CURRICULUM VITAE

Ioannis P. Gerothanasis

Department of Chemistry, University of Ioannina (UoI), Greece

and

Adjunct Professor, ICCBS, University of Karachi, Pakistan

Former Rector of the University of Ioannina, Greece

and

Former Vice Chairman of Hellenic Quality Assurance and Accreditation Agency (HQAA), Greece

Ioannina, August 2021

CONTENTS

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SHORT BIOGRAPHICAL SKETCH

- September 1997: Full Professor, Dept. of Chemistry, UoI.
- October 1994: Honorary Research Fellow of the Queen Mary College, Univ. of London.
- 1990: Associate Professor in the same Department.
- 1986: Assistant Professor, Section of Organic Chemistry and Biochemistry, Dept. of Chemistry, UoI, Greece.
- 1984: Lecturer, Section of Physical Chemistry, Dept. of Chemistry, School of Natural Sciences, University of Ioannina (UoI), Greece.
- 1981-1984: “Premier Assistant”, Univ. of Lausanne, Institute of Organic Chemistry, Switzerland.
- 1980: Postdoctorate fellowship from the “Swiss Fond National” for NMR Biophysical Research in the Univ. of Lausanne, Institute of Organic Chemistry, Switzerland.
- 1980 (1981: year of award): PhD thesis, School of Chemical Sciences, Univ. of East Anglia, England.
- 1978 (1979: year of award): MSc degree in Chemical Spectroscopy in the School of Chemical Sciences, Univ. of East Anglia, England.
- 1977: 3 years fellowship from the Greek Scholarship Foundation for postgraduate studies in England.
- 1975-1977: Military service.
- 1974 (1975: year of award): BSc Degree in Chemistry, Aristotle Univ. of Thessaloniki, Greece.
- Nationality: Greek
- Year of birth: 1952.

POSTGRADUATE STUDIES

- Master Degree. Title: Natural Abundance Oxygen-17 Fourier Transform NMR Studies, pp.1-196 (1978), School of Chemical Sciences, Univ. of East Anglia, England.
- PhD Thesis. Title: Studies of ^{17}O NMR Spectroscopy, pp. 1-259 (1980), School of Chemical Sciences, Univ. of East Anglia, England.

SCIENTIFIC FIELDS

Bioorganic Chemistry, Natural Product Chemistry, NMR Spectroscopy, Structural Biology, Food Chemistry.

DISTINCTIONS

- October 2019-present: Overseas Guest Expert of the National Center of International Research on Food Authenticity Technology (NCIRFAT), Beijing, China.
- June 2015-present: Adjunct Professor of International Center for Chemical and Biological Sciences (ICCBS), University of Karachi, Pakistan (UNESCO Research Center of Excellence).
- DSc, Univ. of East Anglia, 2011.
- Medal of the Ministry of Education of Ukraine, 2009.
- Honorary Research Fellow, QMW College, England, 1996.

FELLOWSHIPS AND AWARDS

- October 2018: Grant from the Greek Ministry of Education (University of Opole, Poland).
- September 2011: Grant from the Greek Ministry of Education and DAAD (University of Leipzig, Germany).
- Summer 1999, 2000, 2001: Collaborative Greece-Italy Program and NATO Grant, University of Florence, Italy.
- Summer 1995, 1996: EEC Grant, QMW College, London, England.
- Summer 1992, 1993, 1994: NATO Collaborative Grant, Institute Curie, Section de Biologie, Orsay, France.
- November 1990-April 1991: Welcome Trust Fellowship (National Institute of Medical Research, London, England).
- July 1990-August 1990: FEBS Short Term Fellowship (Max Planck Institute, Mülheim, a.d. Ruhr, Germany.
- July 1989-September 1989: DAAD Short Term Fellowship (Max Planck Institute, Mülheim, a.d. Ruhr, Germany).
- July 1988-August 1988: EMBO Short Term Fellowship (CNRS, Nancy, France).
- June 1988: EEC Short Term Fellowship (Inst. Curie, Orsay, France).
- June 1987-September 1987: FEBS Short Term Fellowship (CNRS, Nancy, France).
- June 1986-August 1986: EMBO Short Term Fellowship (CNRS, Nancy, France).
- July 1985-September 1985: EMBO Short Term Fellowship (CNRS, Nancy, France).
- June 1984-August 1984: EMBO Short Term Fellowship (University of Lausanne, Switzerland).
- September 1980-June 1981: Research Postdoctorate Fellowship, Swiss Scientific Research Council (University of Lausanne, Switzerland).
- July 1980-September 1980: NATO Research Fellowship (University of East Anglia, England).
- March 1979: Price for the best MSc thesis submitted in Chemical Spectroscopy in the School of Chemical Sciences, University of East Anglia, England.
- September 1977-July 1980: Greek Scholarship Foundation (University of East Anglia, England).

ADMINISTRATION EXPERIENCE

Academic Administration

- Chairman of the Greek Rectors Conference 2010.
- Rector of the University of Ioannina (UoI): 2006-2010.
- Vice Rector of the UoI: 2003-2006.
- Chairman of the Dept. of Architecture Engineering, UoI: 2009-2010.
- Chairman of the Dept. of Plastic Arts and Art Sciences, UoI: 2007-2010.
- Chairman of the Dept. of Biological Applications & Technologies, UoI: 2004-2005.
- Chairman of the Dept. of Chemistry, UoI: 2000-2002 and 2002-2004.
- Vice Chairman of the Dept. of Chemistry, UoI: 1999-2000.
- Chairman of the Section of Organic Chemistry and Biochemistry, Dept. of Chemistry, UoI: 1997-1998, 1998-1999 and 1999-2000.

Administration in Quality Assurance in Higher Education

1. Vice Chairman of HQAA 2014 – August 2019.
2. Member of the "National Committee of the Referencing process of the Hellenic National Qualifications Framework (HNQF) to the European Qualifications Framework (EQF)" 2013-2014.
3. Member of the Hellenic Quality Assurance and Accreditation Agency (HQAA) 2010-2014 (http://www.hqaa.gr) in the area of Natural Sciences (Mathematics, Physics, Chemistry, Material Science and Engineering, Computer Sciences and Environmental Sciences).

MEMBER OF COMMITTEES

National Committees

- Chairman of the Committee of «Nanotechnology» in the frame of National Strategic Reference Framework (NSRF, 2007-2013) of the Greek General Secretariat for Research & Technology: 2008-2009.
- Chairman of the Committee of National Strategic Reference Framework (NSRF, 2007-2013) of the Greek Rectors Conference: 2007-2010.
- Chairman of the Committee of Physics-Chemistry-Materials of the Greek General Secretariat for Research & Technology: 2008-2009.
- Chairman of the Greek Supreme Chemistry Council: 2005 –2009.
- Member of the Greek National Committee for the "Institutional Framework for Research and Technology", General Secretariat of Research & Technology, 2009.
- Member of the Greek National Plenary Council for Research & Technology: 2008-2009.
- Member of the Committee of the Greek Rectors Conference for the evaluation of the new Law for Research and Development, Greece, 2007.
- Chairman of the Committee for the application for the foundation of the Center for Research and Technology of Epirus, 2008.
- Coordination Committee of the Greek National Postdoctorate Program "PYTHAGORAS", Greek Ministry of Education & Religious Affairs, 2005.
- Member of the evaluation Committee of the Greek National Postdoctorate Program "PYTHAGORAS", Greek Ministry of Education & Religious Affairs, 2004.
- Member of the Evaluation Committee of the Greek National PhD Research Program "HERACLETOS" of the Greek Ministry of Education & Religious Affairs, 2003.

- Chairman of the Committee of the Core Research Centers and Laboratories of the UoI: 1999-2010.
- Chairman of the Committee of the Strategic Plan of the UoI: 1999, 2002, 2007 and 2008.
- Chairman of the NMR Center of the UoI, 1999-2019.
- Member of the Evaluation Committee of Postgraduate Programs, Greek Ministry of Education & Religious Affairs, 1995.

International Committees

1. National Representative of Greece in the European Community for "Site Issue Working Groups" (2009).
2. National Representative of Greece in the Marie Curie Actions, European Communities, 2005-2006.
3. Reviewer of the Commission of the European Communities, Directorate General for Science, Research and Development.

REVIEWER

Reviewer of more than thirty (30) international journals, a representative list of which is provided below: Analytica Chimica Acta, Chemical Biology, Chemical Physics Letters, European Journal of Biochemistry, FEBS Letters, Food Chemistry, Journal of Agricultural and Food Chemistry, Journal of the American Chemical Society, Journal of Chemical Education, Journal of Magnetic Resonance, Inorganic Chemistry, Journal of Organic Chemistry, Journal of Physical Chemistry, Journal of Saudi Chemical Society, Magnetic Resonance in Chemistry, Phytochemistry, etc.

ADVISORY BOARD

Member of Editorial Advisory Board of the Journals:

- "Molecules", Section of Natural Product Chemistry.
- "The Open Natural Products Journal", Bentham Open, ISSN 1874-8481.
- "International Journal of Green Pharmacy" Med Know.
- "ISRN Spectroscopy", Hindawi Publishing Corporation.
- "European Journal of Biophysics", Science Publishing Group.

