

2006 SME-Pittsburgh Section Distinguished Member Award

H. Reginald Hardy, Jr., Ph. D.

Dr. H. Reginald Hardy, Jr. is a Professor Emeritus of Mining Engineering. He is the former Director, Pennsylvania Mining and Mineral Resources Research Institute, Chairman of the Geomechanics Section, and Manager of the Penn State Rock Mechanics Laboratory, in the Department of Energy & GeoEnvironmental Engineering at the Pennsylvania State University.

He received a Bachelor of Science degree from McGill University, a Masters degree from the University of Ottawa, both in Physics, and a Doctoral degree in Engineering Mechanics from the Virginia Polytechnic Institute. He joined the faculty at Penn State in 1966 following 13 years with the Mining Research section, Fuels Division, Canadian Department of Energy, Mines & Resources in Ottawa.

Dr. Hardy's area of specialization is Rock Mechanics. Here his interests have included surface subsidence, rock bursts, coal outbursts, slope stability, underground gas storage, detection of water-filled underground voids, and the mechanical behavior of rock and coal. He has developed and taught a number of rock mechanics courses, carried out extensive field and laboratory research, and consulted widely on behalf of government and industry in the USA, Canada, and overseas. He has been a Visiting Research Fellow in the Mining Engineering Department, University of Nottingham and Imperial College, England, a Visiting Professor in the Geophysics Institute, Ruhr University, Germany, a DGF Visiting Professor at the University of Aachen, Germany, and a Senior Visiting Fellow, Japanese Society for Promotion of Science, in the Electrical Engineering Department, Tohoku University, Sendai, Japan.

During the past 40 years, one of Dr Hardy's major areas of research has been the application of acoustic emission/microseismic (AE/MS) techniques to the geotechnical field. During this period he has carried out a number of major field and laboratory research projects for the former U.S. Bureau of Mines, the American Gas Association, the IBM Corporation, the Federal Aviation Administration, and the Pennsylvania Department of Highways. He has consulted in the AE/MS



area for a number of major companies including Rockwell International, Raymond Kaiser Engineers, Pittsburgh Glass Company, and Kalium Chemicals. He has presented short courses on AE/MS techniques in the USA, and abroad.

In 1975 Dr. Hardy organized the "First Conference on Acoustic Emission/Microseismic Activity in Geologic Structures and Materials", which was held at Penn State. The sixth conference of this series was held in 1996. He is presently on the editorial review committee of the Journal of Acoustic Emission. Dr. Hardy was the recipient of the C.A. Hogentogler Award presented by the ASTM committee D-18 on Rock and Soil for Engineering Purposes. He is a Fellow of the Acoustic Emission Working Group (AEWG), and has received the AEWG Achievement and Gold Medal Awards for "Pioneering work in the geologic applications of acoustic emission".

Dr. Hardy's second major research interest has been the investigation of the underground storage of natural gas. His work in this area was supported for some 16 years by the American Gas Association. In 1983 Dr. Hardy organized the "First Conference on the Mechanical Behavior of Salt" which was held at Penn State. Subsequent conferences in this series were held in Germany, Canada, France and Romania,

During his tenure at Penn State, Dr. Hardy has directed some 40 Ph.D. and Masters students, published over 60 research papers in geotechnical and mining journals, four technical monographs, and 11 conference proceedings. At present he working on volume 2 of a two-volume book on the theory and applications of AE/MS techniques. He is a member of AIME, ASTM, Canadian Association of Physicists, American Geophysical Union, and the American Society of Non-destructive Testing. Dr. Hardy has been listed in Who's Who in America, in American Education, in Science and Engineering and recently in Who's Who in the World. He is the recipient of the ASTM Richard L. Templin award for his paper "A loading System for the Investigation of Inelastic Properties of Geologic Materials" and the College of Earth and Mineral Sciences Matthew J. and Anne C. Wilson Outstanding Teaching Award.