

Resume of Zacharias Agioutantis

Education

- 9/1984 - 11/1987 Ph.D., Department of Mining and Minerals Engineering, Virginia Polytechnic Institute and State University, Blacksburg (Virginia Tech), VA, USA. The total QCA (Quality Credit Average) averaged over 61 credits was 3.82/4.0.
- 1/1983 - 6/1984 M.S., Department of Mining and Minerals Engineering, Virginia Polytechnic Institute and State University, Blacksburg (Virginia Tech), VA, USA.
- 9/1977 - 12/1982 M.S. Diploma, Department of Mining and Metallurgical Engineering, National Technical University of Athens (NTUA), Athens, Greece (QCA was 8.35/10. Graduated first in a class of about 50).

Funded Research

- M. Karmis, Z. Agioutantis, Principal Investigators, "Software Enhancement 'Surface Deformation Prediction System' (SDPS)", OSMRE, September 1992 - December 1993, contract no EF 68-CT92-12156.
- Z. Agioutantis, Principal Investigator, "Computerization of delay and operation parameter logging at the LKP-A surface mines", Public Power Corporation, June 1993 - May 1994, contract no 1993.323/LKPA.
- M. Karmis, Z. Agioutantis, Principal Investigators, "Development of an Interactive and User-Friendly Pre-Processor for the LAMODEL Program", USBM, July - October 1996. <http://www.cdc.gov/niosh/mining/groundcontrol/>
- M. Karmis, Z. Agioutantis, Principal Investigators, "Development of Windows based analysis of longwall pillar stability (ALPS) Computer Software", NIOSH, July - October 1998.
- M. Karmis, Z. Agioutantis, Principal Investigators, "Development of Windows based analysis of Retreat Room and Pillar Mining (ARMPS) Computer Software", NIOSH, July - December 2002.
- Z. Agioutantis, Principal Investigator, "Bauxite production in Greece", Project "Diaulos", funded by the General Secretariat of Research and Technology, Greece, 1996-98.
- Z. Agioutantis, Principal Investigator, "An investigation of homogenization techniques in stockpiling of lignite", Project "YPER", funded by the General Secretariat of Research and Technology, Greece, 1998-2001.
- Z. Agioutantis, Principal Investigator, An investigation of Blasting for the foundation of a new Gym Facility in Heraclion, Crete, Oct 2002-June 2003
- Z. Agioutantis, Principal Investigator, "Stability Analysis of the outer dump failure at the South Field Mine, Ptolemais, Greece", funded by PPC, August 2004.
- Z. Agioutantis, Principal Investigator, "Verification of the final design of the Plakiotissa water dam, Crete", funded by OADYK (Organization for the development of Western Crete), 2005-2006, approx. budget 90000€
- Z. Agioutantis, Investigator, Risk assessment study at the Somika plant, Katanga province, Kongo, Contrat No 48/Copirep/SE/03/2006, funded by COPIREP, Apr. '06 - Dec. '06.
- Z. Agioutantis, Principal Investigator, "Methodology of geotechnical investigations using a combination of geological, geophysical, drilling and laboratory data", Project "PENED 2003", funded by the General Secretariat of Research and Technology, Greece, 2005-2008, approx. budget 60000€
- Z. Agioutantis, Principal Investigator, "Design of a water reservoir in Inahorio, Western Crete", funded by the Municipality of Inahorio, 2008, approx. budget 70000€
- Z. Agioutantis, Principal Investigator, "Design of a water reservoir in Zoniana, Central Crete", funded by OADYK (Organization for the development of Western Crete), 2009, approx. budget 40000€
- Z. Agioutantis, Leader of TUC Partner, "Sustainable Aggregate Management", SEE Interreg Project, funded by the EU, May 2009 - October 2011, total budget 1.8 M€, approx. budget for TUC 180000€