AUTHOR/EDITOR

Educational Books

1. "Spectroscopy of Organic Compounds" (in Greek), I.P. Gerothanassis, Greek Open University, pp. 1-122 (2000).
2. "Organic Chemistry", vol 1-3, Morrison and Boyd, translation into Greek, three volumes with a total of 2000 printed pages, instructional material for basic and advanced courses in Organic Chemistry.
3. Nuclear Magnetic Resonance Spectroscopy (in Greek), p.p. 1-382, Symmetry 2018.

Research Books

1. "Natural Antioxidant Phenols. Sources, Structure, Structure – Activity Relationship, Current Trends in Analysis and Characterization". D. Boskou, I.P. Gerothanassis & P. Kefalas (Eds), Research Signpost: Kerala, India, 2006.

ORGANIZATION OF INTERNATIONAL CONFERENCES

1. Member of the International Scientific Committee of the 14th Eurasia Conference on Chemical Sciences, Karachi, Pakistan (2016).
2. Member of the International Scientific Committee of the 9th European Magnetic Resonance Conference, EUROMAR 2013, Crete, Greece (2013).
3. Member of the National Organization Committee of "The Athens Dialogues", International Conference on Culture and Civilization, Athens (2010).
4. 4. Organization and welcome address of the ASEA UNINET National Coordinator Meeting, UoI, June (2009).
5. Member of the International Scientific Committee of the Sixth International Conference of the Chemical Societies of the South-Eastern European Countries, Bulgaria, September (2008).
6. Member of the International Scientific Committee of Joint Greek-Italian Meeting on Chemistry of Biological Systems, Torino, Italy (1996).
7. Member of the International Scientific Committee of NATO Advanced Study Institute on NMR of Biological Macromolecules - Proteins, Nucleic Acids, Polysaccharides, Crete, August (1993).

LECTURES IN INTERNATIONAL CONFERENCES

Plenary/Invited Lectures of Educational Policy

10. "European Organizations: Mobility and Recognition", I.P. Gerothanassis, Greece Exploring Advanced Recognition in Higher Education – GEAR, Athens, Greece, 3-4 May, (2018).
9. "Degree Recognition in the new Era of Quality Assurance and Accreditation", I.P. Gerothanassis, Greece Exploring Advanced Recognition in Higher Education – GEAR, Athens, Greece, 26 – 27 April, (2017).
8. "European versus National Qualifications Frameworks in Higher Education Institutions: Ethical Framework and Evolution", S.S. Pegka and I.P. Gerothanasssis, Fifth International Arab Conference on Quality Assurance in Higher Education (IACQA'2015), University of Sharjah-United Arab Emirates, (2015).
7. "National framework of Qualifications", I.P. Gerothanassis, International Conference on Quality Assurance and Accreditation Agency (HQAA), Aristotle Univ. of Thessaloniki, Greece (2012).
6. "Education, Research and Innovation". I.P. Gerothanassis, Public Event entitled '30 years Euroelections', Constantinos Karamanlis Institute for Democracy, Athens, Greece (2010).
5. "Research in Higher Education in Greece and the European Reality". I.P. Gerothanassis, The University in the 21st Century: Challenges and Perspectives, International Conference, Karatzas Hall, Athens (2010).
4. "Education, Research and Innovation". I.P. Gerothanassis, in III. Balkan Universities Network Meeting – Balkan Spring Educational Conference, Edrine, Turkey (2010).
3. "Presentation of the Hellenic Higher Education System". I.P. Gerothanassis, National Representative delegated by the Greek Ministry of National Education and Religious Affairs, European Higher Education Fair, Beijing, China (2007).
2. "Presentation of the Hellenic Higher Education System". I.P. Gerothanassis, National Representative delegated by the Greek Ministry of National Education and Religious Affairs, European Higher Education Fair, Bangkok, Thailand (2008).
1. "Attracting International Students". I.P. Gerothanassis, Institute of International Network University Seminar "Internationalization of Higher Education in Europe: Opportunities and Challenges for Greece, Strategies and Policies", Fulbright Foundation, Athens, Greece (2006).

Plenary/Keynote Research Lectures

29. “NMR in natural products: analytical and structural investigations, biotransformations and protein-ligand interactions”, I.P. Gerothanassis, International Webinar on Chemistry and Pharmaceutical Chemistry, March 12-13, Webinar, UK (2021).
28. “Biotransformation Monitoring, Protein-Ligand Interactions and In-Cell NMR Spectroscopy in Natural Products Research”, I.P. Gerothanassis, 2nd International Conference on Natural Products & Traditional Medicine, November 19, Webinar, Vienna, Austria (2020).
27. “Real-Time Biotransformation Monitoring in the NMR Tube and In-Cell NMR Spectroscopy in Natural Product Research”, I.P. Gerothanassis, 7th International Symposium-cum-Training Course on Molecular Medicine and Drug Research, Karachi, Pakistan, November 5-7, Karachi, Pakistan (2019).
26. “Chemical Analysis, Metabolomics and “In Cell” Applications of NMR in Natural Products and Food Chemistry”, I.P. Gerothanassis, 2019 International Forum on Food Authenticity Technology (2019 IFFAT) and Annual Meeting of National Center of International Research on Food Authenticity Technology (NCIRFAT), 28th - 29th October, Beijing, China (2019).
25. “High Resolution NMR Structures of Natural Products in Solution Based on DFT Calculations of Chemical Shifts vs. Solved by Diffraction Methods: Competitors or Collaborators?”, I.P. Gerothanassis, 2nd International Symposium on Natural Products for the Future (ISNPF-2), Karachi, Pakistan, November 4-6, Karachi, Pakistan (2018).
24. “NMR in Natural Products: Chemical Analysis, Monitoring of Dynamic Changes, “In-Cell” NMR and DFT Calculated Structures Based on NMR Chemical Shifts in Solution”, I.P. Gerothanassis, 4th Polish-Taiwanese Conference “From Molecular Modeling to Nano- and Biotechnology”, August 29-31, Opole-Groszowice, Poland (2018).
23. “NMR in Metabolomics”, I.P. Gerothanassis, Natural Products Summer School. Chemistry Biological activities & Technological applications, April 27-29, Aristotle University of Thessaloniki, Greece (2018).
22. “NMR Spectroscopy”, I.P. Gerothanassis, Natural Products Summer School. Chemistry Biological activities & Technological applications, April 27-29, Aristotle University of Thessaloniki, Greece (2018).
21. “Chemical Analysis, Monitoring of Dynamic Changes, Metabolomics and “In Cell” Applications of NMR in Natural Products and Food Chemistry: Is the Role of Metrology Underestimated?”, I.P. Gerothanassis, International Workshop on Application of NMR in Pharmaceutics, Phytotherapeutics and Medicine, November, Istanbul, Turkey (2017).
20. “NMR in Molecular Medicine and Drug Research: Three Selected Examples”, I.P. Gerothanassis, 6th International Symposium-cum-Training Course on Molecular Medicine and Drug Research, November, Karachi, Pakistan (2017).
19. “Chemical Analysis, Monitoring of Dynamic Changes, Metabolomics and “In Cell” Applications of NMR in Natural Products and Food Chemistry: Is the Role of Metrology Underestimated?” Ioannis P. Gerothanasis, rd IMEKOFOODS “Metrology Promoting Standardization and Harmonization in Food and Nutrition”, Thessaloniki, Greece (2017).
18. “NMR in Natural Products: From Chemical Analysis and Monitoring of Dynamic Changes to In Cell NMR and Structures Beyond the Limits Of X-Ray and Neutron Diffraction Methods”, I.P. Gerothanassis, 14th Eurasia Conference on Chemical Sciences, Karachi, Pakistan, December 15-18 (2016).

