensions for a 30M Cube Located at a Depth Region of 400-500M at ASPO Hard Rock Laboratory, Sweden” at the 4th International Workshop on Applications of Computational Mechanics in Geotechnical Engineering, Ouro Preto, Brazil, 17-20 August 2003.

Delivered a keynote lecture on “Fracture Network Modeling Including Validations and Estimation of Rock Mass Strength and Deformability in Three Dimensions for a 30M Cube Located at a Depth Region of 400-500M at ASPO Hard Rock Laboratory, Sweden” at the 15th International Conference on Computer Methods in Mechanics, CMM-2003, Wisla, Poland , 3-6 June 2003. Received a travel grant in the amount of US$ 900 from the University of Arizona, Foreign Travel Grant Program.

Elected to Editorial Board of Int. Jour. of Geotechnical and Geological Engineering, October 2002.

Received Outstanding Asian American Faculty Award 2002, University of Arizona for exemplary accomplishments in research, teaching and contributions of service to the profession, the University of Arizona and the community, October 2002.

Received an invitation to deliver a keynote lecture on “A New Rock Mass Strength Criterion” at the Second International Conference on New Development in Rock Mechanics and Rock Engineering, Shenyang, P. R. China, October 2002. However, I could not find time to travel to China and deliver this lecture.

Delivered a keynote lecture on “A New Rock Mass Strength Criterion” at the ISRM Symposium on Advancing Rock Mechanics Frontiers to Meet the Challenges of 21st Century, New Delhi, India, September 2002.

Received the award of “2002 Distinguished Alumnus” of the College of Engineering, Ohio State University in recognition of the distinguished achievements and eminent contributions made to the advancement of the profession.

Delivered an Invited keynote lecture on “Rock Slope Stability Analyses” at the International Conference on Coastal Geotechnical Engineering in Practice, Atyrau, Kazakhstan, May 2002. Received a travel grant in the amount of US$ 1000 from the University of Arizona, Foreign Travel Grant Program.

Served on invitation on a Geomechanics and Geotechnical Systems research proposal review panel for the National Science Foundation, Washington DC, May 2002.

Elected to Editorial Board of Int. Jour. of Rock Mechanics & Mining Sciences, December 2001.

Received an invitation to deliver an invited lecture at the workshop on “To bring together the International cooperation in contracting, consulting and managing engineering projects” which was held at the 2nd Asian Rock Mechanics Symposium, Beijing, China, September 2001. However, I could not find time to attend this workshop.

Delivered an invited keynote lecture on Open Pit Mine Slope Stability at the Int. Symposium Geotechnika 2000, Ustron-Zwodzie, Poland, October 2000. The Symposium Committee covered all the expenses in Poland.

Delivered an invited keynote lecture at the First Central Asian Geotechnical Symposium, Astana, Kazakhstan, May 2000. Received a travel grant in the amount of US$ 800 from the University of Arizona, Foreign Travel Grant Program.

Delivered an invited lecture on Open Pit Mine Slope Stability at the Open Pit Mine Symposium, Sonora, Mexico., March 2000. The Symposium Committee covered all the expenses.

Delivered lectures at several mines in Chile during a sabbatical leave period, Oct. 1999.

Delivered an invited keynote lecture at the ’99 Japan-Korea Joint Symposium on Rock Engineering, Fukuoka, Japan, August 1999. Received a travel grant in the amount of US$ 520 from the University of Arizona, Foreign Travel Grant Program. The Conference Committee covered the expenses in Japan for one week.

Elected to the Fellow Rank of American Society of Civil Engineers, March 1999.

Delivered an invited lecture on “Fractured Media” at the American Rock Mechanics Association Forum on New Research Directions in Rock Mechanics, which was held in Asilomar, California, October 1998.

Delivered an invited keynote lecture at the Int. Conf. on Geomechanics/Ground Control in Mining & Underground Construction, which was held in Wollongong, Australia, July 1998. Received a travel grant in the amount of US$ 700 from the University of Arizona, Foreign Travel Grant Program. The Conference Committee covered the expenses in Australia.

Served as the invited General Reporter and the Session Chairman for the session entitled “Numerical Modeling-Part B” at the 3rd North American Rock Mechanics Conference, which was held in Cancun, Mexico, June 1998.

Served on an NSF panel to review research proposals, 1996.

Delivered invited lectures at the Int. Conf. on Geomechanics ‘96, which was held in Ostrava, Czech Republic, Sept. 1996. Received a travel grant in the amount of US $600 from the University of Arizona, Foreign Travel Grant Program.

Delivered an invited lecture on “Validating Rock Mass Structure Assumptions” at the Rock Engineering Systems Workshop associated with the 8th ISRM Congress, which was held in Tokyo in Sept. 1995.

