

**Short Resume for Prof. Zach Agioutantis**  
**zach.agioutantis@uky.edu**

### **Professional Preparation**

- Engineering Diploma, Department of Mining and Metallurgical Engineering, National Technical University of Athens (NTUA), Athens, Greece, 1982
- MSc, Department of Mining and Minerals Engineering, Virginia Polytechnic Institute and State University, Blacksburg (Virginia Tech), VA, USA, 1984
- Ph.D., Department of Mining and Minerals Engineering, Virginia Polytechnic Institute and State University, Blacksburg (Virginia Tech), VA, USA., 1987

### **Appointments**

- 7/2016-present Director of Graduate Studies, Department of Mining Engineering, University of Kentucky, USA
- 10/2014-present Mining Engineering Foundation Professor, Department of Mining Engineering, University of Kentucky, USA
- 9/1989-10/2014 Professor, Associate Professor, Assistant Professor, Lecturer, Department of Mineral Resources Engineering, Technical University of Crete, Greece.
- 9/2012-7/2013 On sabbatical from TUC and Visiting Professor at the Virginia Center for Coal and Energy, Virginia Polytechnic Institute and State University, USA, participating in a number of funded research projects.
- 9/2011-8/2012 and 9/2003-8/2007: Head, Department of Mineral Resources Engineering, Technical University of Crete, Greece.
- 2005-2013 Director, Engineering Geology Lab, Department of Mineral Resources Engineering, Technical University of Crete, Greece.
- 3/1993--10/2014 Director, Rock Mechanics Laboratory, Department of Mineral Resources Engineering, Technical University of Crete, Greece.
- 9/1992-10/2014 Director, Computer Laboratory, Department of Mineral Resources Engineering, Technical University of Crete, Greece.

### **Recent Journal Publications**

- Jong, E.C., Y. Peng, W.T. Bradley, K.D. Luxbacher, Z. Agioutantis, H.M. McNair, Development of a perfluoromethylcyclohexane (PMCH) permeation plug release vessel (PPRV) for tracer gas studies in underground mines, *Process Safety and Environmental Protection* 95 (2015) 136–145.
- Kamenopoulos, S.N., Z. Agioutantis and K. Komnitsas, A Framework for Sustainable Mining of REEs, Chapter 7, *Rare Earths Industry: Technological, Economic and Environmental Implications*, Ismar Borges de Lima and Walter Leal Filho, Editors, pp. 111-120, 2015.
- Kamenopoulos, S.N., D. Shields, Z. Agioutantis, Sustainable Development Criteria and Indicators for the Assessment of REE Mining Projects, Chapter 6, *Rare Earths Industry: Technological, Economic and Environmental Implications*, Ismar Borges de Lima and Walter Leal Filho, Editors, pp. 87-109, 2015.
- Pavlides, A., D. Hristopoulos, C. Roumpos, Z. Agioutantis, Spatial modeling of Lignite Energy Reserves for Exploitation Planning and Quality Control, *Energy*, 93 (2015) 1906-1917.
- Agioutantis, Z., K. Kaklis, S. Maurigiannakis, M. Verigakis, F. Vallianatos, V. Saltas, The Potential of Acoustic Emissions from Three Point Bending Tests as Rock Failure Precursors, *International Journal of Mining Science and Technology*, 26 (2016) 155–160.
- Partsinevelos, P. G. Kritikakis, N. Economou, Z. Agioutantis, A. Tripolitsiotis, S. Mertikas, A. Vafidis. Integration of seismic and image data processing towards rockfall monitoring and early warning in highways, *Natural Hazards*, doi: 10.1007/s11069-016-2462-2, pp. 1-21.

- Agioutantis, Z., C. Steiakakis, E. Apostolou, G. Papavgeri, A. Tripolitsiotis, Integrating weather and geotechnical monitoring data for ensuring the stability of large scale surface mining operations, Open Geosciences, doi: 10.1515/geo-2016-0066 (in press)
- Newman, C., Z. Agioutantis, G. Boede Jimenez Leon, Assessment of potential impacts to surface and subsurface water bodies due to longwall mining, International Journal of Mining Science and Technology, doi: 10.1016/j.ijmst.2016.11.016 (in press)
- Kamenopoulos, S., Z. Agioutantis, K. Komnitsas, A new Hybrid Decision Support Tool for evaluating the sustainability of mining projects, International Journal of Mining Science and Technology, accepted.
- Kaklis K., V. Saltas, S. Mavrigiannakis, F. Vallianatos, Z. Agioutantis, Using Acoustic Emissions to enhance Fracture Toughness Calculations for CCNBD Marble Specimens, Journal of Fracture and Structural Integrity, accepted.

### **Synergistic Activities**

- Co-authored the surface deformation calculation programs (1987-1994) included in the Surface Deformation Prediction System (S.D.P.S.) released by VPI&SU in March 1987, which was subsequently updated by version 2.7 released in June 1989 and by version 4.0 released in March 1994. Developed version, 5.0 of SDPS released in 1999. Developed version, 5.4 of SDPS released in 2003. Developed version, 5.5 of SDPS released in 2005. Developed version, 6.0 of SDPS released in 2008. Developed version, 6.1 of SDPS released in 2012.
- Development of an on-line, real time event driven database for equipment status monitoring (PET) under Windows, Public Power Corporation, Greece, 2011. Currently deployed to 3 mines under 4 SCADA systems.
- Development of ADAMAS Data Management System for Geotechnical Applications, 2012-today.
- Development of the NIOSH Ground Control Software (7 programs and a Toolbar).
- Development of free educational software (Greek and English Interface)
  - RockWin: Basic rock mechanics concepts and problem solvers
  - BlastWin: Basic surface blasting concepts and problem solvers

### **Collaborators**

- Advised more than 120 undergraduate students at the Technical University of Crete for their diploma thesis. Served as principal advisor to over 15 MSc students and 4 PhD students also at the Technical University of Crete. Advises 2 PhD and 2 MS students at UKy.

Individuals:

- Karmis, Michal, Professor, Virginia Tech
- Komnitsas, Kostas, Professor, Technical University of Greece
- Luxbacher, Kray, Associate Professor, Virginia Tech
- Mavrigiannakis, Stelios, Mining Engineer, Technical University of Greece
- Mertikas, Stelios, Professor, Technical University of Greece
- Schafric, Steven, Research Assistant Professor, Virginia Tech
- Steiakakis, Chrysanthos, Geotech Engineer, Greece
- Tripolitsiotis, Achilleas, Mineral Resources Engineer, Technical University of Greece