

CURRICULUM VITAE

Dr. Alexandros Altzoumailis

PhD. in Instrumental Methods of Analysis

Modern Trends and Applications

Mining and Metallurgical Engineer

National Technical University of Athens

Physicist University of Athens

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PERSONAL INFORMATION

Name: **Alexandros Altzoumailis**

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Date of Birth: 15/6/1965

Citizenship: Greek

Marital Status: Married

Military Obligations: Completed (Service in Greek Army (Kalamata and Samos)).

Research Interests

1. My research focuses on the study of superconductors (mainly magnetic vortex properties). The materials I investigate are mostly the High-T_c superconductors as well as MgB₂. I use several experimental techniques such as local magnetization and susceptibility measurements (based on microscopic Hall sensors), transport studies and SQUID magnetometer measurements.
2. Inorganic Chemistry - Chemical Analysis of Composite Materials

EDUCATION

- 1993-1998 Ph.D. in Mining and Metallurgical Engineering National Technical University of Athens – NTUA
- 1988-1993 Diploma in Mining and Metallurgical Engineering National Technical University of Athens – NTUA
- 1982-1986 B.Sc. in Physics university of Athens

SEMINARS

- 9/6/2003 “Solid wastes, management and industry”.
- 22/5/2003 “Informatics” (National Technical University of Athens).
- 15/5/2003 “Modern Trends in Mining and Metallurgical Engineering” (Technical Chamber of Greece).
- 15/3/2003 “Thermal analysis” (HELLAMCO- Analytical Instruments).
- May 1999 “Management of hazardous wastes” (National Technical University of Athens) Duration: 320 hours.
- April 1995 “Modern technologies in rock extraction” (Technical Chamber of Greece), duration: 80 hours.
- June 1994 “Modern technologies in rock extraction” (Association of Greek Mining and Metallurgical Engineers), duration: 120 hours.

August- “Nuclear Physics” (National Center for scientific research,
September 1988 “Demokritos” and University of Ioannina), duration: 160 hours.

FOREIGN LANGUAGES

- English: Very good knowledge.
- Arabic : Very good
- Greek

SPECIFIC EDUCATION

A. OPERATING SYSTEMS- SOFTWARES

- Ms- DOS and Windows.
- “Office” programmes (Word, Excel, and Powerpoint).

B. OPERATION OF ANALYTICAL INSTRUMENTS

- ▶ Infra-Red (IR) Spectrophotometer Perkin Elmer 883.
- ▶ Infra-Red (IR) Spectrophotometer (FTIR) Perkin Elmer.
- ▶ Atomic Absorption Spectrometer (AAS) Perkin Elmer 33000.
- ▶ X-Ray Diffraction Spectrometer (XRD) Diffractometer Siemens D 5000.
- ▶ X-Ray Fluorescence Spectrometer (XRF) Diffractometer Siemens
- ▶ Ultra-Violet- Visible (UV-Vis) Spectrometer.

WORKING EXPERIENCE

2000- Now	Permanent staff of the Laboratory of Inorganic and Analytical Chemistry, School of Chemical Engineering, National Technical University of Athens.
2005-2010	Teacher of schools of vocational training (Specialization: Technology of natural gas).
1999-2007	Scientific cooperater of the Laboratory of Inorganic and Analytical Chemistry, School of Chemical Engineering, National Technical University of Athens.
2001	Safety Engineer of “Hellenic Petroleum”.
1993-1998	Scientific cooperater of the School of Mining and Metallurgical Engineering, National Technical University of Athens.
1992-1993	Mining- Metallurgical Engineer in “Parnassos Bauxites”, “Barlos Bauxites” and “Iraklis” cement.

PARTICIPATION IN RESEARCH PROJECTS

2004-2007	Bioremediation for Building Restoration of the Stone Heritage in European States.
2001	Chemical analysis and study of the structure of technological materials using XRD and XRF.
2000	Treatment and disposal of municipal waste in Cyprus.
1998-2000	Thematic network for the evaluation of hazardous materials (HARSNET Project).