Delivered an invited lecture on “Geomechanical Modelling of Discontinuous Rock” at a Geomechanical Research Meeting held in Tokyo in Nov. 1994. Japanese Institute for Systems Research covered all expenses and also provided an honorarium.

Delivered an invited lecture on “A New Peak Shear Strength Criterion for Rock Joints which Includes Fractal Parameters as Roughness Measures” at the Symp. on Fractal Fracture Mechanics, which was held in Tokyo, Japan, in Nov. 1994. The conference committee covered all expenses.

Delivered an invited lecture on “State-of-the-art on Fracture Network Modeling” at the Workshop on Rock Fracture Mechanics and Fractals, which was held in Tokyo, Japan in Nov. 1994. The conference committee covered all expenses.

Delivered an invited lecture on "Geomechanical Modelling in Jointed Rock,” at the Geomechanics Colloquium, 1994, which was held in Salzburg, Austria, Oct. 1994. The conference committee will cover all the expenses.

Served as the invited external examiner for the dissertation entitled "Geotechnical and Statistical Estimation of Slope Stability" which was completed at the Indian School of Mines, Dhandbad, India, in 1994.

Delivered an invited lecture on "scale effects on rock masses with respect to deformability" at the Int. Conf. on Geomechanics '93, which was held in the Czech Republic, Sept. 1993. Received a travel grant in the amount of US$700 from the University of Arizona, Foreign Travel Grant Program. The conference committee covered all expenses in the Czech Republic.

Delivered an invited lecture on "Probabilistic Groundwater Level Mapping" at University of Sonora, Mexico in June 1993. University of Sonora covered all the expenses.

Delivered an invited lecture at the Int. Conf. on Probabilistic Methods in Geotechnical Engineering which was held in Canberra, Australia in Feb. 1993. Received a travel grant in the amount of US$650 from the University of Arizona, Foreign Travel Grant Program. The Conference committee provided AS$580 as a travel grant.

Delivered an invited lecture at the Third National Conference on Open Pit Mining, which was held in Hermosillo, Mexico in November 1992. The conference committee covered all the expenses.

Delivered two invited lectures at the International Seminar on Numerical Methods in Geomechanics which was held in Moscow, Russia in March 1992. The conference committee covered all the expenses in Russia.

Delivered an invited main lecture on "Joint Network Modelling and Some Scale Effects in Rock Masses" at the Int. Conf. on Geomechanics '91 which was held in Ostrava, Czechoslovakia in Sept. '91. Received a foreign travel grant in the amount of $1,000 from the University of Arizona, Foreign Travel Grant Program. The conference committee covered all the expenses in Czechoslovakia.

Delivered invited lectures on "Fracture Network Modelling" and Effect of Fractures on Strength and Deformability of Rock Masses" at Exxon Production Research Company, Houston, Texas, in Dec. 1990. Exxon covered all expenses.

Appeared as an invited external examiner for the dissertation entitled "Numerical Modelling of Jointed Rock Masses by Distinct Element Method for Two and Three-dimensional Problems," defended at Lulea University of Technology, Sweden Nov. 1990. Lulea University of Technology covered all the expenses and also provided an Honorarium.

Delivered an invited lecture on "Fracture Network Modeling in Three Dimensions", at the Int. Symp. on Advances in Geological Engineering, Beijing, China, Aug. 1990. Received a foreign travel grant in the amount of $600 from The University of Arizona, Foreign Travel Grant Program. The conference committee covered all the expenses in China.

Delivered an invited lecture on "Stochastic Three Dimensional Joint Geometry Modelling Including a Verification to an Area in Stripa Mine, Sweden", at Delft University of Technology, Netherlands, and at Koninklijke/Shell Exploratie en Produktie Laboratorium, Netherlands, May 1990. Shell covered all the expenses.

Delivered a special lecture on "Stochastic Three Dimensional Joint Geometry Modelling Including a Verification to an Area in Stripa Mine, Sweden," at the International conference on Mechanics of Jointed and Faulted Rock, Vienna, Austria, Apr. 1990.

Delivered an invited special lecture on "Stochastic Three Dimensional Fracture Network Modelling Including a Verification," at the International Symposium on Underground Excavations in Soils and Rocks, Bangkok, Thailand, Nov. 1989. Received a foreign travel grant in the amount of $450 from The University of Arizona, Foreign Travel Grant Program.

Delivered lectures at Royal institute of Technology, Stockholm and Chalmers University, Goteborg in 1989 through Swedish Natural Science Research Council's sponsoring.

Delivered an invited special lecture on "Stochastic Joint Geometry Modeling" at the First Mexican Symposium on Rock Mechanics Applied to Mining, Sonora, Mexico, March 1989. University of Sonora covered all the expenses.

