

# GEORGE A. ZACHARIADIS

Professor of Analytical Chemistry

Department of Chemistry, School of Sciences

Aristotle University of Thessaloniki, Greece

## SUMMARIZED CURRICULUM VITAE

- Name:** George Zachariadis  
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**Telephone:** (0030) 2310 997707  
**Profession:** Professor, Lab. of Analytical Chemistry, Dept. of Chemistry, Aristotle University of Thessaloniki, AUTH. GREECE  
**Other studies:** Bachelor in Theology, Dept. of Theology, AUTH  
**Birth date, place:** 1963, Thessaloniki, Greece
- Undergraduate Studies:** Bachelor in Chemistry, (1986), Aristotle University Thessaloniki  
**Postgraduate Studies:** Ph.D. Thesis (1991), Dept. of Chemistry, Aristotle University of Thessaloniki, Greece, title: Determination of Mercury Compounds by Cold Vapor Atomic Absorption Spectrometry and Factorial Design.  
**Post Doctoral Studies:** Technical University of Vienna, Austria, (2006, 2009)
- Scholarships:** Undergraduate Scholarship, National Scholarship Foundation (1982-83)  
Postgraduate Scholarship, National Scholarship Foundation (1988-90)
- Teaching duties:** Analytical Chemistry, (Quantitative, Instrumental and Advanced Analytical Chemistry) for under- and postgraduate students of Chemistry, Pharmaceutics, Biology etc. between the years 1997 to 2012.
- Seminars:** Attendance in **12** Scientific Seminars on Instrumental techniques of analysis  
Teaching courses of Analytical and Environmental Analytical Chemistry and Chemometrics in various seminars for post graduate students and professionals.
- Member of Associations:** International Association of Environmental Analytical Chemistry, European Virtual Institute on Speciation Analysis, Greek Chemical Association, North Greece Chemists' Society, Greek Archaeometric Society.
- Conferences' Committees:** Co-Chairman in Flow Analysis 2012 International Conference, Member of organizing and Scientific Committees in 4 other International Conferences (IMA 2003, AACD 2006, AACD 2010, IMA 2011).
- Administrative work:** Member of the general Assembly of Department of Chemistry  
Member of the Committees for the Undergraduate Curriculum, DChem.  
Member of the Committees for the Postgraduate Curriculum
- Research fields:** Atomic spectrometry; Mass spectrometry; Hyphenated techniques; Multielement methods of analysis; Speciation; Sample pretreatment; Chemometrics; More precisely, the current research is focused on the

development of (i) speciation methods using hyphenated techniques like GC-MS, GC-MIP-AED, LC-MS, etc. (ii) off-line analytical methods for multi-element analysis of complex matrices like foods (honey, sugars, cereals, yeasts etc) and silicates (ceramics, glasses etc.) and (iii) on-line analytical methods for preconcentration and speciation of heavy metals and their determination in biological and environmental matrices.

**Supervisor:** 6 Doctoral Students, 1 Post Doc, 14 Master students, 28 Senior theses  
**Co-Supervisor:** 1 Doctoral student and 2 Master students.

**Book authoring:** 1 International book in ICPAES technique under the title "Inductively Coupled Plasma Atomic Emission Spectrometry, A model multi-element technique for modern laboratory", NOVA Science Publishing, New York, 2012.  
12 Books in Analytical Chemistry. Tutorial books in greek, for students of Chemistry, Pharmaceutics, Biology and Geology. Course books in Analytical Chemistry (introductory) (1996 and 1998), Quantitative Analytical Chemistry (1999 and 2011), Instrumental methods of Analysis (2004), Special methods of Separation and Chemical Analysis (2005).

**Editor:** Editorial Board in American Journal of Analytical Chemistry  
Guest Editor in Current Analytical Chemistry, Special Issue on "Metals Speciation and Metallomics".  
Reviewer in 30 International Peer-Review Journals, for 92 papers.

**Projects:** 34 research projects.  
4 research projects as Main Researcher and Supervisor

**Conference Presentations:** 111 announcements in International and National Conferences.  
**Publications in Journals:** 110 original research and review papers in International Peer-reviewed journals (See the list of publications below).

**Citations:** 2100  
**H-index:** H-Index = 23

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### **Summary of Research and Authoring Work:**

Papers in journals: 110 papers in international peer reviewed journals  
Corresponding author: 40 papers  
Conference Announcement: 111 presentations in internat. and national conferences  
Participations in Conference: 40 participations  
Participations in Seminars: 12 scientific seminars  
Research projects: 34 projects. In 4 as Supervisor  
Other articles in journals: 2 scientific articles in regular journal  
Ph.D. Supervising: In 6 as Supervisor and in 1 as co-supervisor.  
Postgraduate diploma work: 14 as Supervisor, 2 as co-supervisor.  
Highlights: 1 papers in 25 most downloaded papers of ACA.  
2 Distinction Prizes Scholarships for my Ph.D. students.