- Z. Agioutantis, Principal Investigator, “Development of a geotechnical database for tunnel monitoring”, funded by Istria, Dec 2009 – Dec 2010, approx. budget 19000€
- Z. Agioutantis, Principal Investigator, “Development of on-line data acquisition system for SCADA, South Field Mine, PPC”, funded by PPC (Public Power Corporation), Nov 2009-April 2011, approx. budget 40000€
- Z. Agioutantis, Principal Investigator, “Application of the on-line data acquisition system for SCADA, to two more PPC mines”, funded by PPC, April 2011-October 11, approx. budget 11000€
- Z. Agioutantis, Principal Investigator, “Design of support measures for the steep cliffs at Topolia”, Western Crete, June 2010-May 2011, approx. budget 75000€
- Z. Agioutantis, Principal Investigator, “Geological, Geophysical and Geotechnical Evaluation of limestone/schist slopes at the Mauropigi Mine, PPC”, funded by PPC, July 2011-February 2012, approx. budget 128000€
- Z. Agioutantis, Principal Investigator, “Geological, Geophysical and Geotechnical Evaluation of limestone/schist slopes at the Mauropigi Mine, PPC – phase B”, funded by PPC, December 2011-May 2012, approx. budget 34500€
- Z. Agioutantis, Principal Investigator, “Analysis of ventilation demands for the Olympias Mine, Northern Greece”, May 2011 - May 2012, approx. budget 5500€
- Z. Agioutantis, Principal Investigator, “Slope stability evaluation of marl slopes at the Mauropigi Mine, PPC”, funded by PPC, March 2012-April 2012, approx. budget 12000€
- Z. Agioutantis, Principal Investigator, “Analysis of ventilation demands for the Olympias Mine, Northern Greece - additional”, Jan 2012 – Sept 2012, approx. budget 5500€
- Z. Agioutantis, Leader of TUC Partner, “SNAP-SEE Sustainable Aggregate Management”, SEE Interreg Project, funded by the EU, total budget 1.6 M€, October 2012-September 2014, approx. budget for TUC 100000€
- Z. Agioutantis, Scientific Coordinator, “Development of an Integrated System for Rockfall Identification in highways”, Synergasia Framework, funded by the General Secretariat of Research and Technology, Greece, Jan 2013 – Jun 2015, approx. total budget 812000€, approx. budget for the Rock Mechanics Group at TUC 277500€
- Z. Agioutantis, Principal Investigator for the Rock Mechanics Group, “Geotechnical characterization of selected areas in Crete using geophysical and geotechnical methods”, Thalys Framework, funded by the General Secretariat of Research and Technology, Greece, Sept 2012 – Jun 2015, approx. total budget 512000€, approx. budget for Rock Mechanics lab at TUC 60000€
- Z. Agioutantis, Principal Investigator for the Rock Mechanics Group, "Development and assessment of innovative experimental techniques for the study of the mechanical behaviour of natural building stones: Applications to the conservation and restoration of monuments of Cultural Heritage", Thalys Framework, funded by the General Secretariat of Research and Technology, Greece, Jan 2012 – Jun 2015, approx. total budget 512000€, approx. budget for Rock Mechanics lab at TUC 70000€
- Z. Agioutantis, Investigator, “Integrated understanding of Seismicity, using innovative Methodologies of Fracture mechanics along with Earthquake and non extensive statistical physics - Application to the geodynamic system of the Hellenic Arc (SEISMO FEAR HELLARC)” Thalys Framework, funded by the General Secretariat of Research and Technology, Greece, Jan 2012 – Jun 2015.

Publications

A. Books

- Agioutantis, Z. “Elements of Geomechanics – Rock Mechanics”, Ion Publishing, Athens 2002 (*in Greek*)
- Agioutantis, Z. and S. Mertikas, “Elements of Technical Writing”, Ion Publishing, Athens 2004 (*in Greek*)
- Agioutantis, Z. “Elements of Drilling and Blasting”, Ion Publishing, Athens 2009 (*in Greek*)

B. Graduate Theses

1. Agioutantis, Z., "A Study of the Ventilation Network at the Straton Mine, Greece", MS Diploma Thesis, Athens, Greece, October, 1982.
2. Agioutantis, Z., "Analysis of Blasting Waves with Particular Emphasis on the Geomechanical Characteristics of the Site", MS Thesis, Blacksburg, VA, June, 1984.
3. Agioutantis, Z., "An Investigation into the Modeling of Ground Deformations Induced by Underground Mining", Ph.D. Dissertation, Blacksburg, VA, September, 1987.