Received nomination from at least four well known researchers in geotechnical engineering from four different countries for 1988 Casagrande Award.

Delivered an invited lecture on "Stochastic Joint Geometry Modeling" at the Workshop on "Crustal Fracturing and Seismicity and Their Impact on Rock Stress and Groundwater Flow", Goteborg, Sweden, November 1988. The workshop committee covered al the expenses.

Invited to present a paper entitled "State-of-the-Art on Stochastic Joint Geometry Modeling" at the International Symposium on "Reliability Based Design in Civil Engineering", Lausanne, Switzerland, July 1988. Norwegian Geotechnical Institute covered all the expenses.

Received a Research Fellowship from the Royal Norwegian council for Scientific and Industrial Research to perform research on the topic "Reducing Uncertainties Related to Offshore Geotechnical Engineering" at the Norwegian Geotechnical Institute, June 1988 - November 1988.

Invited to present a lecture entitled "Estimation of Strength and Deformation Parameters of Discontinuous Rock", by Mining Engineering Department at the University of Sonora, Mexico, May 1988. University of Sonora covered al the expenses.

Invited to Participate as a Panel Member in the specialty session on the "Applications of Statistics in Penetration Testing", at the First International Symposium on Penetration Testing, Orlando, Florida, March 1988.

Invited to present a paper entitled "A Computer Simulation Technique to Study Probability of Detection of Geologic Targets", at the 20th International Symposium on Application of Computers and Mathematics in the Mineral Industry, Johannesburg, South Africa, October 1987. The conference committee covered all the expenses.

Received nomination from the Awards and Executive Committee of ASCE for an ASCE award for my ASCE, Journal of Geotechnical Engineering, July 1985 paper.

Exxon Educational Foundation Award, 1982 through 1985.

Phi Kappa Phi Honor Society membership, 1980

Recipient of a Scholarship from University of Calgary to pursue a Ph.D. in Geotechnical Engineering at the University of Calgary, March 1978.

Recipient of one of five French Government Scholarships to pursue a Ph.D. in Geotechnical Engineering in France, March 1978.

Canadian Government Scholarship to pursue a Master's degree in Soil Engineering at the Asian Institute of Technology, Bangkok, Thailand, Aug. 1976.

Rupesinghe Memorial Scholarship - for being among the top five at the scholarship examination at grade 11, high school, Sri Lanka, 1970

Jathika Navodaya Scholarship - for being among the top twenty five students in the nation at the G.C.E. (Ord. Level) Examination, Sri Lanka, 1969.

MEMBERSHIPS OF SCIENTIFIC AND PROFESSIONAL SOCIETIES

Founding member, American Rock Mechanics Association
International Society for Rock Mechanics
International Association for Civil Engineering Reliability and Risk Analysis
International Society for Soil Mechanics and Foundation Engineering
International Association for Mathematical Geology
American Society of Civil Engineers
American Society for Testing and Materials
American Society of Mining Engineers
Associate Member, Institute of Civil Engineers, London, 1977-1982

SERVICE

Intramural:

Invited member, Institutional Review Committee, University of Arizona, September 2012 through August 2015.
One of the two faculty members responsible in running the undergraduate Geological Engineering Program, since Aug. 2004
Served on the College Sabbatical Leave Committee, Aug. 2005—Aug. 2006.
Faculty Advisor for the Association of Sri Lankans at the University of Arizona, Aug. 2005-- Aug. 2007.
Prepared ABET document (with another faculty member) for the undergraduate Geological Engineering program, 2004.
Served as the Chair of the Department Faculty Status (Promotion and Tenure) Committee, 2002.
Served as the Chair of the Faculty Search Committee on a Geological Engineering Faculty Position, 2001-2002.
Served on the College Promotion and Tenure Committee, 2000-2001.
Served on the College Committee on Graduate Studies, 2000-2004.

Served on the University Committee on Graduate Studies, 1991-2004.
Contributed in preparing ABET document for Geological Engineering program, 1999.
Served on the Department Committee for faculty merit evaluation, 1984, 1985, 1991, and 1992-2002.
Served on the College Advisory Committee, 1989-93.
Provided input to the Dept. Head in preparing the PAIP document, 1993.
Took an active role in the undergraduate recruiting program at the Dept. open house held in 1993.
Served on the College Ad Hoc Budget Advisory Committee, 1992.
Contributed in preparing ABET document for Geological Engineering program, 1992.
Revised GUIDE TO GRADUATE STUDY for the Department of Mining and Geological Engineering, 1987.
Served on the Department Committee for upgrading the Geological Engineering undergraduate curriculum,1986.
A student advisor at the Univ. of Arizona for the Regional Academic Mobility Exchange Program organized by the Institute of International Education for Engineering Students in Canada, Mexico and the United States.