17. “NMR Methodology Developments in the Analysis of Complex Mixtures of Natural Products: From Metabolomics to In-Cell NMR” 9th International Conference on "Instrumental Methods of Analysis-Modern Trends and Applications" (IMA) 2015, Kalamata, Greece, September (2015).
16. “Concepts and Applications of NMR”, I.P. Gerothanassis, NASIC Workshop on Modern Spectroscopic Techniques and other Applications in Structure Determination, Karachi, Pakistan, December (2014).
15. “NMR Methodology Developments in the Analysis of Complex Mixtures of Natural Products: from Metabolomics to ‘in-cell’ NMR”, I.P. Gerothanassis, 14th Asian Symposium on Medicinal Plants, Karachi, Pakistan, December (2013).
14. “NMR Methodology Developments in the Analysis of Complex Metabolite Mixtures”, 8th International Conference on Instrumental Methods of Analysis: Modern Trends and Applications (IMA) 2013, Thessaloniki, Greece, September (2013).
13. “Novel NMR Applications to Phytochemical Analysis” I.P. Gerothanassis, COST Action FA 0906, Training School of Phytochemical Analysis, Thessaloniki, Greece, February (2013).
12. “Novel NMR Methods for the Demixing the Spectra of Complex Natural Extracts”. I.P. Gerothanassis, 13th International Symposium on Natural Products, Chemistry, Karachi, Pakistan, September (2012).
11. “NMR Studies of Antioxidants”. I.P. Gerothanassis, in 5th International Advanced Course, Chemistry and Biochemistry of Antioxidants: Antioxidants in Health, Disease and Food Safety – Practical Assessment, Wageningen, Netherlands (2004).
10. “NMR Detection of Antioxidants”. I.P. Gerothanassis, in 4th International Advanced Course: Chemistry and Biochemistry of Antioxidants, Wageningen, Netherlands (2003).
9. “NMR Detection of Antioxidants”. I.P. Gerothanassis, in 3rd International Advanced Course: Chemistry and Biochemistry of Antioxidants, Wageningen, Netherlands (2002).
8. “NMR Detection of Antioxidants”. I.P. Gerothanassis, in 2nd International Advanced Course: Chemistry and Biochemistry of Antioxidants, Wageningen, Netherlands (2001).
7. “NMR Detection of Antioxidants”. I.P. Gerothanassis, in 1st International Advance Course: Chemistry and Biochemistry of Antioxidants, Wageningen, Netherlands (2000).
6. “Multinuclear and Multidimensional NMR of Individual Peptide and Protein Bound Water in Solution and Solid State”. I.P. Gerothanassis, in *Joint Greek-Italian Meeting on Chemistry of Biological Systems*, Torino, Italy (1996).
5. “Fourier Transform IR and Multinuclear and Multidimensional NMR Spectroscopic Studies of Specific Peptide and Protein-Bound Water Molecules in Solution and Solid States”. I.P. Gerothanassis, in *Joint Greek-Italian Meeting on Chemistry of Biological Systems and Molecular Chemical Engineering*, UoI, Greece (1994).
4. “NMR Studies of Ligand-Protein Interactions Involving Quadrupolar Nuclei”. I.P. Gerothanassis, in *NATO Advanced Study Institute on NMR of Biological Macromolecules - Proteins, Nucleic Acids, Polysaccharides,* Crete, Greece (1993).
3. “Nuclear Shielding and Biomolecular Structure”. I.P. Gerothanassis, in *NATO Advanced Study Institute on NMR of Biological Macromolecules - Proteins, Nucleic Acids, Polysaccharides*, Crete, Greece (1993).
2. “Fourier Transform IR and Multinuclear and Multidimensional NMR Spectroscopic Studies of Specific Peptide and Protein-Bound Water Molecules”. I.P. Gerothanassis, in *Fifth International Conference on the Spectroscopy of Biological Molecules*, Loutraki, Greece (1993).
1. “^{17}O NMR, Selective Observation of ^{1}H–^{15}N Protons and ^{1}H–^{15}N Multiple Quantum NMR as Novel Methods for Investigating Model Compounds of the Active Site of Hemoproteins”. I.P. Gerothanassis* and M. Momenteau, *Greek-Italian Meeting on Chemistry of Biological System and Molecular Chemical Engineering*, Loutraki (1990).

Research Lectures

26. "In vitro and in vivo NMR spectroscopy in natural product research", A. Primikyri, International Webinar on Chemistry and Pharmaceutical Chemistry, March 12-13, Webinar, UK (2021).
25. "NMR Spectroscopy as Analytical, Metabolomics and Structural Tool in Natural Products and Food Chemistry". Ioannis P. Gerothanassis, *International Workshop on "Recent Advances in Spectroscopic methods: Applications in industry and agriculture"* 24-25 Ferbuary, Dakar, Sénégal (2020).
24. "Biotransformation Monitoring in the NMR Tube, in Vitro and in Vivo NMR Spectroscopy in Natural Products and Food Chemistry". Ioannis P. Gerothanassis, *International Workshop on "Recent Advances in Spectroscopic methods: Applications in industry and agriculture"* 24-25 Ferbuary, Dakar, Sénégal (2020).
23. "NMR in Natural Products: Chemical Analysis of Complex Mixtures, Bioanalytical and Metabolomics Applications and DFT NMR Structures of Analytes". Ioannis P. Gerothanassis, *11th International Conference on "Instrumental Methods of Analysis"* 22-25 September, Ioannina, Greece (2019).
22. "Rapid and Sensitive NMR and Molecular Dynamics Mapping of Interactions and Selective Binding Sites of Fatty Acids with Non-Labeled Albumin". Eleni Alexandri, Alexandra Primikyri*, George Papamokos, Ioannis P. Gerothanassis, *11th International Conference on "Instrumental Methods of Analysis"* 22-25 September, Ioannina, Greece (2019).
21. "Detailed Phytochemical Analysis of an Artemisia Annua and an Artemisia Absinthium Extract using a Combination of NMR And HPLC/DAD/MS Techniques". Vasiliki G. Kontogianni*, Marianna Sakka, Alexandrea Primikyri1, Ioannis P. Gerothanassis, *11th International Conference on "Instrumental Methods of Analysis"* 22-25 September, Ioannina, Greece (2019).
20. "NMR in Natural Products: Chemical Analysis, Monitoring of Dynamic Changes, "In-Cell" NMR and DFT Calculated Structures Based on NMR Chemical Shifts in Solution". Ioannis P. Gerothanassis, *30th International Symposium on the Chemistry of Natural Products and the 10th International Congress on Biodiversity (ISCNP30 & ICOB10)*, 25-29 November, Athens, Greece (2018).
19. "A Scientific Tour from Peptides and Proteins with the Late Paul Cordopatis to Natural Products". Ioannis P. Gerothanassis and A.G. Tzakos, *SEE-DRUG Conference – NMR applications in Life Sciences – Exploring Peptides & Proteins*, Patras, Greece (18-20- June 2015).
18. "Novel NMR Methods for the Analysis of Crude Plant Extracts". I.P. Gerothanassis, P. Charisiadis, A. Primikyri, V. Kontogianni, C.G. Tsiafoulis, V. Exarchou, and A.G. Tzakos, *International Conference for Health*, Athens, Greece (2012).
17. "Plant Derived Bioactive Compounds: Isolation, Identification, Biological Evaluation and Enzymatic Modification of Lead Compounds". I.P. Gerothanassis, *12th Euro-Asia Conference on Chemical Sciences EuAsC2S-12*, Corfu, Greece (2012).
16. "Myelin Basic Protein: Structural Disorder, Protein Partners and Diseases". I.P. Gerothanassis, in *5th International Greek Biotechnology Forum,* Zappeio Megaro, Athens, Greece (2009).
15. "Structure – Function Discrimination, Domain Selective Ligand – Binding Model and the Role of Chloride Anions of Angiotensin I Converting Enzyme". I.P. Gerothanassis, *HALCHEM III,* Ioannina, Greece (2006).
14. "Separation and Identification of the Major Constituents of Greek Hypericum Perforatum by LC – UV – Solid Phase Extraction NMR and LC-UV-MS/MS". E.C. Tatsis, S. Boeren, V. Exarchou, A.N. Troganis, J. Vervoort, and I.P. Gerothanassis, in *4th Interna-tional Conference on Instrumental Methods of Analysis,* Crete, Greece (2005).
13. "The Renin-Angiotensin System: NMR and Molecular Modeling Studies of Polypeptide Models of the Zn-active Site of the Angiotensin Converting Enzyme, Angiotensin II and Potential Analogues". I.P. Gerothanassis, in *4th User Meeting of the European Large-Scale Facilities for NMR*, Frankfurt, Germany (2001).

12. “Hydration Phenomena of Molecules of Biological Interest: Structural and Thermodynamic Aspects as Revealed by the Use of Multinuclear and Multidimensional NMR”. I.P. Gerothanassis, in *2nd International Conference of the Chemical Societies of the South-Eastern Countries*, Chalkidiki, Greece (2000).
11. “Hydration Phenomena of Biomolecules in Solution and in the Solid as Revealed by the Triad: NMR-Structure-Thermodynamics”. I.P. Gerothanassis, *XIX International Conference on Magnetic Resonance in Biological Systems*, Florence, Italy (2000).
10. “The Triad: NMR-Biomolecular Structure-Thermodynamics”. I.P. Gerothanassis, in *2nd Hellenic Forum on Bioactive Peptides*, Univ. of Patras, Greece (2000).
9. “NMR Methodology for the Analysis of Phenolic Acids in Complex Natural Mixtures”. V. Exarchou, I.P. Gerothanassis*, A. Troganis, M. Tsimidou and D. Boskou, in *Instrumental Methods of Analysis: Modern Trends and Applications*, Chalkidiki, Greece, (1999).
8. “Multinuclear (^{13}C, ^{17}O, ^{57}Fe) NMR Studies of Heme Proteins and Synthetic Model Compounds”. I.P. Gerothanassis, in *5th International Symposium on Applied Bioinorganic Chemistry*, Corfu, Greece (1999).
7. “Multinuclear (^{13}C, ^{17}O, ^{57}Fe) NMR Studies of Heme Proteins and Synthetic Model Compounds”. I.P. Gerothanassis, *2nd User Meeting of the European Large-Scale Facilities for NMR*, Woudschoten, The Netherlands (1998).
6. “Multinuclear NMR Studies in Proteins and Synthetic Model Compounds”. I.P. Gerothanassis and C.G. Kalodimos, in *1st International Conference of the Chemical Societies of the South-East European Countries-Chemical Sciences and Industry*, Chalkidiki, Greece (1998).
5. “Multinuclear NMR Studies of the Fe–CO Unit in Hemoproteins and Synthetic Model Compounds in Solution and Solid States”. I.P. Gerothanassis, in *7th European Conference on the Spectroscopy of Biological Molecules*, El Escorial, Spain (1997).
4. “Heteronuclear and Two-Dimensional NMR Studies of the Active Site of Hemoproteins and Synthetic Model Compounds in Solution and Solid States”. I.P. Gerothanassis, in *XVIIth International Conference on Magnetic Resonance in Biological Systems*, Keystone, Colorado, U.S.A. (1996).
3. “^{17}O NMR and FTIR Studies of Haemoproteins and Synthetic Model Compounds in Solution and in the Solid State”. I.P. Gerothanassis* and M. Momenteau, in *Fifth International Conference on the Spectroscopy of Biological Molecules,* Loutraki, Greece (1993).
2. “^{17}O NMR Studies of Hemoproteins and Synthetic Model Compounds in Solution and Solid States”. I.P. Gerothanassis, *NMR Discussion Group*, London (1993).
1. “^{17}O NMR Studies of Oxygenated Hemoproteins and Synthetic Model Compounds”. I.P. Gerothanassis* and M. Momenteau, *Second International Symposium on Metal Ions in Biology and Medicine,* Loutraki, Greece (1992).