International book: 1 monography on ICP-AES, NOVA SCIENCE, New York  
Greek books: 12 tutorial books, taught in Univeristy  
Course curriculum: I was involved in the formation of 3 courses in Undergraduate Chemistry Curriculum and of 2 courses in Post Graduate Chemistry.

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### **Summary of Teaching duties:**

Courses:	<u>ARISTOTLE UNIVERSITY OF THESSALONIKI</u> Undergraduate Level: Teaching courses of Analytical Chemistry and instrumental Methods of Analysis in Students of Chemistry, Pharmaceutics, (1998-2013) Biology, (1998-2001) Postgraduate Level: Courses in 4 Post-Graduate Curriculae: A) Advanced Chemical Analysis, B) Chemical Analysis and Quality Control, Γ) Conservation and Restoration of Art Objects. Δ) Nanoscience and Nanotechnology. <u>TECHNICAL UNIVERSITY OF WIEN:</u> Postgraduate Level: Teaching in Seminars of Institut für Chemische Technologien und Analytik (after 2004). <u>IEK:</u> Teaching General Chemistry in the curriculum of "Techniciens for Pharmaceuticals and Cosmetics" (1993-1995). <u>In High School :</u> I taught Chemistry for University candidates (1987-1990).
Laboratory exercises:	Laboratory exercises in almost all courses of Analytical Chemistry (1988 - 2011). Responsible for the organization of Laboratory of Analytical Chemistry Principles (2000 - 2004).
Seminars	Courses on "Sampling methods, Chemical Analysis. Chemometrics. In Environmental Protection Seminars (Kavala 1989, Katerini 1992, Veria 1993). "Instrumental Methods of Chemical Analysis" (1999).

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### **Member of Scientific Associations and Societies:**

<b>International:</b>	International Association of Environmental Analytical Chemistry European Virtual Institute of Speciation Analysis.
<b>National:</b>	Associations of Greek Chemists and of North Greece Chemists Greek Society of Toxicology Greek Archaeometry Society

### **HIGHLIGHTS AND RECOGNITION OF SCIENTIFIC WORK**

1. 2100 Citations (February 1, 2014) excluding self citations
2. Invitation as Author of one International Book about ICP-AES, 2012.
3. Invitation as Guest Editor in Special issue in Current Analytical Chemistry, 2012.
4. Invitation as Reviewer of 86 submitted papers in 30 international journals of Chemistry.
5. One paper in Analytica Chimica Acta in the top 25 most downloaded in year 2008.
6. One paper in the cover of Analytica Chimica Acta in year 2014.
7. The conclusions of my paper in Sunscreens were included in the article of Wikipedia.
8. Invitation to give 8 Lectures/presentations
9. Two Ph.D. students received Excellence Scholarship for their thesis research.
10. Application from researchers for post doc supervising.
11. Involvement in joint proposals in European Union on Speciation and on Biometals.
12. Appreciation of my research on the presence of metals in pharmaceuticals from the chair of the Advisory Committee of United States Pharmacop., Dr. Nancy Lewen
13. Appreciation of my research on analytical methods for organometallic analytes from the Chairman of the Chemische Technologischen Institute of TU Wien Herbert Danniger.
14. Three of my tutorial books were taught in other greek universities.
15. Invitation for articles in Journal of Chromatography A, and Analytica Chimica Acta.

## ACADEMIC POSITIONS

3/7/2013 – up today	Professor, Lab. of Analytical Chemistry, Dept. of Chemistry (appointment 24-2-2014).
2/7/2008 – 2/7/2013:	Associate Professor, Lab. of Analytical Chemistry, Dept. of Chemistry (12-5-2008).
14/9/2006 – 24/7/2008:	Assistant Professor (Permanent position), Lab. of Analytical Chemistry, Dept. of Chemistry 10-4-2006.
18/2/2003 – 14/9/2006:	Assistant Professor, Lab. of Analytical Chemistry, Dept. of Chemistry 10-4-2006.
1/7/1998 - 25/11/2002:	Lecturer, Lab. of Analytical Chemistry, Dept. of Chemistry 10-4-2006.
5/11/1990 - 30/6/1998:	Special Teaching and Technical Assistant position, Dept. of Chemistry.
1/3/1988 - 5/11/1990:	Special Post-graduate, Assisting Staff with Scholarship, Dept. of Chemistry, AUTH.
Other professional exper.:	Assistant Chemist, in Industry (1985).

