

Dr. GEORGIOS BARTZAS

Personal Information

Occupation: Dr. Mining and Metallurgical Engineer, Researcher
Date of Birth: 4 January 1977
Place of Birth: Athens, Greece
Nationality: Greek
Marital Status: Married
Military Service: Greek Navy, Engineer
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Education

- 2002 – 2007 **PhD, Environmental Metallurgy, National Technical University of Athens**
School of Mining and Metallurgical Engineering, Laboratory of Metallurgy,
PhD Thesis: "Clean up of leachates generated from mining solid wastes using fly ash, red mud and zero-valent iron Permeable Reactive Barriers". (**Best PhD thesis award "Saraf Foundation" – 2007/2008**)
- 2009 –2011 **MBA, Techno-Economic Systems, National Technical University of Athens/University of Piraeus** (part time/ 2 years),
School of Electrical Engineering and Computer Science (NTUA) / Department of Industrial Management (UOP)
- 1996 – 2001 **Graduate Studies, National Technical University of Athens**
School of Mining and Metallurgical Engineering,
Diploma Thesis: "Leaching of heavy metals from contaminated soil using citrate solutions".

Work Experience- Participation in Research Projects

- October 2012 – Sep.2016 LIFE+ AGROSTRAT, " Sustainable strategies for the improvement of seriously degraded agricultural areas:The example of Pistachia vera L., Environment Policy and Governance 2011, Scientific Responsible: Prof. K. Komnitsas,
- January 2012 – Sep.2015 WASTEVAL, "Development of an integrated methodology for the management, treatment and valorisation of hazardous waste (WasteVal), Thalys project. Scientific Responsible : Prof. K. Komnitsas.
- January 2007 – Dec. 2008 PRB-Cleanup, "Optimization of Permeable Reactive Barriers performance for the Clean up of contaminated by heavy metals leachates and groundwater (PRB-Cleanup)". Project coordinator: Prof. K. Komnitsas.

January 2006 – Dec 2007	"Use of bauxite residues for carbon sequestration" funded by the Greek General Secretariat of Research and Technology (GSRT), supervised by Ass. Prof. A. Xenidis.
January 2005 – Aug 2007	INTREAT, "Integrated treatment of industrial wastes towards prevention of regional water resources contamination (INTREAT)" Scientific Responsible: Ass. Prof. K. Komnitsas.
March 2006 – Dec. 2006	"Risk assessment study at the Somika plant, Katanga province, Congo, Contrat No 48/Copirep/SE/03/2006". Scientific Responsible: Ass. Prof. K. Komnitsas
July 2005 – Dec. 2006	INDUWASTE, "Management and remediation of hazardous industrial wastes in the Western Balkan Countries (INDUWASTE)". Scientific Responsible: Ass. Prof. K. Komnitsas.
Sept. 2004 – Aug. 2006	INSWAM – AL, "Integrated industrial solid waste management in Albania". Scientific Responsible: Prof. K. Komnitsas.
March 2002 – Dec. 2004	ENVIMAN, "Environmental management of hazardous mining wastes and effluents (ENVIMAN)". Project coordinator and Scientific Responsible: Prof. I. Paspaliaris.

Participation in Congresses and Advanced Courses

22–24 November 2000	3 rd Conference of Mineral Wealth, Scientific Committee of Mining and Metallurgical Engineers, Technical Chamber of Greece, Athens, Greece.
24 - 28 June 2002	Satisfactory Completion of the 1 st Image-Train Advanced Study Course for Innovative Groundwater management Technologies, Katowice, Poland.
8 - 10 September 2003	8 th International Conference on Environmental Science and Technology, Lemnos Island, Greece. (oral presentation)
7 - 9 June 2004	1 st International Conference on Advances in Mineral Resources Management and Environmental Geotechnology, Chania, Crete, Greece.
6 - 9 April 2005	5th National conference for the Management of Water Resources, Xanthi, Greece (oral presentation)
13 - 15 June 2005	Processing and disposal of Minerals industry wastes (PDMIW '05), Falmouth, Cornwall, UK (oral presentation)
5 - 7 September 2005	9 th International Mine Water Association Congress, (IMWA '05), Oviedo, Spain (oral presentation)
8 – 9 June 2006	NATO Advanced Research Workshop Environmental Security Threats in Urban Settings, Athens, Greece (oral presentation)
8 – 9 November 2007	3 rd International Symposium on Permeable Reactive Barriers and Reactive Zones, Rimini, Italy (oral presentation).
4 – 8 October 2009	6 th International Conference on Instrumental Methods of Analysis – Modern Trends and Applications, Athens, Greece (oral presentation).