Extramural:

Delivered a lecture on "Required Data and Computational Techniques to Investigate Deformation and Stability around Underground Mine Excavations in Three Dimensions" at the Vale Mining Company, Sudbury, Canada, November 2014.
Delivered a lecture on "Required Data and Computational Techniques to Investigate Deformation and Stability around Underground Mine Excavations in Three Dimensions" at the Center for Excellence in Mining Innovation, Sudbury, Canada, November 2014.
Delivered a lecture on "Required Data and Computational Techniques to Investigate Deformation and Stability around Underground Mine Excavations in Three Dimensions" at the Glencore Mining Company, Sudbury, Canada, November 2014.
Delivered a lecture on "Required Data and Computational Techniques to Investigate Deformation and Stability around Underground Mine Excavations in Three Dimensions" at the Barrick mining Company, Elko, Nevada, December 2014.
Delivered a lecture on "Deterministic and Probabilistic block theory analysis for a US open pit mine" at the Barrick mining Company, Elko, Nevada, December 2014.
Delivered a lecture on "Three-dimensional slope stability analysis for a US open pit mine" at the Barrick mining Company, Elko, Nevada, December 2014.
Delivered a lecture on "Required Data and Computational Techniques to Investigate Deformation and Stability around Underground Mine Excavations in Three Dimensions" at the Newmont mining Company, Elko, Nevada, December 2014.
Conference Chair, International Conference on Rock Joints and Jointed Rock Masses, Tucson, Arizona, USA, January 4-11, 2009.
Technical Program Chair and Co-Chair of the Sri Lankan Geotechnical Society's First International Conference on Soil and Rock Engineering, Colombo, Sri Lanka, August 7-11, 2007.
Research proposal reviewer for the National Science Foundation in the area of Geo- Mechanics and Geotechnical Engineering.
Research proposal reviewer for the National Science Foundation for International Programs and SBIR
Research proposal reviewer for Department of Energy
Research proposal reviewer for Petroleum Research Fund of American Chemical Society
Research proposal reviewer for Ohio Supercomputer Center
Research proposal reviewer for Australian Research Grants Council.
Research proposal reviewer for Hong Kong Research Grants Council
Research proposal reviewer for Turkish Research Grants Council
Research proposal reviewer for United Arab Emirates Research Grants Council
Research proposal reviewer for International Science Foundation.
Research paper reviewer for Int. Jour. of Rock Mechanics and Mining Sciences
Research paper reviewer for Int. Jour. of Geotechnical and Geological Engineering
Research paper reviewer for Tunneling and Underground Space Technology
Research paper reviewer for ASCE, Jour. of Geotechnical Engineering
Research paper reviewer for Canadian Geotechnical Engineering journal
Research paper reviewer for Rock Mechanics & Rock Engineering
Research paper reviewer for Int. J. Engineering Geology
Research paper reviewer for Int. J. on Computers and Geotechnics
Research paper reviewer for ASCE, Journal of Engineering Mechanics