C. Journal Papers

1. Agioutantis, Z. and M. Karmis, "Analysis of Blasting Waves with Particular Emphasis on the Geomechanical Characteristics of the Site", *Metaliologika Chronika*, No 58, Athens, Greece, August 1984, pp. 24-29, (in Greek).
2. Karmis, M., A. Jarosz, P. Schilizzi and Z. Agioutantis, "Surface Deformation Characteristics above Undermined Areas: Experiences from the Eastern United States", *Civil Engineering Transactions*, Vol, CE29, no 2, The Institution of Engineers, Australia, April, 1987, pp. 106-114.
3. Agioutantis, Z. and M. Karmis, "Developing Improved Methods of Predicting Surface Displacements due to Underground Mining Through the Integration of Empirical Indices into Numerical Modeling", *Mining Science and Geotechnology*, 7, 1988, pp. 133-148.
4. Karmis M., A. Jarosz, and Z. Agioutantis, "Predicting Subsidence with a Computer", *Coal*, vol 26, no. 12, December, 1989, pp. 54-61.
5. Karmis, M., Z. Agioutantis and A. Jarosz, "Recent Developments in the Application of the Influence Function Method for Ground Movement Predictions in the U.S.", *Mining Science and Geotechnology*, 1990, Vol. 10, pp. 233-245.
6. Agioutantis Z., "Prediction of Surface Deformations due to Underground Mining Using Empirical Procedures", *Mineral Wealth*, Vol 69, Nov-Dec, 1990, pp. 25-34.
7. Karmis, M., Z. Agioutantis and A. Jarosz, "Subsidence Prediction Techniques in the United States: A State-of-the-Art Review", *Mineral Resources Engineering*, 1990, Vol. 3, No 3, pp. 197-210.
8. Agioutantis, Z. "Automated Downtime Recording and Processing for Continuous Surface Mining Systems", *International Journal of Surface Mining, Reclamation and Environment*, 1994, Vol. 8, 159-162.
9. Karmis, M., J. Mastoris, and Z. Agioutantis, "Potential of the 'Damage Angle' Concept for Assessing Surface Impacts of Underground Mining", *Transactions*, Society for Mining, Metallurgy and Exploration, Inc., 1994, Vol. 296, pp. 1883-1886.
10. Agioutantis, Z. "Using Numerical Procedures for Geomechanical Modeling", *Mineral Wealth*, Vol 96, 1995, pp. 23-34 (in Greek).
11. Agioutantis, Z. And E. Gavalaki, "Automation and control of rock mechanics laboratory experiments", *Technical Chronicles*, Technical Chamber of Greece, Vol. V, 1998, No. 1-2, pp. 9-18 (in Greek).
12. 'Agioutantis Z., D. Sisoura and S. Kleftakis, "Laboratory investigation of mechanical and physical properties of sand-resin mixtures", *Mineral Wealth*, Vol. 110, 1999, pp. 41-48 (in Greek).
13. Monopolis, D., E. Stiakakis, Z. Agioutantis and C. Kavouridis, "Geotechnical investigation at lignite mines", *Mineral Resources Engineering*, Vol. 8, No. 4, December, 1999, pp. 405-418.
14. Duvris, D. and Z. Agioutantis, "Air quality improvement of underground bauxite mines through a controlled maintenance program of the diesel-powered equipment", *Transactions*, Society for Mining, Metallurgy and Exploration, Inc., Vol. 306, 1999.

15. Duvris D. and Z. Agioutantis, "Economic analysis of the private mining and quarrying sector in Greece", *Mineral Wealth*, Vol. 113, pp. 21-32, 1999 (in Greek).
16. Karmis M. and Z. Agioutantis, "Discussion on the paper: FDM predictive methodology for subsidence due to flat and inclined coal seam mining, by L.R. Alejano, P. Ramirez-Oyanguren, J. Taboada", *International Journal of Rock Mechanics*, 2000, Vol 36, No 8, pp. 1095-1097.
17. Agioutantis, Z. and A. Bekas, "The potential of district heating using geothermal energy. A case study", *Geothermics*, Vol. 29, No. 1, 2000, pp. 51-64.
18. Agioutantis, Z., E. Chatzopoulou and M. Stavroulaki, "A numerical investigation of the effect of the interfacial zone in concrete mixtures under uniaxial compression – the case of the dilute limit", *Cement and Concrete Research*, 2000, vol 30, 715-723.
19. Agioutantis Z. and G. Karahalios, "Current trends in production and trade of industrial minerals in the south eastern European region", *Transactions, Society for Mining, Metallurgy and Exploration, Inc.*, Vol 308, 2000.
20. Agioutantis Z. and D. Duvris, "Health and Safety Statistics and trends for the Greek mining and quarrying industry", *Transactions, Society for Mining, Metallurgy and Exploration, Inc.* 2001, vol 310, pp. 41-46.
21. Schafrik, S., M. Karmis and Z. Agioutantis, "A Novel, Web-Based, Continuous Mining Simulator", *Transactions, Society for Mining, Metallurgy and Exploration, Inc.* 2001, vol 310, pp. 69-74.
22. Pavloudakis F., M. Galetakis, Z. Agioutantis and C. Kavourides, "Evaluation of on-line quality analyzer results, during its trial operation at western Macedonian lignite mines", *Technical Chronicles*, Technical Chamber of Greece, 2002, Vol 1&2. pp. 27-38 (in Greek).
23. Agioutantis, Z., C. Stiakakis and S. Kleftakis, "Numerical simulation of the mechanical behaviour of epoxy based mortars under compressive loads", *Computers and Structures* 80 (2002) 2071–2084.
24. Pavloudakis F., Z. Agioutantis and C. Kavourides, "Stockpile homogenisation possibilities of the lignite produced from the mines of Ptolemais area, Greece", *Bulk Solids Handling*, Vol. 23 (2003) No. 1, January-February, pp. 22-26.
25. Pavloudakis, F. and Z. Agioutantis, "Simulation of Bulk Solids Blending in Longitudinal Stockpiles", *International Journal of Surface Mining, Reclamation and Environment*, 2003, Vol. 17, No. 2, pp. 98-112.
26. Heasley, K., Z. Agioutantis and Q. Wang, "Automatic Grid Generation Allows Faster Analysis of Coal Mines", *Transactions, Society for Mining, Metallurgy and Exploration, Inc.*, 2003, Vol. 314, pp. 75-80.
27. Stavrakas I., D. Triantis, Z. Agioutantis, S. Maurigiannakis, V. Saltas, F. Vallianatos, and M. Clarke, Pressure stimulated currents in rocks and their correlation with mechanical properties, *Natural Hazards and Earth Systems Sciences (NHES)*, (2004) 4: 563–567.
28. Schafrik, S., M. Karmis and Z. Agioutantis, "Methodology of Incident Recreation Using Virtual Reality", *Mining Engineering*, October, 2004.
29. Sarris, E. and Z. Agioutantis, Numerical simulation of the dynamic phase during rock blasting, *Mineral Wealth*, 2004, vol. 133, pp. 9-18 (in Greek).
30. Maravelaki-Kalaitzaki, P., N. Kallithrakas-Kontos, D. Korakaki, Z. Agioutantis, and S. Maurigiannakis, Evaluation of silicon-based strengthening agents on porous limestones, *Progress in Organic Coatings*, 57 (2006) 140–148.
31. Kourkoulis, S., Z. Agioutantis, S. Maurigiannakis and E. Papatheodorou, "Modeling three point bending of rock-type materials using an elastoplastic model with contact elements", *Journal of the Mechanical Behavior of Materials*, Vol. 16, Nos 1-2, 2005, pp. 85-93.