## ADMINISTRATIVE DUTIES

1998 - 2001:	Member of the General Assembly of Chemistry Department, AUTH.
1999 - 2000:	Representative of Chemistry Department in AUTH Senate.
1999 - 2001:	Member of the Committee for the Reformation of Undergraduate Curriculum of Chemistry Department, AUTH, which was finally accepted from dept..
2002 - 2003:	Member of the Proposal Submitting Committee for the foundation of the reformation of the undergraduate program of Chemistry Department, AUTH. The proposal was accepted and founded in 2004.
2002 - 2003:	Member of the Proposal Submitting Committee for the participation of the Laboratory of Analytical Chemistry in the Ministerial network of Academic Laboratories for the national Monitoring of Surface Waters of Ministry of Environment.
2004 - 2005:	Member of the General Assembly of Chemistry Department, AUTH
2004 - 2005:	Member of the Committee for the Undergraduate Curriculum of Chemistry Department, AUTH.
2005 - 2006:	Member of the General Assembly of Chemistry Department, AUTH
2005 - 2006:	Member of the Joined Committee for the Undergraduate and Postgraduate Curriculum of Chemistry Department, AUTH to obtain EUROBACHELOR.
2008 - 2009:	Member of the Committee for the Postgraduate Curriculum of Chemistry Department, AUTH.
2009 - 2010:	Member of the General Assembly of Chemistry Department, AUTH
2009 - 2010:	Member of the Committee for the Undergraduate Curriculum of Chemistry Department, AUTH.
2010 - 2011:	Member of the Students' Advisory Committee of Chemistry Department.
2008 - 2012:	Member of the Control Committee of Instrumentation in Analytical Chemistry laboratory, Dept. of Chemistry Department, AUTH
2006 - 2014:	Member of the Library Committee of Chemistry Department, AUTH
2013 - 2014:	Member of the Committee for the Postgraduate Curriculum of Chemistry Department, AUTH.
2006 - 2013	Member in 7 recommendation committees in relation to Analytical Chemistry research field for academic development procedures:

## MEMBER OF CONFERENCE ORGANIZATION COMMITTEES

1. Organizing Committee of Internat. Confer. on Instrumental Methods of Analysis, IMA 2003"
2. Organizing Committee of Intern. Confer. "5<sup>th</sup> Aegean Analytical Chemistry Days, AACD 2006".
3. Scientific Committee of Intern Conference 7<sup>th</sup> Aegean Analytical Chemistry Days, AACD 2010.
4. Scientific Committee of Intern. Conference of 7<sup>th</sup> Instrumental Methods of Analysis, IMA 2011.
5. Co-Chairman of Intern. Conference on "Flow Analysis XII, FA 2012" .
6. Scientific Committee of Intern. Conference of 8<sup>th</sup> Instrumental Methods of Analysis, IMA 2013.

## EDUCATIONAL DUTIES IN UNIVERSITY

### Teaching courses:

#### **UNDERGRADUATE LEVEL:**

- 1998 - 2014: Principles of Analytical Chemistry, 1<sup>o</sup> Semester, Dept. of Chemistry.  
2010 - 2014: Quantitative Analytical Chemistry, 2<sup>o</sup> Semester, Dept. of Chemistry.  
1998 - 2008: Quantitative Analytical Chemistry, 2<sup>o</sup> Semester, Dept. of Pharmaceutics.  
2008 - 2014: Analytical Chemistry, 1<sup>o</sup> Semester, Dept. of Pharmaceutics.  
2003 - 2014: Instrumental Chemical Analysis (II), 7<sup>o</sup> Semester, Dept. of Chemistry.  
2003 - 2014: Special Methods of Separation and Chemical Analysis, 8<sup>o</sup> Semester, Dept. Chem.  
2005 - 2014: Archaeometry and Chemistry of Arch. Materials, 8<sup>o</sup> Semester, Dept. of Chemistry.  
1998 - 2003: Spectroscopic methods of Analysis, 7<sup>o</sup> Semester, Dept. of Chemistry.  
1998 - 2003: Advanced Quantitative Chemical Analysis, 7<sup>o</sup> Semester, Dept. of Chemistry.

#### **POSTGRADUATE LEVEL:**

- 1998 - 2014: Advanced Instrumental Analysis, 1<sup>o</sup> Semester, in Chemistry postgraduate program.  
2002 - 2014: Chemometrics-Statistics-Metrology, 1<sup>o</sup> Semester, in "Chemical Analysis and Quality Control" postgraduate program.  
2004 - 2014: Atomic Spectrometry, 2<sup>o</sup> Semester, in "Conservation and Restoration of Art Objects" postgraduate program.  
2010 - 2014: Analytical, measurement and control techniques, 3<sup>o</sup> Semester, in "Nanoscience and Nanotechnology" postgraduate program.