TEACHING EXPERIENCE

Teaching Philosophy

(i) *Curriculum*

- Goals and objectives of the curriculum, structure and content, and intended learning outcomes should be explicitly defined.
- Functionality, effectiveness, and potential inhibiting factors of the Curriculum should be periodically evaluated.
- Planned improvements should be based on the periodic evaluation from the students.

(ii) *Teaching*

- Learner-Centred Pedagogy: This pedagogical approach has many associated terms (e.g., constructivist, student-centred, participatory, active), but generally draws on learning theories suggesting learners should play an active role in the learning process. Students, therefore, use prior knowledge and new experiences to create knowledge. The teacher facilitates this process, but also creates and structures the conditions for learning.
- Quality and evaluation of teaching procedures, teaching materials and resources should be based on the periodic evaluation from the students.
- Periodic evaluation of the efficacy of teaching, understanding of positive or negative results.

(iii) *Research*

- Research to explore chemistry concepts facilitating active learning in the classroom and emulate to engage students' interest (see publications in international journals 51, 52, 82 of my CV).

Teaching at Undergraduate Level

Since 1983 up to present I have been teaching a variety of undergraduate courses including: (a) Introductory Courses in Organic Chemistry, (b) Organic Chemistry I, (c) Organic Chemistry II, (d) Organic Chemistry III, (e) Spectroscopy of Organic Compounds, (f) Laboratory Organic Chemistry I and Laboratory of Organic Chemistry II as well as a variety of elective courses including Advanced Organic Chemistry Laboratory, Advanced Spectroscopy of Organic Compounds, Research Assay, Diplome work.

Teaching at Postgraduate Level

- Since 1994 up to present I have been teaching a variety of postgraduate courses in the Department of Chemistry including:

(a) Advanced Courses of Organic Chemistry, (b) Advanced Courses of Spectroscopy in Organic Compounds, (c) Advanced Courses of NMR Spectroscopy and (d) Laboratory of Advanced Spectroscopic Techniques.

- Since 2017 up to present I have been teaching in the interdisciplinary postgraduate program of "Medicine Chemistry" with the partnership of the Department of Chemistry, School of Medicine and the Department of Biological Applications and Technologies.

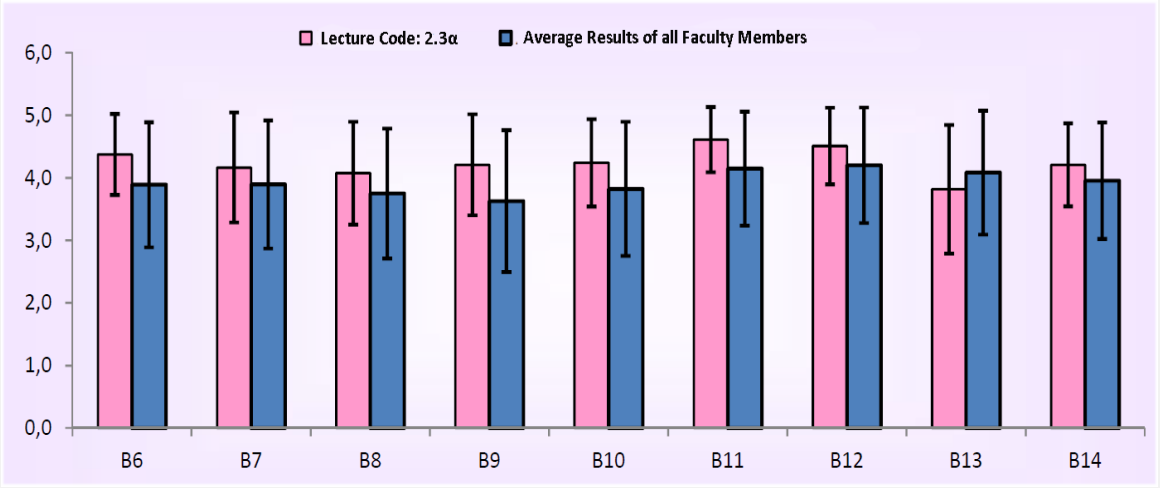
Teaching at International Postgraduate Courses

Since 2005 up to present I have been teaching a variety of postgraduate courses in students of International Center for Chemical and Biological Sciences (ICCBS), University of Pakistan, Karachi, including:
(a) NMR Spectroscopy of Biological Molecules I, (b) NMR Spectroscopy of Biological Molecules II.

Teaching Evaluation

The number of participating students in my classroom and in providing evaluation of the teaching performance, training, and stimulus is the maximum among all the faculty members of the Department of Chemistry. According to the results of the student opinion questionnaire, my teaching performance is well above the average of the faculty members of the Department of Chemistry (see below):

Teaching Evaluation of Faculty Member
(Average value ± typical deviation, maximum value: 5)



RESEARCH

Research Philosophy

According to a wide range of international statistics and league tables, the key performance indicators to assess the research performance may include:

- Research volume:
  - (i) Total research outcome in terms of number of publications, number of MSc and PhD thesis.
  - (ii) National research income.
  - (iii) International research income.
  - (iv) Research income from industry.
- Research quality:
  - (i) Impact factor of journals, number of citations excluding self-citations, invitations for plenary lectures in International Conferences, national and international prices.
  - (ii) Vigorous assessment by subject expert panels.
  - (iii) Subject areas that have been rated internationally excellent.
  - (iv) Postgraduate and postdoctorate population.
  - (v) % of international MSc and PhD students.

Supervision of PhD and MSc Students

Thirteen (13) PhD students have completed their thesis under my supervision (the number of publications denote the respective number of my CV):

i. Dr. C. Vakka (1997), publications 40, 46, 47, 53, 54, 59
ii. Dr. C. Kalodimos (1998), publications 52, 55, 62, 63, 64, 65, 70, 71, 74
iii. Dr. V. Exarchou (2001), publications 67, 77, 82, 83, 84
iv. Dr. A. Tzakos (2006), publications 85, 86, 88, 89, 92, 93, 94, 95, 98
v. Dr. K. Tsanaktsidis (2006), publications 43, 51, 87
vi. Dr. E. Tatsis (2008), publications 81, 101, 103
vii. Dr. C. Barbarosou (2007), publication 78, 82, 97
viii. Dr. I. Leontari (2008), publication 102
ix. Dr. V. Goulas (2009), publications 104, 108, 115
x. Dr. V. Kontogianni (2009), publications 105, 111, 114, 123
xi. Dr. A.A. Nerantzaki (2010), publication 122, 124
xii. Dr. P. Charisiadis (2012), publications 109, 111, 113, 118, 123, 133, 134, 145,

xiii. Dr. A. Primikyri (2013), publications 120, 123, 130, 135, 153.
Eight (8) MSc students have completed their thesis under my supervision.

Academic/Research Career of my Former PhD Students

i. Kalodimos, C. <babis@rutgers.edu>, Professor, Dept. of Chemistry & Chemical Biology, Rutgers University, USA.
ii. Tzakos, A. <atzakos@cc.uoi.gr>, As. Professor, Dept. of Chemistry, University of Ioannina, Greece.
iii. Tsanaktsidis, K. <tsanaktsidis@kozani.teikoz.gr>, Professor, University of West Macedonia, Greece.
iv. Tatsis, E. etatsis@sippe.ac.cn, Group Leader - Centre of Excellence for Plant and Microbial Science, Chinese Academy of Sciences (CAS), China.
v. Goulas, V. <vlasios.goulas@cut.ac.cy>, As. Professor, Dept. of Agricultural Sciences, Biotechnology & Food Sciences, Cyprus Univ. of Technology, Cyprus.
vi. Exarchou, V. <vexarc@cc.uoi.gr>, Specific Research and Teaching Scientist, UoI, Greece.
vii. Nerantzaki, A. anerant@agro.duth.gr, Specific Research and Teaching Scientist, Democritus University of Thrace, Greece.

