

## Curriculum Vitae

Date: June 2011

### General information

Full name: ***Dimitra Zaharaki***  
Occupation: Dr. Mineral Resources Engineer, researcher  
Date - place of birth: March 4, 1982 - Athens  
Address: Office: Dep. of Mineral Resources Engineering, Technical University  
Crete, 73 100, Akrotiri, Hania, Crete  
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### Post-graduate studies:

*November 2005 – July 2009:*

PhD diploma, Post-graduate program: "Geotechnology & Environment", Dep. of Mineral Resources Engineering, Technical University of Crete.

PhD thesis: "Contribution to the elucidation of geopolymerisation mechanisms using metallurgical wastes with emphasis on electric arc furnace slags", Supervisor: Professor K. Komnitsas

*September 2004 - September 2005:*

Master Diploma, Post-graduate program: "Geotechnology & Environment", Dep. of Mineral Resources Engineering, Technical University of Crete.

Post-graduate thesis: "Optimization and properties of geopolymers produced from electric arc furnace ferronickel slag", Supervisor: Associate Professor K. Komnitsas

### Education

October 1999 – July 2004:

Dep. of Mineral Resources Engineering, Technical University of Crete, Diploma: Mineral Resources Engineer (7.39 / 10)

June 1999:

Secondary School (18<sup>10</sup>/<sub>11</sub>), Farkadona, Trikala, Greece

## **Languages**

Greek: Native language

English: Certificate of Proficiency in English (ECPE), University of Michigan (June 2006)

## **Knowledge of computer programming and software**

Windows 9X, 2000, XP, 2003, Vista, 7 server

Software: MS Office 2007, DiffractionPlus, StatGraphics+5, AutoCAD 2005

## **Excellences**

*July 2010, November 2009:*

Standard test conduction for the determination of neutralization potential of mining wastes as part of the implementation of the Directive on the management of wastes from the extractive industries, based on the validation of preliminary standard prEN 15875 (<http://www.cen.eu/cenorm/homepage.htm>) carried out in the laboratory of "Management of Mining/Metallurgical Wastes and Rehabilitation of Contaminated Soils" which was chosen by the European standardisation committee CEN in the line of inter-laboratory evaluation of the proposed methodology.

*November 2006-July 2009:*

Scholarship for PhD studies – Greek State Scholarships Foundation

*March 2008:*

Invited speaker by Prof. Kostas Fytas from the Department of Mining, Metallurgical and Materials Engineering, Laval University Quebec, Canada to give a presentation regarding "Geopolymerisation of mining and metallurgical wastes"

*February 2006:*

Award of prize for Master thesis, from Hellenic Solid Waste Management Association

*September 1999:*

Scholarship for success in Secondary-school exams – Greek State Scholarships Foundation

## **Work experience - Participation in research projects**

- *1/1/2009 – today:*

LIFE+ PROSODOL - Strategies to improve and protect soil quality from the disposal of olive oil mills' wastes in the Mediterranean region, funded by the EC, (duration: 1/1/2009 - 31/12/2012), Co-ordinator: Prof. K. Komnitsas

- *1/9/2008 – 31/8/2010:*

Basic research project 2008: Elucidation of mechanisms involved during immobilisation of heavy metals in inorganic polymers synthesised using ferronickel slag, funded by the Research Committee of the Technical University of Crete, (duration: 1/9/2008 - 31/8/2010), Co-ordinator: Prof. K. Komnitsas

- *1/3/2008 – 31/8/2008, 1/9/2009 – 28/2/2010:*

Research assistant (407/80) – Research unit of Management of Mining / Metallurgical Wastes and Rehabilitation of Contaminated Soils

- 1/10/2006 – 30/9/2007:

Basic research project 2006: Elucidation of geopolymerisation mechanisms, funded by the Research Committee of the Technical University of Crete, (duration: 1/10/2006 - 30/9/2007), Co-ordinator: Prof. K. Komnitsas

- 1/1/2007 – 31/3/2008:

PRBCleanup - Optimization of Permeable Reactive Barriers performance for the Clean up of contaminated by heavy metals leachates and groundwater, funded by the Greek General Secretariat of Research and Technology, (duration: 1/1/2007 - 31/3/2008), Co-ordinator: Prof. K. Komnitsas

- 1/1/2007 – 31/12/2007:

SINO-GREEK - Integrated rehabilitation options in contaminated areas and waste disposal sites using novel methodologies, funded by the Greek General Secretariat of Research and Technology, (duration: 1/1/2006 - 31/12/2007), Co-ordinator: Prof. K. Komnitsas

- 1/9/2006 – 31/12/2006:

PREWARC - Strategic plan for prevention of regional water resources contamination from mining and metallurgical activities in Western Balkan Area, INCO C.1 Environment, SSA, funded by the EC, (duration: 1/1/2006 - 31/12/2007), Co-ordinator: Prof. K. Komnitsas

- 1/6/2006 – 31/8/2006:

INSWAB AL BOSNIA - Integrated Industrial Solid Waste Management in Albania and Bosnia, INCO C.1 Environment, SSA, funded by the EC, (duration: 1/9/2004 - 31/8/2006), Co-ordinator: Prof. K. Komnitsas

- 1/1/2006 – 31/8/2006:

Innovative technologies for the management of hazardous mining wastes aiming at prevention of groundwater contamination (PYTHAGORAS), funded by the Greek Ministry of Education, budget: 50,000 €, (duration: 1/3/2004 - 31/8/2006), Co-ordinator: Prof. K. Komnitsas

- 1/4/2005 – 31/5/2006, 1/1/2007 – 30/6/2007:

INTREAT - Integrated Treatment of Industrial Wastes Towards Prevention of regional Water Resources Contamination, INCO C.1 Environment, STREP, funded by the EC (duration: 1/8/2004 - 31/7/2007), Co-ordinator: Prof. K. Komnitsas

## **Publications**

### *Journals*

1. Zaharaki D. and K. Komnitsas (2011). Long term behaviour of ferronickel slag inorganic polymers in various environments, Fresenius Environmental Bulletin, in press (presented at Second International Symposium on Green Chemistry for Environment and Health, Mykonos island, Greece, 27-29 September 2010).
2. Zaharaki D., K. Komnitsas and V. Perdikatsis (2010). Use of analytical techniques for identification of inorganic polymer gel composition, Journal of Materials Science 45, 2715-2724 (1 citation).

3. Komnitsas K., D. Zaharaki and V. Perdikatsis (2009). Effect of synthesis parameters on the compressive strength of low-calcium ferronickel slag inorganic polymers, *Journal of Hazardous Materials* 161, 760-768 (6 citations).
4. Zaharaki D. and K. Komnitsas (2009). Effect of additives on the compressive strength of slag-based inorganic polymers, *Global NEST Journal* 11(2), 137-146 (1 citation).
5. Komnitsas K., K. Manousaki and D. Zaharaki (2009). Assessment of reactivity of sulphidic tailings and river sludges, *Geochemistry Exploration, Environment, Analysis* 9(4), 313-318.
6. Komnitsas K. and D. Zaharaki (2007). Geopolymerisation: A review and prospects for the minerals industry, *Minerals Engineering* 20, 1261-1277 (38 citations).
7. Komnitsas K., D. Zaharaki and V. Perdikatsis (2007). Geopolymerisation of low calcium ferronickel slags, *Journal of Materials Science* 42, 3073-3082 (11 citations).

#### Books

8. Komnitsas K. and D. Zaharaki (2009). Chapter: "Utilisation of low-calcium slags to improve the strength and durability of geopolymers" in Book: "Geopolymers Structures, processing, properties and industrial applications", Edited by J.L Provis and J.S.J. Van Deventer, WOODHEAD PUBLISHING LIMITED; ISBN-13: 978 1 84569 449 4 (1 citation).

#### Conferences

9. Bazdanis G., K. Komnitsas, E. Sahinkaya and D. Zaharaki (2011). Removal of heavy metals from leachates using permeable reactive barriers filled with reactive organic/inorganic mixtures, Third International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 2011) & SECOTOX Conference, Skiathos island, Greece (19-24 June); to be presented.
10. Kavvadias V., A. Sarris, M. Doula, D. Zaharaki, D. Arapoglou and K. Komnitsas (2010). Soil quality monitoring in olive oil mill waste disposal sites, 2nd International Conference "Hazardous and Industrial Waste Management", Chania, Crete, Greece (5-8 October).
11. Zaharaki D. and K. Komnitsas (2010). Long term behaviour of ferronickel slag inorganic polymers in various environments, Second International Symposium on Green Chemistry for Environment and Health, Mykonos island, Greece (27-29 September).
12. Bazdanis G., D. Zaharaki and K. Komnitsas (2010). Efficiency of organic/inorganic fixed beds to clean up leachates, Second International Symposium on Green Chemistry for Environment and Health, Mykonos island, Greece (27-29 September).
13. Zaharaki D. and K. Komnitsas (2009). Durability of slag-kaolinite inorganic polymers in various environments, 5<sup>th</sup> Hellenic Conference on Ceramics, National Technical University of Athens, Zografos, Athens, Greece (22-23 October).
14. Zaharaki D. and K. Komnitsas (2009). Role of alkali metals on the synthesis of low Ca ferronickel slag-based inorganic polymers, International Conference AMIREG 2009 "Towards sustainable development: Assessing the footprint of resource utilization and hazardous waste management" Athens, Greece (7 - 9 September).
15. Zaharaki D. and K. Komnitsas (2009). Existing and emerging technologies for the treatment of olive oil mill wastewaters, International Conference AMIREG 2009 "Towards sustainable development: Assessing the footprint of resource utilization and hazardous waste management" Athens, Greece (7 - 9 September).