RESEARCH ACTIVITY

A. PUBLICATIONS IN INTERNATIONAL SCIENTIFIC JOURNALS

1. M. Ochsenkühn- Petropoulou, L. Mendrinos and A. Altzoumailis «Production and characterization of MgB_2 coatings on various substrates by electrophoretic deposition», Journal of Materials Processing Technology 161 (2005) 16-21.
2. M. Ochsenkühn- Petropoulou, Alexandros F. Altzoumailis, R. Argyropoulou and Klus- Michael Ochsenkühn (Superconducting coatings of MgB_2 prepared by electrophoretic deposition)) Anal Bioanal Chem (2004) 379: 792-795 SPECIAL ISSUE PAPER.
3. M. Ochsenkühn- Petropoulou, R. Argyropoulou, C. Dounis, P. Karaboulis, A. Altzoumailis and K.M. Ochsenkühn, «Comparison of the behavior of the three superconductors YBCO, Bi-2212 and MgB_2 in different environmental condition, Journal of Materials Processing Technology. (2004) 463: 873-879.
4. **V.N. Kytopoulos A. Altzoumailis J. Venetis E. Sideridis** “An experimental evaluation of microdamage in metal matrix composites by means of a SEM-EPMA technique. Procedia Structural Integrity. Volume, 2018, Pages 264-271
5. R. Argyropoulou, M. Ochsenkühn-Petropoulou, C. Dounis, P. Karaboulis, A. Altzoumailis, K.M. Ochsenkühn, “Comparison of the behavior of the three superconductors YBCO, Bi2212 and MgB_2 in different environmental conditions”, J. Mater. Proc. Technol. 181, 2-5 (2007).
6. **V.N. Kytopoulos J. Venetis. A. Altzoumailis. E. Sideridis** “An experimental study for the characterization of elastic brittle-fracture behavior of materials by means of continuous damage mechanics-aided approaches. Procedia Structural Integrity. Volume, 2018, Pages 272-279.
7. Victor N. Kytopoulos, Emiliós Sideridis, John Venetis, Chrisoula Riga, Alexandros Altzoumailis, A SEM-X-Ray assisted experimental approach for the determination of mechanical and thermal load – induced damage in MMCs,. September 2019. Frattura ed Integrità Strutturale 13(50): 414- 422.
<https://www.fracturae.com/index.php/fis/article/view/2610>

8. V.N. Kytopoulos, A. Altzoumailis, Chr. Panagopoulos, Chr. Riga, Investigation of certain mechanical and magnetic properties of a stressed low – carbon steel after corrosion in NaCl – water solution, *Procedia Structural Integrity*. 26, 2020, Pages 113-119
9. Victor N. Kytopoulos, Alexandros Altzoumailis , Emiliios Sideridis, John Venetis, Chrisoula Riga “ A SEM-X-Ray assisted experimental approach for the determination of mechanical and thermal load – induced damage in MMCs, *Frattura ed Integrità Strutturale*, 50 (2019) 414-422; DOI: 10.3221/IGF-ESIS.50.35.
10. V.N. Kytopoulos, , A. Altzoumailis , J. Venetis , E. Sideridis “An experimental evaluation of microdamage in metal matrix composites by means of a SEM-EPMA technique” *Procedia Structural Integrity* 10 (2018) 264-271. Available online at www.sciencedirect.com
11. V.N. Kytopoulos, A. Altzoumailis, Chr. Panagopoulos, Chr. Riga,” Investigation of certain mechanical and magnetic properties of a stressed low – carbon steel after corrosion in NaCl – water solution” , *Procedia Structural Integrity* 26 (2020) 113–119, Available online at www.sciencedirect.com
12. A. F. Altzoumailis, V. N. Kytopoulos, “Characterization of a mild steel by its mutual Tensile Mechanical and Micromagnetic emission response after corrosion in NaCl – water Solution: a combined semiquantitative approach” *INTERNATIONAL JOURNAL OF MATERIALS* DOI: 10.46300/91018.2021.8.3. Volume 8, 2021
13. A. F. Altzoumailis, V. N. Kytopoulos, “On Novel Aspects of Hydrogen Effects on Applied Stress - Coupled Micromagnetic Activity in a Mild Steel after Exposure to NaCl – Water Solution: A Combined Approach”, *INTERNATIONAL JOURNAL OF MATERIALS* DOI: 10.46300/91018.2021.8.4. Volume 8, 2021
14. A. F. Altzoumailis, V. N. Kytopoulos, “ Characterization of Cumulative Hydrogen – affected low – carbon steel by its Mechanical and Magnetic Barkhausen emission response; a semiquantitative combined approach ., *INTERNATIONAL JOURNAL OF MATERIALS* DOI: 10.46300/91018.2021.8.3. Volume 8, Pages : 11-29, 2021
15. A. F. Altzoumailis, V. N. Kytopoulos, *Elastic Stress - Induced Magnetic Changes in a Mild Steel Studied by Barkhausen Emission-Aided Analysis Approaches*, *Global Journal of Engineering Sciences*, DOI: 10.33552/GJES.2021.09.000704,p.1-10(2022).
16. Alexandros F. Altzoumailis, V. Kytopoulos: Microstructure- assisted changes in the magnetic Barkhausen emission of a mild steel under the influence of various mechanical and environmental loading factors; a semiquantitative analysis”, *WSEAS Transactions on Electronics*, vol. 13, pp. 52-66, 2022.
17. AF Altzoumailis^{1*}, VN Kytopoulos² and SN Katsantonis¹, An Operational Analysis of Micromagnetic Emission Response of a Mild Steel to Various Mechanical and Physico - Chemical Influential Factors, ISSN: 2641-2039, DOI: 10.33552/GJES.2023.11.000754, *Global Journal of Engineering Sciences*, Volume 11-Issue1, Page 1 of 13 (2023).
18. A.F. Altzoumailis a *, V. N. Kytopoulos b, A novel experimental approach to the evaluation of thermal expansion parameters of solid materials, *Journal of Materials Science*, (in press) 2024.
19. A.F. Altzoumailis a *, V. N. Kytopoulos b: Curie point (T_c) approach by a SEM-aided magnetic contrast technique. , *Journal of Materials Science*, (in press) 2024.