Postdoctorate Collaborators

Ten post doctorate research associates carried out research activities under my supervision.

Current Research Group at the University of Ioannina

1. Dr. Kontogianni, V.G., Post doctorate researcher
2. Dr. Primikyri A., Post doctorate researcher
3. Alexandri E., PhD student
4. Stambouli, O., MSc student

Current Research Group at ICCBS

My current research group at the International Center for Chemical and Biological Sciences (H. E. J. Research Institute of Chemistry), University of Karachi, Pakistan, has as follows:

1. Mr. Raheel Ahmed, PhD student
2. Mrs. Sana Fatima, M.Phil student
3. Ms. Hira Fatima, M.Phil student.
4. Mr. Raza Mohsin, M.Phil. student

Academic Research Collaborators

Cyprus

Manganaris, G. <george.manganaris@cut.ac.cy>, As. Professor, Dept. of Agricultural Sciences, Biotechnology & Food Sciences, Cyprus Univ. of Technology

Miltiadou, D. <despoina.miltiadou@cut.ac.cy>, Lecturer, Dept. of Agricultural Sciences, Biotechnology & Food Sciences, Cyprus Univ. of Technology

Tzamaloukas, O. <ouranios.tzamaloukas@cut.ac.cy>, As, Professor, Dept. of Agricultural Sciences, Biotechnology & Food Sciences, Cyprus Univ. of Technology

Germany

Giannis, A. <giannis@uni-leipzig.de>, Professor, Inst. for Organic Chemistry, Univ. of Leipzig

Greece

Fotsis, T. <thfotsis@uoi.gr>, Professor of Medical School, UoI
Lekka, C. <chlekka@cc.uoi.gr>, Ass. Professor, Dept. of Material Sciences Engineering, UoI
Siskos, M. <msiskos@cc.uoi.gr>, As. Professor, Dept. of Chemistry, UoI
Tselepis, A. <atselep@uoi.gr>, Professor, Dept. of Chemistry, UoI
Likas, A. < arly@cse.uoi.gr>, Professor, Dept. of Computer Science & Engineering , UoI
Tzakos A. <agtzakos@gmail.com>, Ass. Professor, Dept. of Chemistry, UoI
Tsimidou, M. <tsimidou@chem.auth.gr>, Professor, Dept. of Chemistry, AUTh
Lamari, F. <F.Lamari@upatras.gr>, Ass. Professor, Dept. of Pharmacology, Univ. of Patras
Matsoukas, I. <imats@upatras.gr>, Professor, Dept. of Chemistry, Univ. of Patras

Italy

Luchinat, C. <luchinat@cerm.unifi.it>, Professor, CERM, Univ. of Florence
Russo, N. <nino.russo@unical.it>, Professor, Dept. of Chemistry, Univ. of Calabria

Pakistan

Choudhary, I.M. <iqbal.choudhary@iccs.edu>, Professor, Director of International Center for Chemical & Biological Sciences, Univ. of Karachi
Atia-tul-Wahab < tulwahab@yahoo.com>, Ass. Professor, International Center for Chemical & Biological Sciences, Univ. of Karachi
Hina Siddiqui <hinahej@gmail.com>, Ass. Professor, International Center for Chemical & Biological Sciences, Univ. of Karachi
Farzana Shaheen <afnan.iccs@gmail.com>, Professor, International Center for Chemical & Biological Sciences, Univ. of Karachi

Serbia

Stojanovic, I. < jan.vacek@upol.cz>, Professor, Dept. of Immunology, Institute for Biological Research 'Sinisa Stankovic', Univ. of Belgrade.

Czech

Ing. Jan Vacek <ivana@ibiss.bg.ac.rs>, Professor, Dept. of of Medical Chemistry and Biochemistry, Palacký University Olomouc.

Poland

Teobald Kupka, <teobaldk@gmail.com; teobald@uni.opole.pl>, Professor, University of Opole, Faculty of Chemistry, Opole, Poland.

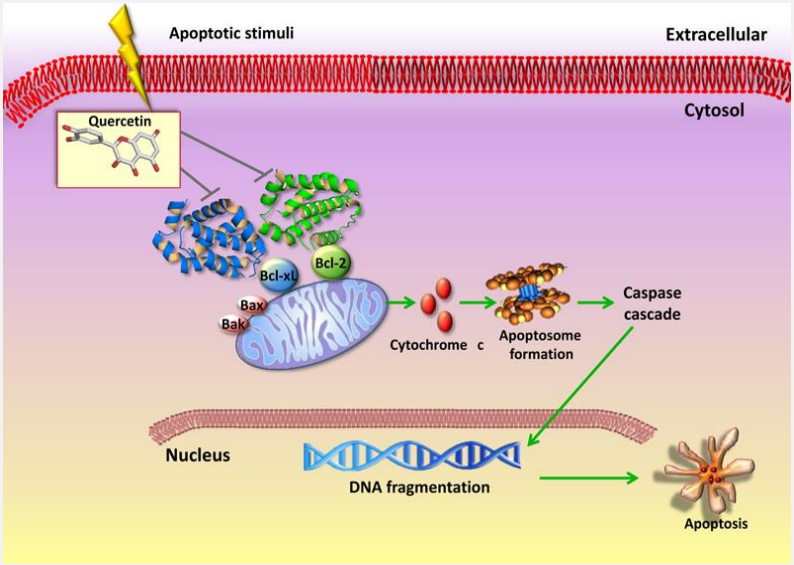
Collaborations with Industries and non-Academic Institutions

1. VIVARTIA Cyprus Ltd, Dairy Industry, research and innovation on dairy bio products, Cyprus.
2. Christis – Charalambidis Dairy Ltd Industry, research and innovation on dairy bio products, Cyprus.
3. Bionian Cluster, innovative cluster in bio – medical research (anticancer drugs) and innovation.
4. Regulon Inc (USA) and Regulon AE (Greece), biopharmaceutical Company on anticancer drugs, research and innovation.
5. Region of Epirus, Greece, on cleaning wastewater systems and microalgae biomass to produce biofuels and biochemicals.

Current Research Interests

➲ Bioorganic Chemistry, Medicinal Chemistry and Structural Biology

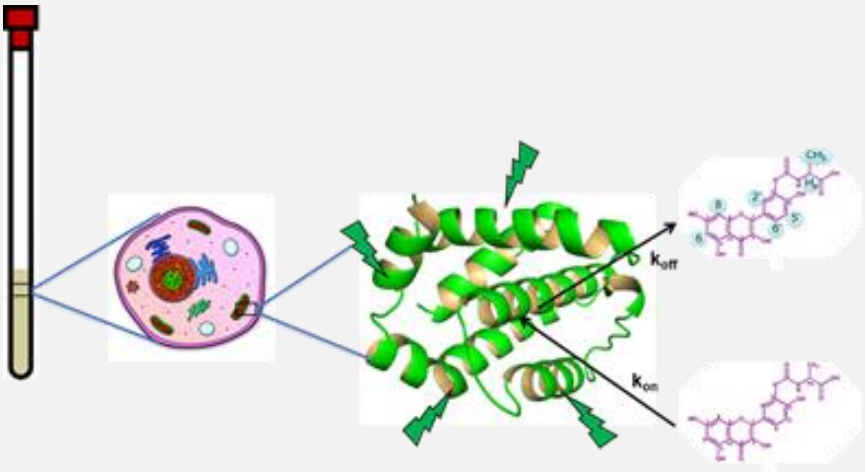
1. NMR studies in solution of: a) Bcl-2 and Bcl-xL anti-apoptotic proteins; b) Mapping of serum albumin protein (BSA, HSA)-ligand (free fatty acids, drugs) interactions.
2. NMR and molecular dynamics calculations-investigation of solvation-hydration phenomena of cis/trans amides, model peptides and peptide hormones-origin of cis isomer stabilization in proteins.
3. Multidisciplinary approach for decoding the chemoprevention mechanism of biophenols from plant natural products: isolation, structure analysis and biological evaluation.
4. Biocatalysis: Use of enzymes for biocatalytic transformations of natural products. Structural investigation using saturation transfer (STD) NMR, TR-NOESY.
5. 'In-cell' NMR: Interaction of natural products with Bcl-2 and Bcl-xL anti-apoptotic proteins at cellular level.

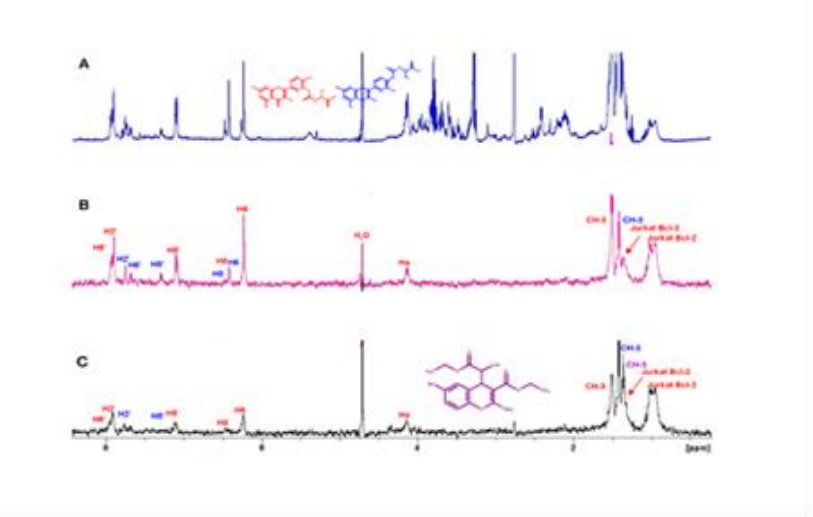


Quercetin binds directly to the BH3 domain of Bcl-2 and Bcl-xL proteins, thereby inhibiting their activity and promoting cancer cell apoptosis.