32. Agioutantis, Z., S. Kourkoulis, S. Maurigiannakis and E. Papatheodorou, "Notched marble specimens under bending: Experimental study and numerical analysis using an elastoplastic model with contact elements", *Journal of the Mechanical Behavior of Materials*, Vol. 16, Nos 1-2, 2005, pp. 1-8.
33. Antoniou, A. and Z. Agioutantis "Determination of the perimeter of the pit bottom in surface mining operations: An alternative approach", *Metallurgika Chronika*, No 189, Athens, Greece, 2006, pp. 77-91, (*in Greek*).
34. Kourkoulis S.K., I. Prassianakis, Z. Agioutantis and G. Exadaktylos, "Reliability assessment of the NDT results for the internal damage of marble specimens", *Int. Journal of Materials and Product Technology (IJMPT)*, 2006, Vol 26, Nos 1/2, pp. 35-56.
35. Stiakakis, E. and Z. Agioutantis, "Deep excavations, kinetic behavior and geotechnical investigation", *Mineral Wealth*, No. 142, January-March 2007 (*in Greek*).
36. Markides, Ch., E. Sarris, D.N. Pazis, Z. Agioutantis and S.K. Kourkoulis, Marble discs under distributed loading: theoretical, numerical and experimental analysis, I, *Bulletin Resurse Minerale*, December 2006, Vol2, No2, pp. 31-38, ISSN: 1842-290X.
37. Konialis, A., K. Komnitsas, and Z. Agioutantis, Rethinking Capacity Building, *Bulletin Resurse Minerale*, editorial, June 2007, Vol 4, No 2, pp. 3-13.
38. Kaklis, K.N., M.A. Dimopoulou, and Z. Agioutantis, "A theoretical and experimental investigation of the ring test on Dionysos marble", *Mineral Wealth*, Vol. 145, October-December, 2007, pp. 39-49.
39. Sarris, E., Z. Agioutantis, K. Kaklis and S. Kourkoulis, Numerical simulation of the cracked Brazilian disk under diametral compression, abstract and presentation, Chapter in Bifurcations, Instabilities, Degradation in Geomechanics, ed. G.E. Exadaktylos and I. G. Vardoulakis, (2007), Springer Berlin Heidelberg, pp. 403-430.
40. Maravelaki-Kalaitzaki, P., N. Kallithrakas-Kontos, Z. Agioutantis, S. Maurigiannakis and D. Korakaki, A comparative study of porous limestones treated with silicon-based strengthening agents, *Progress in Organic Coatings*, Volume 62, Issue 1, March 2008, pp. 49-60.
41. Kolettas P and Z. Agioutantis, A non destructive method of rock characterization through spectral analysis of ultrasonic analysis, *Mineral Wealth*, Vol. 151, 2009, pp. 19-30 (*in Greek*).
42. Kaklis, K., S. Maurigiannakis, Z. Agioutantis and C. Istantso, Investigation of the Indirect Tensile Strength of Transversely Isotropic Dionysos Marble using the Three Point Bending Test, *Strain*, Volume 45, Issue 5, October 2009, pp. 393–399.
43. Stiakakis, E. and Z. Agioutantis, A kinetic behavior model at a surface lignite mine, based on geotechnical investigation, *Simulation Modelling Practice and Theory*, Volume 18, Issue 5, May 2010, pp. 558-573.
44. Agalaniotou, S., K. Kaklis and Z. Agioutantis, Anisotropy Estimation for Limestones Using P-Wave Velocities, *Mineral Wealth*, 2011, vol 159, pp. 23-36 (*in Greek*).
45. Pazis D.N., Z. Agioutantis and S.K. Kourkoulis, The optical method of reflected caustics applied for a plate with a central hole: critical points and limitations, *Strain*, Volume 47, Issue 6, December 2011, pp. 489–498.
46. Blengini G.A, E. Garbarino, S. Solar, D. Shields, T. Hámor, R. Vinai and Z. Agioutantis, The EU SARMA Project: Life Cycle Assessment guidelines to boost sustainable production and recycling of aggregates, *Journal of Cleaner Production*, Volume 27, May 2012, pp. 177–181.
47. Triantis D., I. Stavrakas, A. Kyriazopoulos, G. Hloupis and Z. Agioutantis, Pressure Stimulated Electrical Emissions from cement mortar used as failure predictors, *Journal of Fracture*, May 2012, Volume 175, Issue 1, pp 53-61.

