Huanchun Zhu ITASCA

Geomechanics, Engineering Geology, Hydrogeology, Geotechnical Engineering

Expertise Rock Mechanics, Geomechanics Instrumentation, Numerical Modeling, Site Investigation

Education

Ph.D. (Engineering), 1993
M.Sc. (Geotechnical Engineering), 1990
Wuhan University of Hydraulic and Electric Engineering, China

B.Sc. (Hydrology and Engineering Geology), 1985
Hehai University, Nanjing, China

Professional Affiliations

Executive Member, Hubei Geology Society, Hubei, China
Member, Chinese Rock Mechanics Association

Honors/Awards

Core Faculty Member, Ministry of Education of China, 2001
Leading Scholar, Hubei Province, China, 2000

Professional Experience

2011 - Present	*HydroChina - Itasca R&D Center, Hangzhou City, China* *General Manager, Principal*
2006 – Present	*Itasca Consulting China, Ltd., Wuhan City, China* *General Manager, Principal Engineer*
2002 – 2006	*Itasca Consulting Canada Inc., Sudbury, Ontario, Canada* *Senior Geomechanics Specialist*
2002 (February-June)	*Laurentian University, Geomechanics Research Centre, Visiting Scholar*
1999 – 2002	*Wuhan University, College of Hydropower Engineering, Wuhan, China* *Professor*
1995 – 1999	*Wuhan University Consulting Centre, Three Gorges Project, Yichang, China, Consulting Engineer, Deputy Director*
1993 – 1995	*Wuhan University of Hydraulic and Electric Engineering, Wuhan, China, Lecturer*
1985 – 1987	*Wuhan University of Hydraulic and Electric Engineering, Wuhan, China, Researcher*

Project Experience

Large-Scale Civil Engineering Projects: Academic research and engineering consulting projects for the development and construction of over 20 large-scale hydropower stations in China, including Three Gorges, Xiajiaba, Jinping I, Jinping II and Baihetan. These projects cover diverse academic and

engineering problems such as: strength and constitutive models of brittle rock under high stress levels; the time-dependant behavior of brittle rock; mechanisms of structure-associated failure of brittle rock; application of empirical methods to determination of rock-mass strength and geological structures; in-situ stress estimates based on site observations and numerical validation; advanced numerical modeling of the stability of both natural and cut slopes; stability assessment of large-scale cavity excavation; rockburst potential prediction and rockburst control for deep tunneling, ground-support design and assessment; on-site testing and monitoring for slope, dam abutment, dam foundation, etc.; application of advanced technology, such as 3D photogrammetric technique and GoCAD, in engineering practice.

Deep-Mining Projects: Numerical study and consulting practice for deep mines 1600 m beneath the surface in Canada, mostly in the Sudbury region, for various problems, including rockburst prediction and prevention, mining sequence, stope design assessment and pillar stability.

Engineering Geology: Geological mapping for the development of hydraulic power stations and the relocation of cities; site investigations and assessments of natural hazards such as landslides; rock-mass quality classification, electricity transmission routing, geophysical measuring, and geological structure survey and logging.

Hydrogeology: Field hydrologic and hydrogeological investigations for industrial water supplies, pumping and slugs tests; monitoring of underground water tables and piezometers with regard to rock slopes, dam foundations and rock-fill dams; water flux estimates.

Geotechnical Engineering: Rock- and soil-slope designs; planning and development of hydraulic power stations, including structure layout and feasibility assessments; treatment of unfavorable ground for civil project construction.

Teaching: Supervising doctoral candidates, and graduate and undergraduate students.