Research paper reviewer for Int. Jour. for Numerical and Analytical Methods in Geomechanics
Research paper reviewer for ASCE, Int. Journal of Geomechanics
Research paper reviewer for Geotechnique
Research paper reviewer for Int. J. Solids & Structures
Research paper reviewer for Int. J. on Computers and Geosciences
Research paper reviewer for Korean Nuclear Journal
Research paper reviewer for Jour. of Hydrology
Research paper reviewer for Mining Technology
Research paper reviewer for Jour. of Geophysical Research
Research paper reviewer for Soils and Foundations
Research paper reviewer for SpringerPlus
Research paper reviewer for Surface Review and Letters
Research paper reviewer for Arabian Journal of Geosciences
Research paper reviewer for Iranian Jour. of Science & Technology
Research paper reviewer for Transportation Research Board of National Research Council
Research paper reviewer for Mining Engineering Magazine
Research paper reviewer for the Bulletin of the Faculty of Earth Sciences - Saudi Arabia
Research paper abstract reviewer for 41st US Rock Mechanics Symposium, Golden, Colorado, June 2006.
Research paper reviewer for 40th US Rock Mechanics Symposium, Anchorage, Alaska, June 2005
Research paper abstract reviewer for 40th US Rock Mechanics Symposium, Anchorage, Alaska, June 2005
Research paper reviewer for Soil Rock America Conference, MIT, June 2003.
Research paper abstract reviewer (18 abstracts) for Soil Rock America Conference, MIT, June 2003.
Research paper abstract reviewer for 5th North American Rock Mechanics Conference, Toronto, July 2002.
Research paper reviewer for 2001 ASSMR Conference, Alberquerque, New Mexico.
Research paper reviewer for 38th US Rock Mechanics Symposium, Washington, D.C., July 2001
Research paper reviewer for the Rock Mechanics Session, Geo Denver Conf., January 2000.
Research paper reviewer for 2000 ASSMR Conference, Tampa, Florida.
Research paper abstract reviewer for 38th US Rock Mechanics Symposium, Washington, D.C., July 2001.
Research paper abstract reviewer for 37th US Rock Mechanics Symposium, Vail, Colorado, June 1999.
Research paper reviewer for 1999 ASSMR Conference, Scottsdale, Arizona.
Research paper reviewer for 1998 ASSMR Conference, St. Louis, Missouri.
Research paper reviewer for 1997 ASSMR Conference, Austin, Texas.
Research paper reviewer for 2nd North American Rock Mechanics Symposium, Montreal, Canada, June 1996.
Research paper reviewer for 1996 ASSMR Conference, Knoxville, Tennessee.
Research paper reviewer for 1996 Conference on Uncertainty in the Geologic Environment: From Theory to practice, Madison, Wisconsin, August 1996.
Research paper reviewer (22 papers) for 35th U.S. Symp. on Rock Mechanics, Lake Tahoe, June 1995.
Research paper reviewer (30 papers) for First North American Rock Mechanics Symposium, Austin,Texas, June 1994.
Research paper reviewer for Int. Conf. on Geomechanics '93, Czech Republic, Sept. 1993.
Research paper reviewer for Int. Conf. on Fractured and Jointed Rock Masses, Lake Tahoe, CA, June 1992.
Research paper reviewer for Int. Conf. on Geomechanics '91, Ostrava, Czechoslovakia, Sept. 1991..
Research paper abstract reviewer for 30th U.S. Symp. on Rock Mechanics, 1989.
Examiner for the Professional Engineering exam in Geological Engineering conducted by the Arizona State Board of Technical Registration (since 1985).
Chair, Southern Arizona Branch, ASCE Geo-Institute
Head of Committee on Stability, Erosion Control, and Damage Mitigation of Mine Slopes of the Geotechnical Engrg. Div. of the Am. Soc. of Surface Mining and Reclamation.
Committee member of the Rock Mechanics Committee of ASCE, Geo-Institute.
Core Member, TC41 Committee of ISSMGE-Geotechnical Infrastructure for Mega Cities and New Capitals
Member, National Academies Transportation Research Board Committee on Soil and Rock Properties, A2L02, Section L-Geology and Properties of Earth Material, Feb. 1, 2003 through Jan. 31, 2006.
Member, National Academies Transportation Research Board Committee on Modelling Techniques in Geomechanics, AFS50, Section K- Soil Mechanics, Feb. 11, 2003 through April 14, 2008.
Member in ASCE Geotechnical Risk Assessment and Management Committee.
Former committee member in ASCE, EMD Division Properties of Materials Committee.
Member of Organizing Committee, EUROCK Conference, Czech Republic, 2005.

Member of Organizing Committee, 40th US Rock Mechanics Symposium, Anchorage Alaska, 2005.

Chairman of the Short Course Committee, 40th US Rock Mechanics Symposium, Anchorage, Alaska, 2005.

Member of the Int. Committee for the Int. Conf. on Geomechanics/Ground Control in Mining & Underground construction, Wollongong, Australia, July 1998.

Member of the International Committee for the International Conference on Geomechanics '96, which was held in Ostrava, Czech Republic, Sept. 1996.

Member of the Technical Program Committee for the 2nd North American Rock Mechs. Symp., which was held in Montreal, Canada, June 1996.

A member on the International Committee for the International Conference on Geomechanics '93, Ostrava, Czech Republic, Sept. 1993.

A member in the International Committee for International Conference on Geomechanics 91, Ostrava, Czechoslovakia, Sept. 1991.

Panel Member in the specialty session on the "Application of Statistics in Penetration Testing", at the First Int. Symp. on Penetration Testing, Orlando, Florida, March 1988.

Session Chair, International Conference on Geo-mechanics, Geo-energy and Geo-resources – September 28 – 29, 2016, Melbourne, Australia.

Session Chair, 4th Itasca Conference, Lima, Peru, March 2016.

Session Chair, 12th ICADD Conference, 12th ICADD Conference, Wuhan, China, Oct. 19, 2015.

Session Chair, Symposium on "Explosives & Blasting Techniques for Mining, Quarrying & Infrastructure Industry", Mangalore, India, Feb. 2011.

Session Chair, "Rock Mechanics: Open pit and Underground Mining I & II", 2011 SME Conference, Denver, Colorado, Feb.-March 2011.

Session Chairman, 9th ICADD Conference on Analysis of Discontinuous Deformation, Singapore, November 25-27, 2009.