48. Stavrakas, I., K., Moutzouris, K., Ninos, N., Mitritsakis, Z., Agioutantis and D. Triantis, Using AC Conductivity Measurements to Study the Influence of Mechanical Stress on the Strength of Geomaterials, *Open Journal of Applied Sciences*, Volume 02, Number 02 (June 2012).
49. Agioutantis Z. and S.N. Kamenopoulos, Rare Earth Elements: An Analysis of their Multi-dimensional Global Importance, presented at the 23rd Annual General Meeting of the Society of Mining Professors, July 12-16, 2012, Wrocław, Poland, *Cuprum Magazine* No. 3/2012.
50. Maravelaki, P.; Z. Agioutantis, E. Lionakis, M. Stavroulaki and V. Perdikatsis, Physico-chemical and Mechanical Characterization of Hydraulic Mortars Containing Nano-Titania for Restoration Applications, *Cement and Concrete Composites (in Press, accepted paper. Available online 25 July 2012)*.

D. Conference Papers

1. Karmis, M., P. Schilizzi and Z. Agioutantis, "The Potential and Application of Sonic Wave Methods in Engineering Rock Characterization", Proceedings, 25th U.S. Symposium on Rock Mechanics Northwestern University, Evanston, Illinois, June 25-27, 1984, pp. 1083-1091.
2. Goodman, G., M. Karmis and Z. Agioutantis, "Optimization of Surface Mining Systems Utilizing Interactive Computer Software", Proceedings, 2nd Conference on the Use of Computers in the Coal Industry, University of Alabama, Tuscaloosa, Alabama, April 15-17, 1985, pp. 288-296.
3. Agioutantis, Z. and E. Topuz, "An Interactive Microcomputer Program for Mine Ventilation Network Analysis", Proceedings, 2nd U.S. Mine Ventilation Symposium, University of Nevada, Reno, Nevada, September 22-25, 1985, pp. 505-514.
4. Karmis, M. and Z. Agioutantis, "An Investigation into the Mechanisms of Roof Caving and Its Prediction Using Numerical and Geomechanics Techniques", Proceedings, 3rd Annual Workshop, Generic Mineral Technology Center on Mine Systems Design and Ground Control, University of Kentucky, Lexington, Kentucky, November 25-26, 1985, pp. 53-74.
5. Agioutantis, Z. and M. Karmis, "Engineering Rock Characterization for the Analysis of Blasting Waves", Proceedings, International Symposium on the Application of Rock Characterization Techniques in Mine Design, AIME Annual Meeting, New Orleans, Louisiana, March 2-6, 1986, pp. 196-206.
6. Agioutantis, Z. and M. Karmis, "A Study of Roof Caving in the Eastern U.S. Coalfields", Proceedings, 5th Conference on Ground Control in Mining, West Virginia University, Morgantown, West Virginia, June 11-13, 1986, pp. 134-146.
7. Agioutantis, Z., "VENTSIM - A Ventilation Simulation Model", Proceedings, 17th Annual Institute on Coal Mining Health, Safety and Research, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, August 26-28, 1986, pp. 85-90.
8. Karmis, M., A. Jarosz and Z. Agioutantis, "An Integrated Surface Movement Monitoring System for Undermined Areas", Proceedings, VII International Congress on Mine Surveying, Volume X, Leningrad, USSR, June 28-July 2, 1988, pp. 42-48.
9. Agioutantis, Z., M. Karmis and A. Jarosz, "Prediction of Surface Subsidence and Strain in the Appalachian Coalfields Using Numerical Methods", Proceedings, 7th Conference on Ground Control in Mining, West Virginia University, Morgantown, West Virginia, August 3-5, 1988, pp. 95-100.
10. Karmis, M., Z. Agioutantis and A. Jarosz, "Subsidence Prediction in Steep Slope Terrain", Proceedings, Annual Symposium, Powell River Project, September, 1990, pp. 43-55.