Awards and Distinctions

- **Reviewer of scientific papers for the Journals:**

Environmental Science & Technology (ACS), Environmental Science and Toxicology (ACS), Applied Geochemistry (Elsevier), Journal of Hazardous Materials (Elsevier), Water Research (Elsevier), Chemical Engineering Journal (Elsevier) , Int. J. of Environment and Waste Management (Inderscience), Waste and Biomass Valorization (Spinger), Chemosphere (Elsevier), Mineral Processing and Extractive Metallurgy Review (Taylor & Francis), CLEAN - Soil, Air, Water (Wiley), Fresenius Environmental Bulletin (Parlar Scientific Publications)

- **Winner of the Best PhD thesis "Sarafis Foundation"** obtained in the years 2007 and 2008 at the School of Mining and Metallurgical Engineering (NTUA), Candidate for the 8 schools of the NTUA (selection procedure still in progress)
- **Thomaidion Award** for Scientific Publications, 2004, 2005, 2006
- **NTUA Scholarship** (Acad. Year 2004-2005)
- **Most downloading article** of the year 2004 in *Minerals Engineering* (Earth and Planetary Sciences)

Participation in Professional Affiliations

- Member of the Technical Chamber of Greece,
- Member of the National Association of Mining and Metallurgical Engineers
- Member of the American Nano society

Technical Skills (Laboratory Equipment/Techniques)

- Knowledge of Scanning Electron Microscopy (SEM)/Environmental Scanning Electron Microscopy (ESEM),
- X-Ray Diffractometry (XRD) and Differential Thermal Analysis and Thermal Gravimetric Analysis (DTA-TG) characterization techniques

Computer and Other Skills

- **Commercial Software Packages**

Microsoft Office, Corel Suite, Smart Draw 2007, AutoCAD 2008

- **Scientific Software Packages**

PHREEQC-2 (*Geochemical Software - Code*),
CXTFIT 2.0 - STANMOD (*Codes for Estimating Transport Parameters from Laboratory or Field Tracer Experiments*),
VS2DI (*Variably Saturated 2D flow and Transport Software*)
Crystallographica Search-Match (*XRD identification Software*)
Expert Choice 2011 (decision-making software)

Languages

- English (Proficiency in English, University of Cambridge)
- German (Zertifikat, Goethe Institute)
- Greek (mother tongue)

Publications in Peer-Reviewed Journals

1. Komnitsas, K., **Bartzas, G.** and Paspaliaris, I. (2004). Clean up of acidic leachates using fly ash barriers: Laboratory column studies. *Global NEST: The International Journal*, Vol.1, 81-89.
2. Komnitsas, K., **Bartzas, G.** and Paspaliaris, I. (2004). Efficiency of limestone and red mud barriers: laboratory column studies. *Minerals Engineering*, 17, 183-194.
3. **Bartzas, G.**, K. Komnitsas and I. Paspaliaris (2006). Laboratory evaluation of Fe⁰ barrier to treat water impacted by acid mine drainage. *Minerals Engineering*, 19(5): 505-514.
4. Komnitsas, K., **Bartzas, G.** and Paspaliaris, I. (2006). Inorganic contaminant fate assessment in zero-valent iron treatment walls. *Environmental Forensics*, 7: 207-217.
5. Komnitsas, K., **Bartzas, G.** and Paspaliaris, I. (2006). Modeling of reaction front progress in fly ash permeable reactive barriers. *Environmental Forensics*, 7: 219-231.
6. Komnitsas, K., **Bartzas, G.**, Fytas, K. and Paspaliaris, I. (2007). Long-term efficiency and kinetic evaluation of ZVI barriers used for clean up of copper containing solutions. *Minerals Engineering*, 20(13): 1200-1209.
7. **Bartzas, G.**, and Komnitsas, K (2010). Solid phase studies and geochemical modelling of low-cost permeable reactive barriers. *Journal of Hazardous Materials*, 183 (1-3): 301-308.
8. Komnitsas, K., Bazdanis, G., Sahinkaya, E., **Bartzas, G.**, Zaharaki, D. (2012). Removal of heavy metals from leachates using permeable reactive barriers filled with reactive organic/inorganic mixtures, *Desalination and Water Treatment*, paper accepted
9. Komnitsas K., D. Zaharaki and **G. Bartzas** (2012). Effect of sulphate and nitrate anions on heavy metal immobilisation in ferronickel slag geopolymers, *Applied Clay Science*, in press <http://dx.doi.org/10.1016/j.clay.2012.09.018>.