Session Chairman, 8th North American Workshop on Applications of Physics of Porous Media, Ensenada, Baja California, Mexico, October 9-12, 2009.

Session Chairman, ISRM International Symposium 2008, 5th Asian Rock Mechanics Symposium, Tehran, Iran, November 2008.

Invited Session Chairman, 41st US Rock Mechanics Symposium, Golden Colorado, June 2006.

Session Chairman for the session on "Probabilistic Approaches in Rock Engineering", 40th US Rock Mechanics Symposium, Anchorage, Alaska, June 2005.

Session Chairman, International Geotechnical Symposium on Geotechnical Aspects of Natural and Man-Made Disasters, Astana, Kazakhstan, June 1-3, 2005.

Session Chairman for the session on "Fluid Flow", 5th International Workshop on Application of Physics in Porous Media, Puerto Vallarta, Mexico, Nov. 7-11, 2003.

Session Chairman for the session on "Rock Mechanics", 4th International Workshop on Applications of Computational Mechanics in Geotechnical Engineering, Ouro Preto, Brazil, August 2003.

Session Chairman for the session on "Block Theory and Applications", 5th NARMS, Toronto, Canada, July 2002.

Session Chairman for the session on Characterization of Joints and Fractures I at the 38th US Rock Mech. Symp., Washington D.C., July 2001.

Session Chairman for the session on Joint Characterization at the 37th US Symp. On Rock Mech., Vail, Colorado, June 1999.

Session Chairman for 1999 ASSMR Conference, Scottsdale, Arizona.

Session Chairman for Numerical Modeling at the 3rd North American Rock Mech. Conf., Cancun, Mexico, June-July 1998.

Session Co-Chairman for 36th U.S. Symp. on Rock Mechanics, New York, June 1997.

Session Chairman for 1996 ASCE Convention, Washington, D.C. Nov. 1996.

Session Co-Chairman for Prager Symposium, Phoenix, Arizona, Oct. 1996.

Session Chairman for Geomechanics '96, Ostrava, Czech Republic, Sept. 1996.

Session Co-Chairman for 2nd North American Rock Mech. Symposium Montreal, Canada, June 1996.

Session Chairman for 1996 ASSMR Conf., Knoxville, Tennessee, May 1996.

Session Chairman for 35th U.S. Symp. on Rock Mechanics, Lake Tahoe, June 1995.

Organizer and Chairman for two sessions on "Uncertainty Evaluations in Geo-Engineering" which were completed for the 10th ASCE Engineering Mechanics Specialty Conference, held in Boulder, Colorado, May 1995.

Organizer and Chairman for a session on "Uncertainty Evaluations on Rock Mechanics and Rock Engineering" for the First North American Rock Mechanics Symposium, which was held in Austin, Texas, June 1994.

Session Co-chairman - 34th U.S. Symp. on Rock Mechanics, Madison, Wisconsin, June 1993.
Session Chairman - Int. Conf. on Assessment and Prevention of Failure Phenomena in Rock Engineering, Istanbul, Turkey, April 1993.
Session Co-chairman - Int. Conf. on Fractured and Jointed Rock Masses, Lake Tahoe, CA, June 1992.
Session Chairman - Int. Conf. on Geomechanics '91, Ostrava, Czechoslovakia, Sept. 1991.
Session Chairman - International Conference on Mechanics of Jointed and Faulted Rock, Vienna, Austria, Apr. 1990.
Session Co-chairman - 28th U.S. Symp. on Rock Mechanics, 1987.
Delivered a lecture on "Fracture Network Modelling Including Validations" at Energy and Resources Labs., ITRI, Taiwan, Nov. 1994. ITRI provided an honorarium for the lecture.
Presented a paper at the Second Int. Workshop on Scale Effects in Rock Masses, Lisbon, Portugal, June 1993. The workshop committee covered most of the expenses.
Delivered lectures on the following topics at the ASME Symposium on Probabilistic Structural Analysis Methods in Geomechanics, Columbus, Ohio, June 1991.
(a) A Probabilistic Vector Approach to Correct Sampling Bias on Rock Joint Orientation
(b) Application of Probabilistic & Statist. Methods to Joint Network Modeling & Verification in Rock Masses
(c) Potentiometric Surface Mapping of the Wolfcamp Aquifer in the Palo Duro Basin Texas
(d) Probabilistic Equivalent Linear Soil Spring Stiffness Analysis for Deepwater Gravity Platforms
Delivered lectures at Ecole des Mines, Nancy, France, May 1991. Ecole des Mines covered the expenses.
Delivered lectures at Spokane Research Center, Bureau of Mines, Spokane, Washington, Feb. 1991. Spokane Research Center covered the expenses.
Delivered lectures at Inst. for Found. Engrg., Soil Mechanics, Rock Mechanics and Waterways Construction, Aachen, Germany, 1990. The Institute in Germany covered the expenses.
Delivered lectures at the Norwegian Institute of Technology (NIT), Norway, 1989. NIT covered the expenses.
Delivered lectures at JMC Geothermal Engineering Co., Japan, Nov. 1995. JMC covered the expenses.
Delivered lectures at Texaco, Inc., Houston, TX, Dec. 1995. Texaco covered the expenses and also provided an honorarium.