16. Bazdanis G., D. Zaharaki and K. Komnitsas (2009). Study of manganese removal mechanisms from leachates, International Conference AMIREG 2009 "Towards sustainable development: Assessing the footprint of resource utilization and hazardous waste management" Athens, Greece (7 - 9 September).
17. Zaharaki D. and K. Komnitsas (2008). Durability of slag-based inorganic polymers, First International Conference on Indicators for Land Rehabilitation and Sustainable Development (ILR-SUD 2008), Beijing, China (20-21 October).
18. Zaharaki D., K. Komnitsas and G. Bartzas (2008). Geochemical stability of slag-based inorganic polymers in several environments, International Workshop in Geoenvironment and Geotechnics 2008, Milos island, Greece (8-9 September).
19. Bazdanis G., K. Komnitsas and D. Zaharaki (2008). Stabilisation of sulphidic wastes using red mud, 1<sup>st</sup> International Conference on "Hazardous Waste Management", Chania, Crete, Greece (1-3 October).
20. Zaharaki D., K. Komnitsas and V. Perdikatsis (2007). Factors affecting the performance of waste-based geopolymers, VI International Congress – Valorisation and recycling of Industrial Waste, L'Aquila, Italy (27 – 29 June).
21. Komnitsas K., G. Bartzas, D. Zaharaki and K. Fytas (2007). Treatment of highly acidic mine discharges in multi-component permeable reactive barriers: Column and modelling studies, 3<sup>rd</sup> International Symposium on Permeable Reactive Barriers and Reactive Zones, Rimini, Italy (8-9 November).
22. Zaharaki D., K. Komnitsas and V. Perdikatsis (2006). Factors affecting synthesis of ferronickel slag based geopolymers, 2nd International Conference on "Advances in Mineral Resources Management and Environmental Geotechnology", Crete, Greece (25-27 September).
23. Zaharaki D. and K. Komnitsas (2005). Use of factorial design in environmental applications and in waste management, International Workshop in Geoenvironment and Geotechnics, Milos island, Greece (12-14 September).

## Participation in Conferences

### *With paper presentation*

- 27-29/9/2010: Second International Symposium on Green Chemistry for Environment and Health, Mykonos island, Greece, <http://www.greenchem2.prd.uth.gr/>
- 22-23/10/2009: 5<sup>th</sup> Hellenic Conference on Ceramics, National Technical University of Athens, Zografos, Athens.
- 4-8/10/2009: 6<sup>th</sup> International Conference "Instrumental Methods of Analysis (IMA09)" Athens, Greece, [http://www.chem.uoa.gr/ima2009/IMA\\_01\\_homepage1.htm](http://www.chem.uoa.gr/ima2009/IMA_01_homepage1.htm)
- 7-9/9/2009: "Towards sustainable development: Assessing the footprint of resource utilization and hazardous waste management (AMIREG 2009)" Athens, Greece, <http://heliotopos.conferences.gr/?amireg2009>
- 22-23/10/2008: "First International Conference on Indicators for Land Rehabilitation and Sustainable Development (ILR-SUD 2008)", Beijing, China.
- 1-3/10/2008: "1<sup>st</sup> International Conference on Hazardous Waste Management", Chania, Crete, Greece, <http://www.hwm-conferences.tuc.gr/>

- 8-9/9/2008: "2<sup>nd</sup> International Workshop in Geoenvironment and Geotechnics 2008", Milos island, Greece, <http://milos.conferences.gr/?geoenv2008>.
- 3-5/06/2008: "2<sup>nd</sup> International Conference on Engineering for Waste Valorisation", Patras, Greece, <http://www.wasteeng08.org/>
- 14-19/7/2007: "23<sup>rd</sup> International Applied Geochemistry Symposium", Oviedo, Spain, <http://www.uniovi.es/IAGS2007/>
- 25-27/9/2006: "2<sup>nd</sup> International Conference on Advances in Mineral Resources Management and Environmental Geotechnology", Chania, Crete, Greece, <http://heliotopos.conferences.gr/amireg2006>.
- 12-14/9/2005: "1<sup>st</sup> International Workshop in Geoenvironment and Geotechnics", Milos island, Greece, <http://milos.conferences.gr/?geoenv2005>.

*Without paper presentation*

- 2-4/11/2006: «9<sup>th</sup> National Conference on Mapping – Network Mapping, Mapping using networks», Venetian Arsenal, Chania, Crete, Greece.
- 7-9/6/2004: "1<sup>st</sup> International Conference on Advances in Mineral Resources Management and Environmental Geotechnology", Chania, Crete, Greece, <http://heliotopos.conferences.gr/amireg2004>.

## **Paper review**

May 2011:

"African Journal of Agricultural Research" - 1 paper

January 2011:

Special Issue of the "Journal of Fresenius Environmental Bulletin" - 1 paper

August 2010:

"Land Degradation & Development" International Journal - 1 paper

September 2008:

"Global NEST" International Journal - 2 papers

## **Training**

7/7/2003 - 6/8/2003:

"Institute of Geology & mineral exploration", (IGME), Thessaloniki, Greece

1/7/2002 - 15/7/2002:

"TVX Hellas", Stratoni Chalkidiki, Greece