### Laboratory exercises for Undergraduate Students

- 1988 – 1999 Instrumental Chemical Analysis (Dept. of Chemistry)  
1989 – 1992 Quantitative Chemical Analysis (Dept. of Chemistry)  
1989 – 1998 Analytical Chemistry (Dept. of Biology and Dept. Agriculture)  
1992 – 1999 Qualitative Chemical Analysis (Dept. of Chemistry)  
1995 – 1996 Analytical Chemistry (Depts. of Geology)  
1997 – 2003 Spectroscopic methods of Analysis (Dept. of Chemistry)  
1997 – 2000 Advanced Quantitative Analysis (Dept. of Chemistry)  
1999 – 2008 Quantitative Analytical Chemistry (Dept. of Pharmaceutics)  
2008 – 2010 Analytical Chemistry (Dept. of Pharmaceutics)  
2000 – 2010 Principles of Analytical Chemistry (Dept. of Chemistry)  
2003 – 2013 Instrumental Chemical Analysis II (Dept. of Chemistry)  
2003 – 2013 Special Methods for Separation and Chemical Analysis (Dept. of Chemistry)

## EDITORIAL BOARDS AND PAPER REVIEWING

- A. Guest Editor** in the Special issue of the journal of CURRENT ANALYTICAL CHEMISTRY, in my topic «METAL SPECIATION AND METALLOMICS». The issue was completed and is going to be published as Volume 9, in 2013. It includes also an Editorial article written by me.
- B. Member of the Editorial Board** of the journal: AMERICAL JOURNAL OF ANALYTICAL CHEMISTRY.
- C. Reviewer in submitted papers** in 30 international peer-reviewed journals in 92 scientific works in total.

## INVITATIONS FOR LECTURES IN SEMINARS AND CONFERENCES

- X-1.** (2004) In Technische Universität Wien, Austria, Institute für Chemische Technologie und Analytik, with the title «*Hyphenation of On-line Solid Phase Extraction with Atomic Spectrometric Techniques. A Convenient Tool to Enhance the Analytical Performance of Mercury Determination and Speciation*».
- X-2.** (2006) In Technische Universität Wien, Austria, Institute für Chemische Technologie und Analytik, with the title «*Inductively Coupled Plasma Atomic Emission Spectrometry with various sample introduction techniques*»
- X-3.** (2011) In Technische Universität Wien, Austria, Institute für Chemische Technologie und Analytik, with the title «*Plasma Emission Spectrometry and its applications*».
- X-4.** (2009) In EEESD 09 International Conference in Athens, Greece, on «*Modern hyphenated analytical techniques for the analysis of environmental, food, and biological matrices*»
- X-5.** (2011) In BIOMEDCH11 International Conference in Cambridge, United Kingdom, with the title «*Recent developments in high Resolution tandem mass spectrometry for analysis of biomolecules and related analytes*».
- X-6.** (2007) In seminar of Medical School of Larissa, Greece, with the title «*Atomic Absorption Spectroscopy and its Applications in Environmental Chemistry and Toxicology*».
- X-7.** (2007) In seminar of Medical School of Larissa, Greece with the title «*Atomic Spectroscopy and its Applications*»
- X-8.** (2012) In seminar of Polytechnic School, Aristotle University, Thessaloniki, on Diagnostic Techniques in Science of Conservation of Art Objects” with the title «*Modern Analytical Techniques based on Spectrometry and Plasma Atomization*»

## SCIENTIFIC RESEARCH AREAS

### ***Hyphenated Techniques and Mass Spectrometry:***

Development and evaluation of hyphenated analytical methods using spectrometric detectors. Gas chromatography with microwave induced plasma atomic emission spectrometry (GC-AED) or with mass spectrometry (GC-MS). Development of Metal Speciation methods of analysis of biological samples and Metallomics research for Bioanalysis, using modern hyphenated techniques like liquid chromatography mass spectrometry (LC-MS) or liquid chromatography plasma emission spectrometry.

### ***Atomic Spectrometry Techniques:***

Development and evaluation of analytical methods using Inductively Coupled Plasma Atomic Emission Spectrometry (ICPAES), Atomic Absorption Spectrometry with Flame (FAAS), or Graphite Furnace (ETAAS), or Hydride Generation and Cold Vapor Generation, (HGAAS and CVAAS) either in batch mode or by on-line coupling with other and automated flow analysis techniques. Also development of non-destructive methods based on X-ray fluorescence spectrometry.

### ***Speciation analysis:***

Development of analytical methods for speciation analysis of organometallic species in biological matrices using separation techniques and atomic or mass spectrometric detectors. Methods for the analysis of archaeological specimens, pharmaceutical matrices, soils and sediments, plant and animal tissues and organisms, biological fluids, food and food supplements, natural waters, silicates, alloys, standards, etc.

### ***Sample pretreatment techniques:***

Development of wet-acid digestion methods, microwave assisted digestion, liquid-liquid extraction, solid phase extraction, headspace solid phase microextraction, etc.