11. Karmis, M., Z. Agioutantis and A. Jarosz, "Subsidence Prediction in Steep Slope Terrain - Model Formulation and Application", Proceedings, Annual Symposium, Powell River Project, September, 1991, pp. 46-54.
12. Karmis, M., C. Haycocks and Z. Agioutantis, "The Prediction of Ground Movements Caused by Mining", Proceedings, 3rd Subsidence Workshop Due to Underground Mining, Morgantown, West Virginia, June 1-4, 1992, pp. 1-9.
13. Karmis, M., J. Mastoris, and Z. Agioutantis, "An Investigation into the Potential of the 'Damage Angle' Concept for Assessing the Impacts of Underground Mining on the Surface", SME Preprint No 94-149, SME Annual Meeting, Albuquerque, New Mexico, February 14-17, 1994.
14. Exadaktylos, G., Z. Agioutantis and E. Lambrou, "Effect of the fracture process zone in directed crack propagation in borehole blasting", Proceedings, Eurock '94, Rock Mechanics in Petroleum Engineering, 1994, Aug. 29 - Sept. 1, pp. 463-470.
15. Agioutantis, Z. and C. Kavouridis, "Determination of Equipment Downtime / Breakdown and Availability Coefficients for Continuous Surface Mining Systems", Proceedings, Fourth International Symposium on Mine Planning & Equipment Selection, 1995, Calgary, Alberta, pp. 343-350.
16. Agioutantis, Z., K. Kaklis and D. Duvris, "A Database Retrieval and Classification System for Measured Mechanical Properties of Rock", Proceedings, 1st International Symposium on Mine Simulation Via the Internet, G.N. Panagiotou and J.R Sturgul (eds), 1996.
17. Kleftakis, S., Z. Agioutantis and D. Sisoura, "Mechanical Properties of Chemically Reinforced Geomaterials", 3rd Hellenic Conference on Geotechnical Engineering, 20-22 March, 1997, Patras, Vol 2., pp. 65-71.
18. Agioutantis, Z. and A. Stratakis, "Simulation of a Continuous Surface Mining System Using the Micro Saint visual simulation package", Proceedings, 1st international conference on information technologies in the minerals industry via the Internet, Panagiotou, G.N. and T.N. Michalakopoulos (eds), 1-12 December 1997.
19. Agioutantis, Z., "Determination of Equipment Downtime by Automated Processing for Continuous Surface Mining Systems", Proceedings, 1st international conference on information technologies in the minerals industry via the Internet, Panagiotou, G.N. and T.N. Michalakopoulos (eds), 1-12 December 1997.
20. Duvris, D. and Z. Agioutantis, "Air Quality Improvement of Underground Bauxite Mines through a Controlled Maintenance Program of the Diesel-Powered Equipment", SME Preprint No 98-8, SME Annual Meeting, Orlando Florida, March 1998.
21. Agioutantis, Z. and M. Karmis, "Correlation of Subsidence Parameters and Damage Assessment due to Underground Mining", Proceedings, 5th Symposium on Environmental Issues and Waste Management in Energy and Mineral Production, Ankara, Turkey, May 18-20, 1998, pp. 195-201.
22. Agioutantis, Z., S. Mertikas and M. Karmis, "Integration of GPS Monitoring with Ground Movement Prediction Techniques for Subsidence Planning in High Production Longwall Panels", Proceedings, 5th Symposium on Environmental Issues and Waste Management in Energy and Mineral Production, Ankara, Turkey, May 18-20, 1998, pp. 281-286.
23. Agioutantis, Z. and C. Kavouridis, "Technological enhancements in the drilling and blasting procedures for removing hard formations at the South Field Lignite Mine, Ptolemaes, Greece", 7th International Symposium on Mine Planning & Equipment Selection, 1998, Calgary, Alberta.
24. Agioutantis, Z. and M. Karmis, "Assessing Alternative Mining Systems Using Ground Movement Prediction Methods", Proceedings: Advances in GPS Deformation