[A. Primikyri, M.V. Chatziathanasiadou, E. Karali, E. Kostaras, M. D. Mantzaris, E. Hatzimichael, J.-S. Shin, S.-W. Chi, E. Briasoulis, E. Kolettas, I.P. Gerothanassis*, A.G. Tzakos*, ACS Chem. Biol. 9, 2737-2741 (2014)].

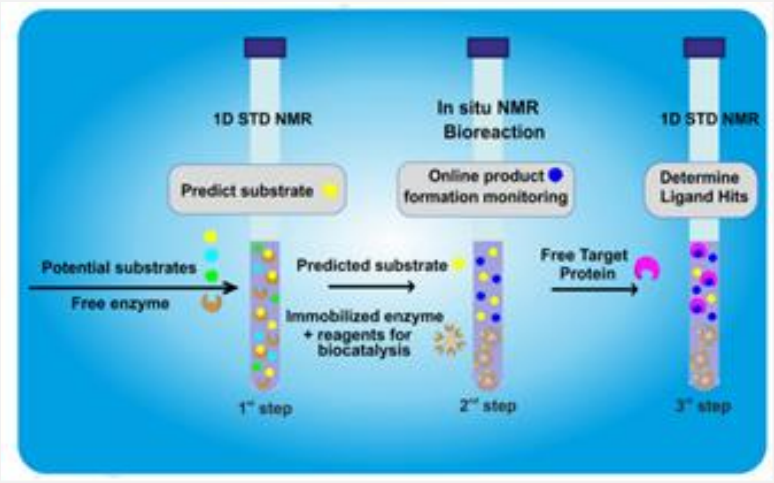
➲ In-cell NMR





A. ^{1}H NMR spectrum of two quercetin derivatives with cells.
B. STD NMR of two quercetin derivatives with cells.
C. STD of mixture of two quercetin derivatives and a selective inhibitor of BCL-2 with the cells.

[A. Primikyri,* N. Sayyad, G. Quilici, E.I. Vrettos, K. Lim, S.-W. Chi, G. Musco, I.P. Gerothanassis, A.G. Tzakos*, FEBS Letters, 592, 3367-3379 (2018)].

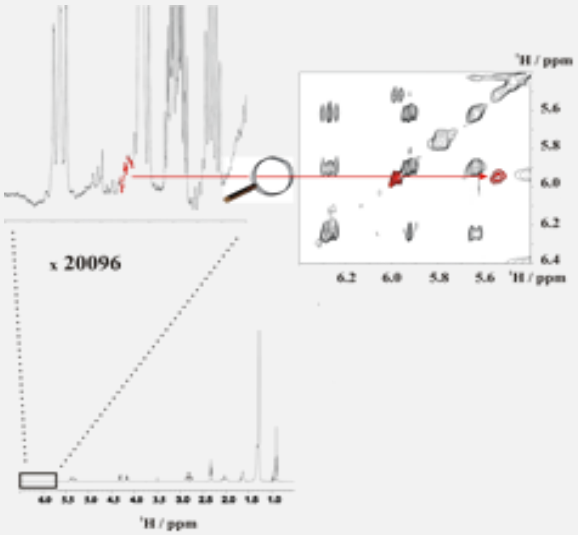


The advantages of the use of the NMR tube bioreactor

[A.V. Chatzikonstantinou, A. Tsiailanis, I.P. Gerothanassis, H. Stamatis, E. Ravera, M. Fragai, C. Luchinat, G. Parigi, A.G. Tzakos, *Method. Enzymol., 633, 71-101 (2020)*].
[A. Chatzikonstantinou, M. Chatziathanasiadou, E. Ravera, M. Fragai, G. Parigi, I. Gerothanassis; C. Luchinat, H. Stamatis, A. Tzakos*, *BBA - General Subjects, 1862, 1-8 (2018)*].

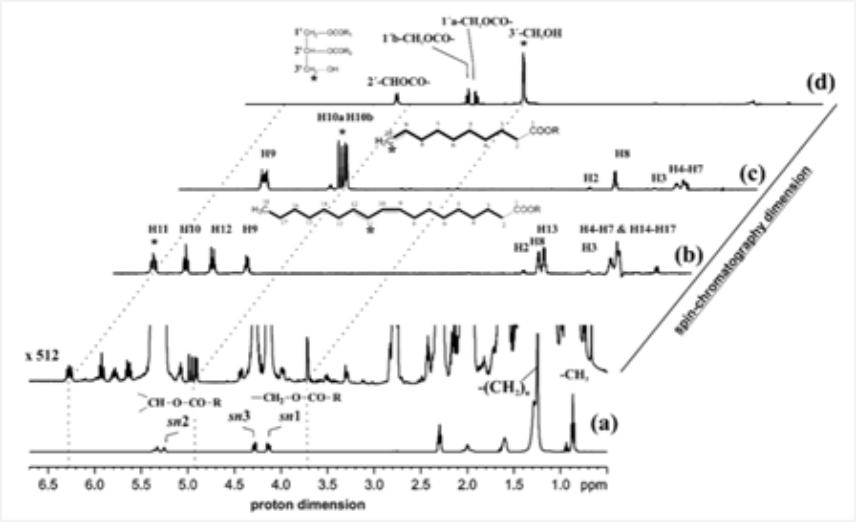
➲ NMR Structural Studies and Analytical Applications in Natural Products Chemistry and Food Chemistry (http://nmrcenter.uoi.gr)

1. Identification and quantitative evaluation of natural products in complex plant extracts by the use of high resolution one- and two- dimensional COSY, TOCSY, NOESY, ROESY, ^{1}H–^{13}C HSQC and HMBC NMR.
2. Use of coupled methodologies of HPLC-SPE-NMR.
3. Simultaneous NMR identification and quantification of polyphenol compounds of plant extracts without isolation and derivatization steps.
4. NMR studies of dairy products without chromatographic separation. Use of NMR spin chromatographic techniques.



The first NMR direct and unequivocal identification of four geometric 18:2 conjugated linolenic acid isomers was achieved. The sensitivity and resolution NMR barriers were overcome with selective suppression of the major NMR resonances and reduced ^{13}C spectral width in the ^{1}H–^{13}C HSQC experiment.

The method is applicable in the lipid fraction of lyophilized milk and does not require further isolation or derivatization steps; it is selective, sensitive and has very good analytical characteristics. [C.G. Tsiafoulis, T. Skarlas, O. Tzamaloukas, D. Miltiadou and I.P. Gerothanassis, *Anal. Chim. Acta*, 821, 62-71 (2014)].

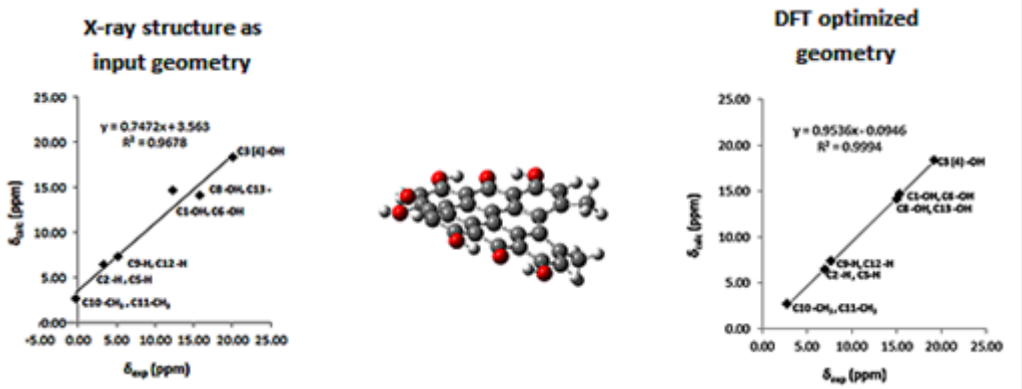


Spin chromatogram of the lipid fraction of a lyophilized cheese sample in $CDCl_3$

[V.G. Kontogianni*, A. Primikyri, M. Sakka, I.P. Gerothanassis, *Magn. Reson. Chem., 58, 232-244 (2020)*].
[E. Hadjimbei, G. Botsaris*, V. Goulas, E. Alexandri, V. Gekas, I.P. Gerothanassis, *Int. J. Dairy Technol., doi: 10.1111/1471-0307.12629 (2019*].
[S. Symeou, C.G. Tsiafoulis, I.P. Gerothanassis, D. Miltiadou, O. Tzamaloukas, *Small Ruminant Res., 177, 111-116 (2019)*].
[C.G. Tsiafoulis*, C. Papaemmanouil, D. Alivertis, O. Tzamaloukas, D. Miltiadou, S. Balayssac, M. Malet-Martino, I.P. Gerothanassis*, *Molecules, 24, 1067 (2019)*].
[R. Ahmed, H. Siddiqui,* M.I. Choudhary, I.P. Gerothanassis*, *Magn. Reson. Chem., 57, S67-S74 (2019)*].
[E. Alexandri, R. Ahmed, H. Sidiqui, M.I. Choudhary, C.G. Tsiafoulis, I.P. Gerothanassis*, *Molecules, 22, 1663 doi:10.3390/molecules22101663 (2017)*].
[V.G. Kontogianni, C.G. Tsiafoulis, I.G. Roussis*, I.P. Gerothanassis*, *Anal. Methods 9, 4464-4470 (2017*)].
[P. Charisiadis, V.G. Kontogianni, C.G. Tsiafoulis, A.G. Tzakos, I.P. Gerothanassis*, *Phytochem. Anal. 28, 159-170 (2017)*].
[C. Papaemmanouil, C.G. Tsiafoulis*, D. Alivertis, O. Tzamaloukas, D. Miltiadou, A. Tzakos, I.P. Gerothanassis*, *J. Agric Food. Chem. 63, 5381-5387 (2015)*].