Outreach:

1. Taught a 2-day short course on "Rock Slope Stability Analyses" at China University of Mining & Technology, Beijing, China, December 16-17, 2010.
2. Taught a 2-day short course on "Rock Fracture Geometry Network Modeling, Including Validations" in Lima, Peru, July 19-20, 2010.
3. Taught a 2-day short course on "Rock Slope Stability Analyses" in Lima, Peru, July 21-22, 2010.
4. Taught a 2-day short course on "Block Theory and Applications for Surficial and Underground Excavations" in Lima, Peru, July 23-24, 2010.
5. Taught a 1-day short course on "Measurement and Quantification of Rock Joint Roughness and Aperture" in Lima, Peru, July 25, 2010.
6. Taught a 2-day short course on "Rock Fracture Geometry Network Modeling, Including Validations" in Milan, Italy, June 28-29, 2010.
7. Taught a 1-day short course on "Measurement and Quantification of Rock Joint Roughness and Aperture" in Milan, Italy, June 30, 2010.
8. Taught a 2-day short course on "Rock Fracture Geometry Network Modeling, Including Validations" at Nanjing University, Nanjing, China, June 21-22, 2010.
9. Taught a 2-day short course on "Rock Fracture Geometry Network Modeling, Including Validations" at China University of Geosciences, Beijing, China, June 12-13, 2010.
10. Taught a 2-day short course on "Block Theory and Applications for Surficial and Underground Excavations" at Tongji University, Shanghai, China, June 6-7, 2010.
11. Taught a 2-day short course on "Rock Fracture Geometry Network Modeling, Including Validations" in Tucson, Arizona, USA, March 14-15, 2010.
12. Taught a 1-day short course on "Measurement and Quantification of Rock Joint Roughness and Aperture" in Tucson, Arizona, USA, March 16, 2010.
13. Taught a 2-day short course on "Rock Slope Stability Analyses" in Tucson, Arizona, USA, March 17-18, 2010.

14. Taught a 2-day short course on “Block Theory and Applications for Surficial and Underground Excavations” in Tucson, Arizona, USA, March 19-20, 2010.
15. Taught a 2-day short course on “Rock Fracture Geometry Network Modeling, Including Validations” in Calama, Chile, December 16-17, 2009.
16. Taught a 1-day short course on “Measurement and Quantification of Rock Joint Roughness and Aperture” in Calama, Chile, December 18, 2009.
17. Taught a 2-day short course on “Rock Slope Stability Analyses” in Calama, Chile, December 19-20, 2009.
18. Taught a 2-day short course on “Block Theory and Applications for Surficial and Underground Excavations” in Calama, Chile, December 21-22, 2009.
19. Taught a 2-day short course on “Rock Fracture Geometry Network Modeling, Including Validations” in Brisbane, Australia, July 20-21, 2009.
20. Taught a 2-day short course on “Rock Slope Stability Analyses” in Brisbane, Australia, July 22-23, 2009.
21. Taught a 2-day short course on “Block Theory and Applications for Surficial and Underground Excavations” in Brisbane, Australia, July 24-25, 2009.
22. Taught a 1-day short course on “Measurement and Quantification of Rock Joint Roughness and Aperture” in Brisbane, Australia, July 26, 2009.
23. Taught a one-day post-conference short course on “Measurement and Quantification of Rock Joint Roughness and Aperture” at the 43rd US Symposium on Rock Mechanics, Asheville, North Carolina, July 2, 2009.
24. Taught a one and a half-day pre-conference short course on “Rock Slope Stability Analysis” at the International Conference on Rock Joints and Jointed Rock Masses, Tucson, Arizona, USA, January 4-5, 2009.
25. Taught a one and a half-day pre-conference short course on “Block Theory and Applications for Surficial and Underground Excavations” at the International Conference on Rock Joints and Jointed Rock Masses, Tucson, Arizona, USA, January 5-6, 2009.
26. Taught a pre-conference short course on Rock Fracture Geometry Network Modeling in 3-D to Study Mechanical and Hydraulic Behavior of Rock Masses”, at the ISRM International Symposium 2008, 5th Asian Rock Mechanics Symposium, Tehran, Iran, November 22-23, 2008.
27. Taught a 2-day pre-conference short course on “Block Theory and Applications for Surficial and Underground Excavations”, at the 42nd US Symposium on Rock Mechanics, San Francisco, California, June 28-29, 2008.
28. Taught a 3-day short course on “Stereographic Projections, Applications of Kinematic, Block Theory and Limit Equilibrium Analyses to Surficial and Underground Rock Excavations” in Cairo, Egypt, March 17-19, 2008.
29. Taught a one-day short course on “Rock Fracture Geometry Network Modeling, Including Validations” in Cairo, Egypt, March 20, 2008.
30. Taught a 3-day short course on “Rock Fracture Geometry Network Modeling, Including Validations” in Vienna, Austria, December 10-12, 2007.
31. Taught a 3-day short course on “Stereographic Projections, Applications of Kinematic, Block Theory and Limit Equilibrium Analyses to Surficial and Underground Rock Excavations” in Vienna, Austria, December 13-15, 2007.
32. Taught a one and a half-day pre-conference short course on “Rock Slope Stability Analysis” at the Sri Lankan Geotechnical Society’s First International Conference on Soil & Rock Engineering, Colombo, Sri Lanka, August 5-6, 2007.
33. Taught a 3-day short course on “Stereographic Projections, Applications of Kinematic, Block Theory and Limit Equilibrium Analyses to Surficial and Underground Rock Excavations”, Tucson, Arizona, December 2006.
34. Taught a 2-day pre-conference short course on “Block Theory and Applications for Surficial and Underground Excavations”, at the 41st US Symposium on Rock Mechanics, Golden Colorado, June 17-18, 2006.
35. Taught a 3-day short course on “Rock Fracture Geometry Network Modeling, Including Validations” in Vienna, Austria, March 30- April 1, 2006.
36. Taught a 3-day short course on “Stereographic Projections, Applications of Kinematic, Block Theory and Limit Equilibrium Analyses to Surficial and Underground Rock Excavations” in Vienna, Austria, April 3-5, 2006.
37. Taught a 3-day short course on “Stereographic Projections, Applications of Kinematic, Block Theory and Limit Equilibrium Analyses to Surficial and Underground Rock Excavations”, Seoul, Korea, January. 2006.