- Monitoring, A two-day International Workshop, School of Spatial Sciences, Curtin University of Technology, Western Australia, 24-25 Sept. 1998.
25. Mystakidou, E., G. Alevizos and Z. Agioutantis, "Qualitative laboratory investigation of commercial limestone for the construction industry", Proceedings, 6th congress of Chemistry for Greece-Cyprus, Rhodes, September 1999, pp. 122-125 (in Greek).
 26. Pavloudakis, F. and Z. Agioutantis, "Computer aided coal quality control and homogenization – A state-of-the-art review", THERMIE Workshop "New Technologies for Coal Quality Control and Homogenization", Athens, 30th September & 1st October 1999.
 27. Bekas, A. and Z. Agioutantis, "Evaluation of the geothermal reserves of the Nea Kessani area in the Xanthi prefecture", Proceedings, 6th congress of the institute of solar energy, Volos, 3-5 Nov. 1999, pp. 435-442 (in Greek).
 28. Agioutantis, Z. and A. Bekas, "Energy study for geothermal remote heating of the Koutso village of the Nea Kessani area in Xanthi prefecture", Proceedings, 6th congress of the institute of solar energy, Volos, 3-5 Nov. 1999, pp. 453-460 (in Greek).
 29. Pavloudakis F. and Z. Agioutantis, "Lignite homogenization for the coal fired plants in the Ptolemais area", Proceedings, 1st Congress of mineralogy and geochemistry, 12-13 February 2000, Kozani (in Greek).
 30. Agioutantis Z. and G. Karahalios, "Current trends in production and trade of industrial minerals in the south eastern European region", SME Preprint No 00-97, Proceedings, SME Annual Meeting, Salt Lake City, Utah, February 28, 2000.
 31. Agioutantis Z. and D. Duvris, "Health and safety issues in the mining and quarrying industry", SME Preprint No 00-98, Proceedings, SME Annual Meeting, Salt Lake City, Utah, February 28, 2000.
 32. Kleftakis, S., Z. Agioutantis and C. Stiakakis, "Numerical simulation of the uniaxial compression test including the specimen – platen interaction", Proceedings, 4th International Colloquium on Computation of Shell and Spatial Structures, Hania, June 4-7, 2000.
 33. Agioutantis, Z., S. Kleftakis, C. Stiakakis and K. Kaklis, "Numerical simulation of the indirect tension test of rock specimens", Proceedings, 4th International Colloquium on Computation of Shell and Spatial Structures, Hania, June 4-7, 2000.
 34. Agioutantis, Z., C. Stiakakis and S. Kleftakis, "Numerical simulation of the mechanical behavior of epoxy based mortars under compressive loads", Proceedings, 2nd International Conference on Engineering Computational Technology, 6-8 September 2000, Leuven, Belgium.
 35. Galetakis, M., and Z. Agioutantis, "The influence of strategic development options on the long term quality variation of (mined) lignite - the case of the South Field Mine in Ptolemais, Greece", Proceedings, 9th International Symposium on Mine Planning & Equipment Selection, Athens, Greece - November 6-9, 2000.
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143. Agioutantis Z. and M. Karmis, Recent developments on surface ground deformation predictions due to underground mining in Appalachia, 32nd International Conference on Ground Control in Mining, July 2013, Morgantown, West Virginia (*accepted abstract*).
144. Vasilikou, F. C. Keles, Z. Agioutantis, N. Ripepi and M. Karmis, "Model Verification of Carbon Dioxide CO₂ Sequestration and in Unminable Coal Seams with Enhanced Coal Bed Methane Recovery", 23rd World Mining Congress, August 11-15, Montreal, Canada (*accepted abstract*).
145. Kavvadas, M., Z. Agioutantis, P. Schilizzi, C. Steiakakis, Stability and movements of open-pit lignite mines in Northern Greece, Proceedings of the 18th International Conference on Soil Mechanics and Geotechnical Engineering, Paris, 2 – 6 September 2013 (*accepted abstract, full paper submitted*).
146. Agioutantis Z., K. Komnitsas, A. Athousaki, Aggregate Transport and Utilization in Urban Areas: Ecological Footprint and Environmental Impacts, 13th International Congress of the Geological Society of Greece, Sept 5-8, 2013, Chania, Greece (*accepted abstract*).

E. Honorary Volumes

1. Komnitsas, K. and Z. Agioutantis, "Factors affecting revegetation of acid producing mine spoils", The honorary volume for late Prof. Kontopoulos, 2004, pp. 305-312.