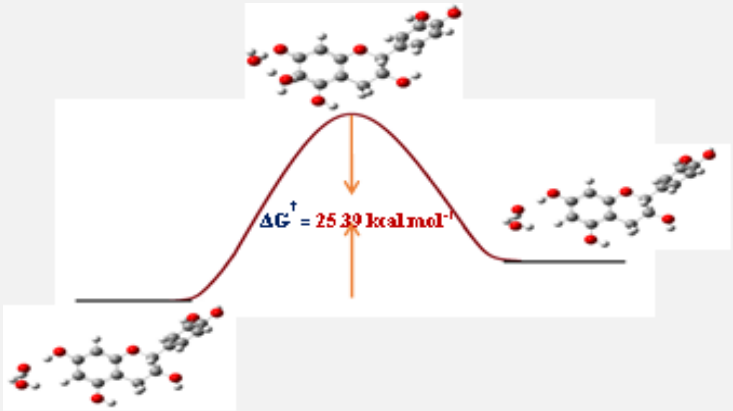
➲ DFT Calculation of ^{1}H NMR Chemical Shifts as Tools of High-Resolution Structures in Solution

1. Use of ^{1}H NMR chemical shift calculations as a tool for investigating the nature of hydrogen bonding.
2. DFT calculations of ^{1}H NMR chemical shifts for obtaining ultra-high-resolution structures in solution- Beyond the limits of x-ray and neutron diffraction methods.



[S.H. Mari, P.C. Varras, A.-tul-Wahab*, I.M. Choudhary, M.G. Siskos, I.P. Gerothanassis*, *Molecules, 24, 2290 (2019)].
[M.G. Siskos, M.I. Choudhary, I.P. Gerothanassis*, *Tetrahedron*, 74, 4728-4737 (2018)].
[M.G. Siskos, M.I. Choudhary, I.P. Gerothanassis*, *Org. Biomol. Chem. 15, 4655-4666 (2017)*].
[M.G. Siskos, M.I. Choudhary, I.P. Gerothanassis*, *Molecules 22, 415 (2017*].
[M.G. Siskos, M.I. Choudhary, A.G. Tzakos and I.P. Gerothanassis*, *Tetrahedron*. 72, 8287-8293 (2016)].
[M.G. Siskos, A.G. Tzakos and I.P. Gerothanassis*, *Org. Biomol. Chem. 13, 8852-8868 (2015)*].

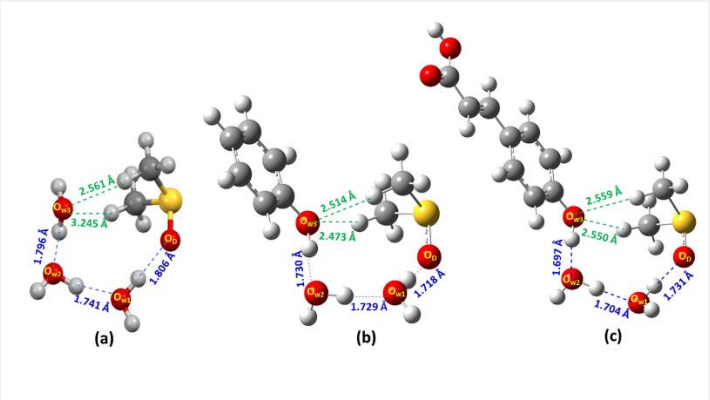
➲ NMR and DFT Studies of the Catalytic Role of Water



The unique catalytic role of water in aromatic C–H activation at neutral pH was investigated with the use of NMR experiments and DFT calculations of polyphenolic compounds. This approach opens a new vista for the combined use of NMR and DFT studies as tools to understand the molecular basis of the catalytic role of water.

[A. Fayaz, M.G. Siskos,* P.C. Varras, M.I. Choudhary, A.-tul-Wahab, I.P.Gerothanassis*, *Phys. Chem. Chem. Phys*, 22, 17401-17411 (2020).

➲ NMR and DFT studies of eutectic mixtures



The minimum energy conformers of phenol compounds (used as molecular senors)+2H_2O+DMSO solvation complexes exhibit common structural properties which provides the first atomic level interpretation of particular properties of eutectic mixtures.

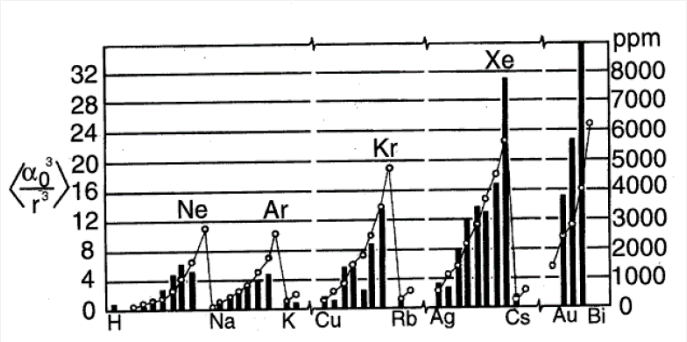
[S. Fatima, P.C. Varras, A.tul-Wahab,* M. I. Choudhary, M.G. Siskos, I.P. Gerothanassis*, *Phys. Chem. Chem. Phys*, Submitted (2020)

➲ Research in Chemical Education

The main objectives of my research in the field of chemical education could be summarized as follows:

- To engage students in applying chemistry concepts, in developing skills, and in applying them in research practices.
- To apply major concepts, theoretical principles and experimental findings in chemistry with particular emphasis in spectroscopy.
- To investigate undergraduate chemistry students' views and knowledge on some basic aspects and concepts of spectroscopy and use of analogies to aid students in understanding spectroscopic concepts.

Periodicity in the NMR Shielding and the Orbital-Size Factor



[I.P. Gerothanassis, C.G. Kalodimos, *J. Chem. Educ. 73, 801-804 (1996)*].
[I.P. Gerothanassis, C.G. Tsanaktsidis, *Concepts Magn. Reson. 8, 63-74 (1996*].
[I.P. Gerothanassis, A. Troganis, V. Exarchou, K. Barbarossou, *Chem. Educ.: Research & Practice in Europe*, 3, 292-252 (2002)].
[O.A. Stambuli, G. Tsaparlis, I.P. Gerothanassis, *In preparation].*

Total Number of References, h-index

5852 (Google scholar), h-index 41

https://scholar.google.com/citations?user=EexRm24AAAAJ

RESEARCH PUBLICATIONS

Publications in International Journals

One hundred sixty-eight (168) papers with a mean impact factor of ~3.5. The titles, the authors and the journals of the publications are listed below (*denotes the author to whom correspondence should be addressed).

171. "Serum Albumin as Primary Non-covalent Binding Protein for Reactive Nitro-oleic Acid". Lenka Hernychova; Andreas G. Tzakos; M. Zatloukalova, A, Primikyri, E. Alexandri, I.P. Gerothanassis, L. Uhrik, M. Sebela, L. Jedinak, Submitted (2021).

170. "Characterization of Protocatechuate 4,5-Dioxygenase from Pseudarthrobacter Phenanthrenivorans Sphe3 and in Situ Reaction Monitoring in the NMR Tube". E. Tsagogiannis, E. Vandera, A. Primikyri, S. Asimakoula, A. Tzakos, A.I. Koukkou, I.P. Gerothanassis, Submitted (2021).

169. "Comments on "Liquid Molecular Model Explains Discontinuity Between Site Uniformity Among Three N-3 Fatty Acids and Their ^{13}C and ^{1}H NMR Spectra"". T. Venianakis, A. Primikyri, G. Papamokos, E. Alexandri, I.P. Gerothanassis*, Submitted (2021).

169. "On the Molecular Basis of H_2O/DMSO Eutectic Mixtures by Using Natural Products as Molecular Sensors: a Combined NMR and DFT Study". S. Fatima, P.C. Varras, A.tul-Wahab,* M. I. Choudhary, M.G. Siskos, I.P. Gerothanassis*, *Phys. Chem. Chem. Phys.,* 23, 15645-15658 (2021).