Publications in Honourable Editions

1. **Bartzas, G.**, Komnitsas, K. and Paspaliaris, I. (2004). The use of permeable reactive barriers for the decontamination of acidic leachates: State-of-the-art. Honourable edition for Prof. Kontopoulos, Athens, 231-240.

Publications - Refereed Conference Proceedings (oral presentations)

1. Komnitsas, K., **Bartzas, G.** and Paspaliaris, I. (2004). Treatment of acidic leachates using fly ash barriers: Laboratory column studies. In: *Proceedings of the 8th Conference on Environmental Science and Technology*, 8-10 Sep. 2003, Lemnos, Greece, 469-476.
2. Komnitsas, K., **Bartzas, G.** and Paspaliaris, I. (2004). Evaluation of Low-cost materials for the decontamination of acidic leachates using permeable reactive barriers. In: *Proceedings of the International Conference on Sustainable Post Mining land Management*, (eds. C. Heberstreit, J. Kudelko and J. Kulczycka), 4-6 Nov. 2004, Krakow, Poland, 161-170.
3. Komnitsas, K., **Bartzas, G.** and Paspaliaris, I. (2005). Hydraulic performance of laboratory PRBs for the decontamination of acidic mine waters. In: *Proceedings of IMWA '05-9th International Mine Water Association Congress*, (eds. J. Loredó and F. Pendás), September 5-7, Oviedo, Spain, 347-354.
4. Komnitsas, K., **Bartzas, G.**, Zaharaki D. and Fytas, K. (2007). Treatment of highly acidic mine discharges in multi-component permeable reactive barriers: Column and modelling studies. In: *Proceedings of 3rd International symposium on PRBs and RZs*, (ed. M. Petragliini-Papini), November 8-9, Rimini, Italy, 63-67.
5. Zaharaki, D., K. Komnitsas, **G. Bartzas** (2008). Geotechnical stability of slag-based inorganic polymers in several environments, *Proceedings of GeoEnv08 (International Workshop on Geoenvironment and Geotechnics*, Milos, 8-9 Sep. 2008, 187-192.

6. **Bartzas, G** and Komnitsas, K (2009). Solid phase studies and geochemical modelling of low-cost permeable reactive barriers, 6th International Conference on Instrumental Methods of Analysis – Modern Trends and Applications, 4-8 Oct. 2009, Athens, Greece.
7. **Bartzas, G.**, Xenidis, A and Papassiopi, N (2010). Bauxite residue for Carbon Sequestration, 10th Conference on Protection and Restoration of the Environment, 5-9 July 2010, Corfu, Greece.
8. Komnitsas K., G. Bazdanis, **G. Bartzas**, D. Zaharaki and E. Sahinkaya (2012). Prevention of groundwater contamination in waste disposal sites using composite reactive barriers, International Conference “Protection and Restoration of the Environment-XI (PRE-XI)” proceedings (in CD-ROM), Editors: K.L. Katsifarakis, N. Theodossiou, C. Christodoulatos, A. Koutsospyros and Z. Mallios, Thessaloniki, Greece (3-6 July), p. 453-462, <http://www.pre11.org/>

Citations (without self-citations): 127
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