### ***Chemometrics:***

Analysis of Variance, Regression Analysis, Cluster Analysis, Principal Component Analysis, Factorial Designs, Experimental Design, in Analytical methods optimization, evaluation and data interpretation.

## COOPERATIONS WITH OTHER LABORATORIES AND INSTITUTES

- (i) Cooperation with the **Laboratory of Botany of Department of Biology** regarding toxic metals determination in plant tissues. See papers Δ5, Δ7, Δ16, Δ21, Δ22, Δ28, Δ40, Δ42.
- (ii) Cooperation with **two institutes in Berlin and in Paris** (visits during May 1991 and June 1993) respectively regarding the methodology of asbestos fibers determination in drinking and natural waters. See work A10.
- (iii) Cooperation with the **Laboratory of Toxicology and Forensic analysis of Medical School**, regarding toxic metals and drugs residues determination in animal tissues. See papers Δ8, Δ9, Δ10, Δ11 και Δ19.
- (iv) Cooperation with the **Laboratory of Analytical Chemistry of Sofia University in Bulgaria** in the frame of the Greek-Bulgarian Exchange Project, regarding metal determination and chemometrics. See papers Δ15, Δ24, Δ25, Δ32 και Δ33.
- (v) Cooperation with the **Laboratory of Environmental Pollution Control of AUTH** regarding the analysis of aqueous environmental samples and wastewaters. See papers Δ13, 14, 35, 36, 43.
- (vi) Cooperation with the **Institute of Chemical Technologies and Analytics of the Vienna Technical Univeristy**, (2006), in the frame of Erasmus Project, regarding the development of speciation methods for organometallics and various extraction and microextraction methods for gas chromatography mass spectrometry (GC-MS) or atomic emission spectropmetry (GC-MIP-AED). See papers Δ80 και Δ81.
- (vii) Cooperation with the **Laboratory of Forest Treatment of the School of Agriculture, AUTH** regarding the analysis of plant samples for environmental monitoring purposes. See paper Δ94.
- (viii) Cooperation with the **Laboratory of Conservation of the Archaeological Museum of Thessaloniki**, regarding the analysis of ancient samples and specimens.
- (ix) Cooperation with the **Laboratory of Solid State Physics** regarding the analysis of innovative semiconductors and the stoichiometry of boron and other chemical elements in the paterial. See paper Δ102.
- (x) Cooperation with the **Laboratory of Pharmaceutical Analysis**, and also with the **Laboratory of Biochemistry.of AUTH**, for the analysis of protein preparations and the determination of metal traces or impurities or biometals in protein sequences. See papers Δ59 and Δ76.
- (xi) Cooperation with the **Lung Disease Clinic of Medical School of AUTH** for the development of analytical methodology to be appolied in the analysis of biological tissues from patients with lung cancer, who are treated with carboplatinum, platinum, cisplatinum and other metallodrugs. See paper Δ98 and an article in the international book N1.
- (xii) Cooperation with the **Institute of Chemical Technologies and Analytics of the Vienna Technical Univeristy**, (2009) regarding the development of speciation methods for metallomics and organometallics and hyphenated techniques like Liquid Chromatography Mass Spectrometry (LC-MS) with various ionization techniques like ESI and APCI and also Gas Chromatography Mass Spectrometry (GC-MS). See papers Δ90, Δ100, Δ103, 104 and Δ105. This cooperation is continuous with regular visits and work in the institute in 2010, 2011 and 2012.