B. PRESENTATIONS IN NATIONAL AND INTERNATIONAL CONFERENCES

1. A. Altzoumailis, L. Mendrinou and M.Ochsenkühn-Petropoulou «Quantitative and quantitative determination of Montmorillonite using infra-red spectrometry», IMA 2001, 5-8 September 2001, Ioannina, Greece.
2. M. Ochsenkühn- Petropoulou. L. Mendrinou, A. Altzoumailis «Production and characterization of MgB_2 coatings on various substrates by electrophoretic deposition». «Comparison of the behaviour of the three superconductors YBCO, Bi-2212 and MgB_2 in different environmental conditions», Alexandros F. Altzoumailis and M. Ochsenkühn- Petropoulou «Optimisation of the electrophoretic deposition of MgB_2 super conducting coatings» IMA 2003, 23-27 September 2003 Thessaloniki, Greece.
3. Galanopoulou Stavroula, Altzoumailis Alexandros, Vgenopoulos Andreas «Silicon Concentration surface sediments in Keratsini Harbour, Saronikos Gulf, Greece» IMA 2003, 23-27 September 2003, Thessaloniki, Greece.
4. M. Ochsenkühn- Petropoulou, R. Argyropoulou, C. Dounis, P. Karaboulis, A. Altzoumailis and K.M. Ochsenkühn, «Comparison of the behavior of the three superconductors YBCO, Bi-2212 and MgB_2 in different environmental conditions», "Fourth Japanese-Mediterranean Workshop on Applied Electromagnetic Engineering for Magnetic, Super conducting and Nano Materials" (JAPMED'4), organized in Cairo - Egypt on September 17-20, 2005.
4. M. Ochsenkühn- Petropoulou, R. Argyropoulou, A. Altzoumailis, G. Reizakis, P. Karaboulis, C. Dounis, "Production and characterization of MgB_2 coatings in various substrates and investigation of their behaviour in various environmental conditions", 5th National Conference of Chemical Engineering, Thessaloniki, 26-28 May 2005.
5. Alexandros Altzoumailis, Evangelos M. Angelis, "Holistic Management of Municipal Solid Waste", 8th International Conference on Instrumental Methods of Analysis Modern Trends and Applications IMA 2013, 15-19 September 2013, Thessaloniki, Greece.
7. E. Tragouda, T. Fotopoulos, A. Altzoumailis, D. Gialampouki "Applications Liquid Chromatography – Mass Spectroscopy in Control of Sports Doping" 7th Pampeloponnisiakou Conference, held in Patras, 20-22 October 2006
8. E. Tragouda, T. Fotopoulos, A. Altzoumailis, D. Gialampouki "Clinical Findings Egkefalikis Paralysis and new Therapeutic Techniques' Fysiothrapeftikis Recovery" 7th Pampeloponnisiakou Conference, held in Patras, 20-22 October 2006
9. K. Fotopoulos. E. Tragouda, A. Altzoumailis, D. Gialampouki "Recovery Groups of Patients with Coped [chronic bronchitis, emphysema Pmefmoniko] Fysiotherpeftikes and special Techniques Applied to the thoracic Diseases. ». 7th Pampeloponnisiakou Conference, held in Patras, 20-22 October, 2006
10. K. Fotopoulos. E. Tragouda, A. Altzoumailis, D. Gialampouki. "Physical therapy effectively helps TREATMENT imperfect reductase PATIENT." 7th Pampeloponnisiakou Conference, held in Patras, 20-22 October 2006