38. Taught a 3-day short course on “Rock Fracture Geometry Network Modeling, Including Validations”, Seoul,.Korea, January 2006.
39. Taught a 3-day short course on “Stereographic Projections, Applications of Kinematic, Block Theory and Limit Equilibrium Analyses to Surficial and Underground Rock Excavations”, Brisbane, Australia, July. 2005.
40. Taught a 2-day short course on “Rock Slope Stability Analyses”, at Hong Kong University of Science & Technology, Hong Kong, Dec. 2001.
41. Taught a 1-day short course on “Rock Joint Network Modelling, Including Validations”, at the EUROCK Conference 2001, Hensinki, Finland, June 2001.
42. Taught a 2-day short course on “Applications of Kinematic Analysis and Block Theory for Surficial and Underground Excavations”, in Vancouver, British Columbia, Canada, Dec. 99.
43. Taught a 3-day short course on “Rock Joint Network Modelling, Including Validations”, at Royal Institute of Technology, Stockholm, Sweden, Nov.,’99.
44. Taught a 1-day short course on “Rock Joint Network Modelling, Including Validations”, at the Hong Kong Polytechnic University, Hong Kong, July ’99.
45. Taught a 3-day short course on “Rock Joint Network Modelling, Including Validations and Applications of Kinematic Analysis and Block Theory for Surficial Excavations” in Gliwice, Poland, October 1998.
46. Taught a 2-day short course on ”Rock Joint Network Modelling, Including Validations and Applications of Block Theory for Surficial and Underground Excavations” at the 3rd NARMS, Cancun, Mexico, June l998.
47. Taught a 3-day short course on “Applications of stereographic Projections and Block Theory for Surficial and Underground Excavations,” at the Hong Kong Polytechnic University, Hong Kong, March 1998.
48. Taught a 3 ½ day short course on “Rock Joint Network Modelling Including Validations and Applications of Kinematic Analysis and Block Theory for Surficial Excavations,” at the Hong Kong Polytechnic University, Hong Kong, July 1996.
49. Taught a short course on “Geomechanical Modelling” with two other instructors at the 2nd NARMS, Montreal, Canada, June 1996.
50. Taught a 5 day short course on “Fracture Network Modelling Including Validations” at Graz Univ. of Tech., Austria, Oct. 1994.
51. Taught a 5 day short course on "Stochastic Fracture Network Modelling Including Validations" at the University of Sonora, Hermosillo, Mexico, July 1993.
52. Taught a 5-day short-course on "Fracture Network Modelling and Validations" at Royal Institute of Technology, Stockholm, Sweden, June 1991.