## PARTICIPATION IN CONFERENCES

- Σ1** 4<sup>th</sup> International Symposium on “Environmental Pollution and its Impact on Life in the Mediterranean Region” (MESAEP).  
Kavala, 6-11 September 1987. Presentation A1.
- Σ2** 12<sup>o</sup> Panhellenic Conference in Chemistry, Chemical Education.  
Thessaloniki, 21-25 November 1988. Presentations A2, A4.
- Σ3** 1<sup>o</sup> Conference of Environmental Science and Technology.  
Mytilini, Greece, September 1989. Presentations A5, A6, A7.
- Σ4** 13<sup>o</sup> Panhellenic Conference in Chemistry.  
Athens, 21-25 October 1991. Presentation A8.
- Σ5** Annual Conference of Organization for the Restoration and Protection of the Environment in the '90s.  
Aristotle University, Thessaloniki, 19-21 August 1992. Presentation A10.
- Σ6** Symposium «Quality Assurance in Analytical Laboratories».  
Society of North Greece Industries – Lab. of Analytical Chemistry, AUTH.  
Thessaloniki, 15 July 1993. Presentation A11.
- Σ7** Workshop on "Trace Element Determination in Environmental and Food Matrices"  
*European Commission, BCR Measurements and Testing Directorate*  
Thessaloniki, 9-11 October 1994. Presentation A12.
- Σ8** 15<sup>o</sup> Panhellenic Conference in Chemistry “Chemistry and Development”.  
Thessaloniki 6-10 December 1994. Presentations A15, A16, A17, A18, A19.
- Σ9** 6<sup>o</sup> Panhellenic Conference of Greek Hydrotechnic Society.  
Thessaloniki, 22-26 May 1995. Presentation A20.
- Σ10** Panhellenic Conference “Food Quality and Consumers Demands after 2000”.  
Thessaloniki, 5-6 May 1995. Presentation A22.
- Σ11** 5<sup>o</sup> Oceanography and Fishery Conference.  
Kavala 15-18 April 1997. Presentation A24, A25.
- Σ12** Symposium of ELGA on “Introduction of new technologies in ELGA. The challenge of 2000”.  
Thessaloniki 31 March - 1 April 1997. Presentations A26, A27, A28.
- Σ13** Environment and Education Conference  
Prefecture of Thessaloniki and ΑΠΘ-ΤΕΙΘ-MESAEP  
Thessaloniki, 16-18 October 1997. Presentation A30.
- Σ14** 2<sup>o</sup> Panhellenic Conference in Enology.  
ΕΚΕΦΕ ΔΗΜΟΚΡΙΤΟΣ, 8-10 Μαΐου 1998. Presentation A31.
- Σ15** 1<sup>st</sup> Internat. Conference of Chemical Societies of South East European Countries  
Halkidiki, 1-4 June 1998. Presentation A32, A33.
- Σ16** 1<sup>st</sup> Balkan Conference on “Education and Research within the frame of the sustainable development. The case of the environment.  
Thessaloniki, 19-21 November 1998. Presentation A35.
- Σ17** 1<sup>st</sup> International Conference on “Instrumental Methods of Analysis. Modern Trends and Applications.  
Chalkidiki, 19-22 September 1999. Presentations A37, A38.
- Σ18** 3<sup>rd</sup> Euroconference on “Environmental Analytical Chemistry. Environmental Analytical Chemistry for the 21<sup>st</sup> Century”.  
Chalkidiki, 9-15 October 1999. Presentations A39, A40.
- Σ19** 18<sup>o</sup> Panhellenic Conference in Chemistry «Instrumental analysis-Accreditation».  
Piraeus 10-13 March 2001. Presentations A42, A43, A44.
- Σ20** 2<sup>nd</sup> International Conference on Instrumental Methods of Analysis.  
IMA 2001, Ioannina, 5-8 September 2001. Presentations A45, A46, A47.
- Σ21** 1<sup>o</sup> Environmental Conference of Macedonia.  
Thessaloniki, 1-4 Μαρτίου 2002. Presentations A48, A49.
- Σ22** Symposium for Strymonikos Gulf, Lakes Koronia and Volvi.  
Saint George Municipality of north Greece, 14 April 2002.



- Σ23 3<sup>rd</sup> Aegean Analytical Chemistry Days (3<sup>rd</sup> AACD).**  
Lesbos, Polichnitos, Greece, 29 September - 3 October 2002. Presentations A51, A52.
- Σ24 3<sup>rd</sup> International Conference on Instrumental Methods of Analysis.**  
IMA 2003, Thessaloniki, 23-27 September 2003. Presentations A55,A56,A57,A58,A59,A60
- Σ25 8<sup>o</sup> Panhellenic Conference in Chemistry of Greece and Cyprus.**  
Thessaloniki, 10-13 December 2004. Presentations A64, A65, A66.
- Σ26 4<sup>th</sup> International Conference on Instrumental Methods of Analysis.**  
IMA 2005, Iraklion Crete, 2-6 October 2005. Presentations A67, A68, A69, A70, A71, 72.
- Σ27 5<sup>th</sup> Aegean Analytical Chemistry Days (5<sup>th</sup> AACD).**  
Thessaloniki, Greece, 5-8 October 2006. Presentations A73, A74, A75, A76, A77.
- Σ28 11<sup>th</sup> Workshop on Progress of Analytical Methodologies for Trace Metal Speciation (TraceSpec 2007)”.  
Munster, Germany, 4-7 September 2007. Presentation A78.**
- Σ29 5<sup>th</sup> International Conference on Instrumental Methods of Analysis (IMA 2007).**  
IMA 2007, Rio Patras, 30 Sept – 3 Oct 2007. Presentations A79, A80, A81.
- Σ30 14<sup>th</sup> Biennial National Atomic Spectrometry Symposium.**  
14th BNASS 2008, Brighton, UK, 7 – 9 July 2008. Presentations A83, A84.
- Σ31 5<sup>th</sup> International Conference on Energy, Environment, Ecology and Sustainable Development  
EEESD 2009, WSEAS International Conference.  
Vouliagmeni, Athens, 28 – 30 Sept 2009. Presentation A87.**
- Σ32 6<sup>th</sup> International Conference on Instrumental Methods of Analysis (IMA 2009).**  
IMA 2009, Athens, 4 – 8 Oct 2009. Presentations A88, A89, A90, A91, A92, A93.
- Σ33 14<sup>th</sup> Hellenic Symposium (HELMED 2010).**  
Thessaloniki, 23 – 25 April 2010.  
Presentations A94, A95, A96.
- Σ34 7<sup>th</sup> Aegean Analytical Chemistry Days (7<sup>th</sup> AACD).**  
Lesvos, Greece, 29 Sept -3 October 2010. Presentations A97, A98, A99, A100, A101.
- Σ35 36<sup>th</sup> International Conference on Environmental Analytical Chemistry  
36<sup>th</sup> IAEAC, Rome, 5 – 9 October 2010. Presentation A102.**
- Σ36 2<sup>nd</sup> International Conference on Biochemistry and Medical Chemistry  
2<sup>nd</sup> BIOMEDCH11, University of Cambridge, 23 – 25 February 2011. Presentation A103.**
- Σ37 7<sup>th</sup> International Conference on Instrumental Methods of Analysis (IMA 2011).**  
IMA 2011, Chania, Crete, 18 – 23 Sep 2011. Presentations A104, A105, A106.
- Σ38 Diagnostic Techniques in the Science of Conservation of Art Objects.  
Center of Research Results, AUTH, Thessaloniki, 17 – 19 February 2012.**
- Σ39 12th Flow Analysis International Conference.  
Thessaloniki, Greece, 23-28 September 2012. Presentations A108, A109, A110, A111.**
- Σ40 8<sup>th</sup> International Conference on Instrumental Methods of Analysis (IMA 2013).**  
IMA 2013, Thessaloniki Sep 2013.