11. Altzoumailis Alexandros and I. Masvoulas «preparation and characterization of MgB_2 super conduction powder and properties examination after addition of titanium and tantalum » IMA 2007, 30-4 October 2007, Rio – Patras – Greece.
12. S. Ahmed Saleh, M. Moatamed Mogahed, A. Altzoumailis· E. Filippaki , (Desalination Treatment by Pure Hydrogen plasma of Egyptian Coin Fragments. From Tell Basta, Evaluated by SEM/EDS and XRD), *"IMA 2011-Instrumental Methods of Analysis-Modern Trends and Applications"*, 18-22 Sept. 2011, Chania, Crete Greece.
13. Alexandros F. Altzoumailis, V. N. Kytopoulos, Aimilis Pavlos Sideridis, (The Result of the additional on the behavior of the high temperature $\text{La}_x\text{Y}_{1-x}\text{Ba}_2\text{Cu}_3\text{O}_{7-6}$ Superconductor). 11^ο πανελλήνιο επιστημονικό συνέδριο Χημικής Μηχανικής , Μέγαρο Μουσικής θεσσαλονίκης , θεσσαλονίκη , 25-27 Μαΐου 2017.
14. V. N. Kytopoulos, A. Altzoumailis, Chr. Panagopoulos, (Hydrogen influence on certain mechanical and magnetic properties of a stressed low-Carbon Steel after Corrosion in NaCl- water solution). 12^ο πανελλήνιο επιστημονικό συνέδριο Χημικής Μηχανικής , Εθνικό Μετσόβιο Πολυτεχνείο , Σχολή Χημικών Μηχανικών, 29-31 Μαΐου 2019.https://12pesxm.chemeng.ntua.gr/final_papers/MN0466.pdf.
15. V. N. Kytopoulos, A. Altzoumailis, J. Venetis and E. Sideridis (An experimental evaluation of micro-damage in metal matrix composites by means of a SEM- EPMA technique). 1st International Conference Under the aegis of the European Structural Integrity Society (ESIS), Athens, Greece, May 10-12, 2018. www.medfract1.eu
16. V.N. Kytopoulos, A. Altzoumailis, Chr. Panagopoulos, Chr. Riga, (Investigation of certain mechanical and magnetic properties of a stressed low – carbon steel after corrosion in NaCl – water solution), 1st Mediterranean Conference on Fracture and Structural Integrity. Athens- Greece, February 26-28, 2020. www.medfract1.eu

17- Hellenic Schools and Workshops on Elementary Particle Physics, Corfu:

1985, 1 (τρεις εβδομάδες).

AWARDS

- 3 Awards from “Thomaidion foundation” of National Technical University of Athens for publications in international scientific journals.
- Scholarship from the Ministry of Foreign Affairs for the Ph.D. thesis in the School of Mining- Metallurgical Engineering.

ACADEMIC TEACHING EXPERIENCE

1. Teaching of laboratory exercises of the courses:

- ▶ Inorganic Chemistry (Total: 16 semesters).
- ▶ Advanced Inorganic Chemistry (Total: 18 semesters).
- ▶ Instrumental Methods of Analysis (Total: 24 semesters).
- ▶ Analytical Chemistry (Total: 15 semesters).
- ▶ Mineralogy (Total: 14 semesters).

2. Scientific and technical support of undergraduate and postgraduate diploma thesis of 10 students in the School of Chemical Engineering and 5 students in the School of Mining-Metallurgical Engineering of National Technical University of Athens.

3. PARTICIPATION IN SCHOOL COMMITTEE OF CHEMICAL ENGINEERING NTUA

- Member of Graduate Studies Committee of the School of Chemical Engineering, NTUA.
- Committee Member GAS School of Chemical Engineering, NTUA.

MEMBER OF:

- Technical Chamber of Greece.
- Association of Greek Mining- Metallurgical Engineers.
- Association of Greek Physicists.