2. Kaklis, K., S. Maurigiannakis, Z. Agioutantis and G. Bazdanis, An investigation of the mechanical characteristics of Nestos Marble, Volume in Honor of the late Professor K. Kavouridis, 2010, Technical University of Crete Publications, pp. 57-68 (*in Greek*).

F. Book Chapters

Contributed the Chapter "Using Computers for Solving Ventilation Problems in Mines" in the book "Mine Ventilation" by J.N. Economopoulos, 1991 (in Greek).

G. Editor and Co-editor of Proceedings

1. Proceedings, International Workshop, New Frontiers In Reclamation: Facts & Procedures In Extractive Industry (REFAPRO 2001), 19-21 September 2001, Milos Conference Center - George Eliopoulos, Milos, Greece.
2. Proceedings, International Conference on Sustainable Development Indicators in the Minerals Industry (SDIMI 2003), 21-23 May, Milos Conference Center - George Eliopoulos, Milos, Greece.
3. Proceedings, 1st International Conference on Advances in Mineral Resources Management and Environmental Geotechnology (AMIREG 2004), 7-9 June 2004, Hania, Greece
4. Proceedings, International Workshop: Geoenvironment and Geotechnics (GEOENV 2005), September 12-14, Milos Conference Center - George Eliopoulos, Milos, Greece.
5. Proceedings, 2nd International Conference on Advances in Mineral Resources Management and Environmental Geotechnology (AMIREG 2006), 25-27 September, 2006, Hania, Greece
6. Proceedings, 3rd International Conference on Sustainable Development Indicators in the Minerals Industry (SDIMI 2007) 17-20 June 2007, Milos Conference Center - George Eliopoulos, Milos, Greece.
7. Proceedings, 3rd International Seminal Ecomining (Ecomining 2009), 4-5 September 2009, Milos Island, Greece.
8. Proceedings, 3rd International Conference on "Advances in Mineral Resources Management and Environmental Geotechnology (AMIREG 2009)", 7-9 September 2009, Athens, Greece.
9. Proceedings, 24th Annual General Meeting, Society of Mining Professors, (SOMP 2013) 26 – 29 June, Milos Conference Center - George Eliopoulos, Milos, Greece (*in progress*).
10. Proceedings, 6th International Conference on Sustainable Development Indicators in the Minerals Industry (SDIMI 2013) 30 June – 3 July 2013, Milos Conference Center - George Eliopoulos, Milos, Greece (*in progress*).

Software Development

A. Commercial Software

- 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.

B. Software sponsored by NIOSH for industry professionals (most are available at the NIOSH website)

- Development of an Interactive and User-Friendly Pre-Processor for the LAM Model Program, Phase 1, 1996.

- Development of Windows Based Analysis of Longwall Pillar Stability (ALPS) Computer Software", NIOSH, July - October 1998.
- Development of an Interactive and User-Friendly Pre-Processor for the LAM Model Program, Phase III, 1999.
- Development of Windows based Coal Mine Roof Rating (CMRR) Computer Software", NIOSH, September 2001 - February 2002.
- Development of a grid generator the Lamodel Program, March 2002
- Development of Windows based Analysis of Retreat Longwall Pillar Stability (ARMPS) Computer Software", NIOSH, July 2002 - March 2003
- Development of Windows based Analysis of Roof Bolt Systems (ARBS) Computer Software", NIOSH, 2004
- Development of Windows Based Analysis of Horizontal Stress in Mining, (AHSM) Computer Software, NIOSH, 2005.
- Development of Windows Based Analysis of Retreat Longwall Pillar Stability – High Wall Mining (ARMPS-HWM) Computer Software, NIOSH, 2005.
- Development of Windows Based Analysis of Multiple Seam Stability, (AMSS) Computer Software, NIOSH, 2006.

C. Software used by private companies

- Development of a database program (as network application under Novell) for automated equipment delay management (PET) used by the Greek Public Power Corporation at the Lignite Mines at Ptolemais, Greece, released in May 1994. Stand-alone version was still used at the Mavropigi mine until early 2012.
- Development of geotechnical monitoring database (GeoDB), Istria, 2011.
- Development of an on-line, real time event driven database application for equipment status monitoring (PET) under Windows, Public Power Corporation, Greece, 2011. Currently deployed to 3 mines under 4 SCADA systems.

D. Free educational software (Greek and English Interface)

- RockWin: Basic rock mechanics concepts and problem solvers
- BlastWin: Basic surface blasting concepts and problem solvers

E. Research software

- Wetbud: Wetland budget analysis software featuring a simple and modflow approach, sponsored by Wetland Studies Inc through Virginia Tech (*to be completed by the summer of 2013*).