## PARTICIPATION IN INTERNATIONAL INTERLABORATORY TESTS

(i) During the years 1990-1998 and 2005-2009, I participated in the intercalibration and proficiency testing of IAEA employing and testing the performance of analytical methods on the analysis of plant and animal tissues, sediments, waters etc.

(ii) From January 1994 until December 1995 I participated in the Quality Assurance Project, QUASIMEME which was organized from the Marine Laboratory του Aberdeen, U.K. due to European Commission on behalf of the lab. of Analytical Chemistry for the methodologies of trace elements analysis.

## PARTICIPATION IN SCIENTIFIC SEMINARS

- M1** **Fundamentals, applications and Instrumentation of Inorganic Analysis (ICP-AES, ICP-MS).** Athens, 29 May 2002, Perkin Elmer Instruments.
- M2** **Φασματομετρία Μαζών με Επαγωγικά Συζευγμένο Πλάσμα (ICP-MS)**  
Thessaloniki, 10 November 2004, Hellamco.
- M3** **Εφαρμογή της Οδηγίας 2000/60/ΕΕ για νερά στην Ελλάδα και Ευρωπαϊκή εμπειρία.**  
1<sup>o</sup> Environmental Symposium, Thessaloniki, 11-12 November 2004.
- M4** **4<sup>th</sup> Austrian Proteome Research Symposium,** 20-21 September 2006.
- M5** **Gas Chromatography and Mass Spectrometry (GC-MS).** Hellamco.  
Thessaloniki, 2-3 November 2006,
- M6** **ARTAX Non-Destructive Analysis of Cultural Heritage Artefacts. Micro XRF.** 7 March 2007, Αναλυτικές Συσκευές, Archaeological Museum of Thessaloniki.
- M7** **PANalytical and Hellamco, XRF and XRD.** 12 November 2007, Thessaloniki Macedonia Palace.
- M8** **ICP/ ICP MS, Perkin Elmer, ΑντιΣελ.** 22 November 2007, Panorama.
- M9** **Workshop on Holistic Analytical Technologies for Systems Biology Studies,** 30-31 October 2008, Telloglio, Thessaloniki.
- M10** **EcoAnalytix. ICPMS and Atomic Spectroscopy, Perkin Elmer, ΑντιΣελ.** Hyatt, 6 November 2008, Thessaloniki.
- M11** **Liquid Chromatography and Mass Spectrometry, DIONEX and BRUKER,** Αναλυτικές Συσκευές, 12 November 2008, Capsis Hotel, Thessaloniki.
- M12** **The role of Chromatography in food quality and safety (Perkin Elmer) - Total solutions in modern mass spectrometry (Agilent Technologies) - Spectrometric methods for the determination of metals by ICP-MS (ALS S.A.),**  
7 October 2009, Titania Hotel, Athens.

## DOCTORAL THESIS

- Γ1** **Determination of mercury compounds by Cold vapour Atomic Absorption Spectrometry – Optimization by Factorial Design.**  
G. Zachariadis. Doctoral Thesis, Department of Chemistry, Aristotle University.  
Thessaloniki, 1991, pp. 176.

## INTERNATIONAL BOOK

- N 1** **“Inductively Coupled Plasma Atomic Emission Spectrometry. A model multielement technique for modern laboratories”**  
**George Zachariadis**  
**NOVA Science Publishers, New York, USA, 2012 pp 260.**

## TUTORIAL BOOKS

From the tutorial books listed below, B3, B5, B6, B7, B8, B9, B10, B11, B12 were taught or still are taught in the Department of Chemistry of Aristotle University. B4, B7, B8 are taught in the Department of Pharmaceutics. B1 and B4 in the departments of Biology, Geology and Agriculture. B2 in IEK Institutes. B4 in Technological and Educational Institute. B7 in Academy and in Department of Chemistry in Ioannina and Chemical Engineering Patras

- B1 Analytical Chemistry. Introduction- Qualitative and Quantitative Analysis (Αναλυτική Χημεία. Εισαγωγή - Ποιοτική και Ποσοτική Ανάλυση)**  
D.G. Themelis, G.A. Zachariadis,  
Simoni – Chatzipantou Publishing,  
Thessaloniki, 1994, pp.226.
- B2 Basics of General Chemistry. (Στοιχεία Γενικής Χημείας)**  
G.A. Zachariadis,  
*IEK Publishing*, Thessaloniki, 1994, pp. 195.
- B3 Laboratory excercises of Instrumental Chemical Analysis (Εργαστηριακές Ασκήσεις Ενόργανης Χημικής Ανάλυσης)**  
Editor J. Papadoyannis. UV-Vis Spectrophotometry: G.A. Zachariadis,  
Simoni – Chatzipantou Publishing, Thessaloniki, 1994. Edition, 2000.
- B4 Analytical Chemistry (Αναλυτική Χημεία)**  
D.G. Themelis, G.A. Zachariadis,  
ZHTH Publishing. Thessaloniki, 1998, 4<sup>th</sup> Edition 2003, pp. 412.
- B5 Students notes in Advanced Quantitative Analysis (Σημειώσεις Προχωρημένης Ποσοτικής Ανάλυσης)**  
I.A. Stratis, Γ.Α. Ζαχαριάδης.  
AUTH Publishing, Thessaloniki, 1998, pp. 110.
- B6 Student Notes in Spectroscopic methods of Analysis (Σημειώσεις Φασματοσκοπικών Μεθόδων Ανάλυσης)**  
I.A. Stratis, D.G. Themelis, G.A. Zachariadis, G. Theodoridis.  
AUTH Publishing, Thessaloniki,, 2001, pp. 358.
- B7 Introduction to Quantitative Analytical Chemistry. (Εισαγωγή στην Ποσοτική Χημική Ανάλυση) (Αρχές, Χημειομετρία, Μεθοδολογία, Κατεργασίες)**  
A.N. Voulgaropoulos, G.A. Zachariadis, I.A. Stratis,  
ZHTH Publishing. Thessaloniki, 1<sup>st</sup> Edition 1999, Next Edition 2004, pp. 363.
- B8 Laboratory Methods of Quantitative Analytical Chemistry (Εργαστηριακές Μέθοδοι Ποσοτικής Χημικής Ανάλυσης) (Σταθμική ανάλυση και Τιτλομετρία)**  
I.A. Stratis, G.A. Zachariadis, A.N. Voulgaropoulos  
ZHTH Publishing. Thessaloniki, 1<sup>st</sup> Edition 2000, Next Edition 2004, pp. 306.
- B9 Instrumental Chemical Analysis II (Ενόργανη Χημική Ανάλυση II)**  
I.A. Stratis, D.G. Themelis,, G.A. Zachariadis, A. Anthemidis,, A. Economou.  
AUTH, ZHTH Publishing, Thessaloniki, 2004, pp. 489.
- B10 Special Methods for Separation and Chemical Analysis (Ειδικές μέθοδοι διαχωρισμού και χημικής ανάλυσης)**  
I.A. Stratis, G.A. Zachariadis, V. Samanidou, G. Theodoridis.  
AUTH, ZHTH Publishing, Thessaloniki, 2004, pp. 398.
- B11 Quantitative Chemical Analysis. Principles and laboratory excercises (Ποσοτική Χημική Ανάλυση. Αρχές και εργαστηριακές ασκήσεις)**  
A. Anthemidis, A.N. Voulgaropoulos, G.A. Zachariadis, I.A. Stratis  
ZHTH Publishing, Thessaloniki, 2012, pp. 588.
- B12 Metrology, Chemometrics and Quality Control. In the Editor. (Μετρολογία χημειομετρία και έλεγχος ποιότητας, Υπό έκδοση)**  
G.A. Zachariadis, A.N. Voulgaropoulos, S. Girousi, J.Stratis, ZHTH, 2013