167. "DFT Calculations of ^{1}H NMR Chemical Shifts of Geometric Isomers of Conjugated Linolenic Acids, Hexadecatrienyl Pheromones and Model Triene-Containing Compounds: Structures in Solution and Revision of NMR Assignments". T. Venianakis, Ch. Oikonomaki, M.G. Siskos*, A. Primikyri, I.P. Gerothanassis*, *Molecules,* (2021), Molecules 2021, 26, 3477. https://doi.org/10.3390/molecules26113477.

166. "NMR and Computational Studies as Analytical and High-Resolution Structural Tool for Complex Hydroperoxides and Endo-Hydroperoxides of Fatty Acids in Solution - Exemplified by Methyl Linolenate". R. Ahmed, P.C. Varras, M.G. Siskos, H. Siddiqui*, M.I. Choudhary, I.P. Gerothanassis*, *Molecules,* 25, 4902, doi: 10.3390/molecules25214902 (2020).

165. "DFT Calculations of ^{1}H- and ^{13}C-NMR Chemical Shifts of Geometric Isomers of Conjugated Linoleic Acid (18:2 ω-7) and Model Compounds in Solution". T. Venianakis, C. Oikonomaki, M.G. Siskos*, P.C. Varras, A. Primikyri, E. Alexandri, I.P. Gerothanassis, *Molecules,* 25(16), 3660, doi: 10.3390/molecules25163660 (2020).

164. "The Unique Catalytic Role of Water in Aromatic C–H Activation at Neutral pH: A Combined NMR and DFT Study of Polyphenolic Compounds". A. Fayaz, M.G. Siskos*, P.C. Varras, M.I. Choudhary, A.-tul-Wahab, I.P. Gerothanassis*, *Chem. Phys. Phys. Chem.,* 22, 17401-17411 (2020).

163. "The Fleeting Existence of the Classical Vinyl Cation Structure". P.C. Varras*, M.G. Siskos, P. Gritzapis, I.P. Gerothanassis, *Mol. Phys.,* DOI: 10.1080/00268976.2020.1752402 (2020).

162. "DFT Calculations of O-H···O ^{1}H NMR Chemical Shifts in Investigating Enol - Enol Tautomeric Equilibria: Probing the Impacts of Intramolecular Hydrogen Bonding vs Stereoelectronic Interactions". M.G. Siskos*, P.C. Varras, I.P. Gerothanassis*, *Tetrahedron,* 76(9), 130979 (2020).

161. "The NMR Tube Bioreactor". A.V. Chatzikonstantinou, A. Tsiailanis, I.P. Gerothanassis, H. Stamatis, E. Ravera, M. Fragai, C. Luchinat, G. Parigi, A.G. Tzakos, *Method. Enzymol.,* 633, 71-101 (2020).

160. "Simultaneous Determination of Artemisinin and its Analogues and Flavonoids in Artemisia Annua Crude Extracts with the use of NMR Spectroscopy". V.G. Kontogianni*, A. Primikyri, M. Sakka, I.P. Gerothanassis, *Magn. Reson. Chem.,* 58, 232–244 (2020).

159. "Functional Stability of Goat's Milk Yoghurt Supplemented with Pistacia Atlantica Resin Extracts and Saccharomyces Boulardii". E. Hadjimbei, G. Botsaris*, V. Goulas, E. Alexandri, V. Gekas, I.P. Gerothanassis, *Int. J. Dairy Technol.,* 73, 134-143 (2020).

158. "Valorization of Carob Fruits Residues for the Preparation of Novel Bi-Functional Polyphenolic Coating for Food Packaging Applications". V. Goulas, L. Hadjivasileiou, A. Primikyri, C. Michael, G. Botsaris, A. Tzakos, I.P. Gerothanassis, *Molecules*, 24, 3162 (2019).

157. "Nuclear Magnetic Resonance Screening of Changes in Fatty Acid and Cholesterol Content of Ovine Milk Induced by Ensiled Olive Cake Inclusion in Chios Sheep Diets". S. Symeou, C.G. Tsiafoulis, I.P. Gerothanassis, D. Miltiadou, O. Tzamaloukas, *Small Ruminant Res*., 177, 111-116 (2019).

156. "Solvent-Dependent Structures of Natural Products Based on the Combined Use of DFT Calculations and ^{1}H-NMR Chemical Shifts". S.H. Mari, P.C. Varras, A.-tul-Wahab*, I.M. Choudhary, M.G. Siskos, I.P. Gerothanassis*, *Molecules,* 24, 2290 (2019); doi:10.3390/molecules24122290.

155. “NMR-Based Metabolomics of the Lipid Fraction of Organic and Conventional Bovine Milk”. C.G. Tsiafoulis*, C. Papaemmanouil, D. Alivertis, O. Tzamaloukas, D. Miltiadou, S. Balayssac, M. Malet-Martino, I.P. Gerothanassis*, *Molecules,* 24, 1067 (2019).

154. “^{1}H-^{13}C HMBC NMR Experiments as a Structural and Analytical Tool for the Characterization of Elusive Trans/Cis Hydroperoxide Isomers from Oxidized Unsaturated Fatty Acids in Solution”. R. Ahmed, H. Siddiqui,* M.I. Choudhary, I.P. Gerothanassis,* *Magn. Reson. Chem.,* 57, S67-S74 (2019).

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5. “^{17}O NMR Spectroscopy of Synthetic O_2 and CO Carriers Related to Biological Systems”. Coordinator: Dr. M. Momenteau, NATO Scientific Affairs Division, Collaborative Research Grant (1989-1992).
4. “^{17}O NMR Spectroscopy as a Tool for Studying Synthetic Oxygen Carriers Related to Biological Systems”. Coordinator: Ass. Prof. I.P. Gerothanassis, Commission of the European Communities, Stimulation Action, Visite de Courte Duree (1988). Contributing Institutions: (i) Laboratory of Organic Chemistry, Dept. of Chemistry, UoI, (ii) Institut Curie, Section de Biologie, Orsay, France.
3. “Synthèse et Etude Spectroscopique de Peptides Bioactifs: Hormonaux, Polypeptides, Substrats et Inhibiteurs des Enzymes Protéolytiques”. Coordinator: Prof. C. Sakarellos, Commission des Communautés Européennes, Direction General, Science, Recherche et Développement, Direction A “Action de Stimulation” Bruxelles (1985-1988). Contributing Institutions: (i) Section of Organic Chemistry and Biochemistry, Dept. of Chemistry, UoI (Prof. C. Sakarellos). (ii) Section of Physical Chemistry, Dept. of Chemistry, UoI (Ass. Prof. I.P. Gerothanassis). (iii) Laboratoire de Peptides, Service de Biochimie, Département de Biologie, Saclay (Dr. S. Fermandjian). (iv) Laboratoire de Chimie-Physique Macromoléculaire, Nancy (Dr. M. Marraud). (v) Laboratoire de Minéralogie et Cristallographie, Université de Nancy (Dr. A. Aubry).
2. “Synthèse et Etude Spectroscopique de Peptides Hormonaux”. Coordinator: Prof. C. Sakarellos, Collaborative Research Grant Greece-France, Ministry of Research and Development (1985-1987).
1. “Studies of Nuclear Magnetic Resonance (NMR) Oxygen-17 and Election Spin (ESR)”. Coordinator: Dr. I.P. Gerothanassis, Research Committee of the UoI (1985-1987).

Research Infrastructure

Excellent research requires world-leading facilities which are becoming increasingly expensive and sophisticated. As a Rector of the UoI I have applied centrally several well documented specific research infrastructure projects and played a major role in the formulation and implementation of the research strategy policy of the Greek National Research Foundation in the Region of Epirus. As result, very significant

support for research infrastructure was award to the University of Ioannina with over 8,000,000 € during my Rectorship in the period 2006-2010.

http://nmrcenter.uoi.gr/index.php?option=com_content&view=article&id=93&Itemid=126&lang=en

EXPERIENCE IN QUALITY ASSURANCE IN HIGHER EDUCATION

General

During the last fourteen (14) years:

- as a Rector of the University of Ioannina in the period 2006-2010,
- as a member of the Hellenic Quality Assurance and Accreditation Agency (HQAA) (2010-2014).
- as a Vice Chairman of the Hellenic Quality Assurance and Accreditation Agency (2014-2019).

I have gained considerable experience of internal and external quality assurance systems of Higher Education Institutions (HEIs) and curricula of higher education.

Quality Assurance in the University of Ioannina

The University of Ioannina in close collaboration with the Hellenic Quality Assurance and Accreditation Agency (established by Low in 2005), became the prototype institution for the implementation of both internal and external evaluation procedures:

- The University of Ioannina was the first one among the Greek Universities to proceed with the internal evaluation of the whole Institution with a decision of the Senate (June 2008).
- The University of Ioannina was the first one among the Greek Universities to submit the institutional Internal Evaluation to the Hellenic Quality Assurance and Accreditation Agency for Higher Education (HQAA) (October 2009, Revised version April 2010).
- Fifteen Departments of the University among seventeen, submitted Internal Evaluation Reports (IER) to the Hellenic Quality Assurance and Accreditation Agency for Higher Education in the period June 2009-September 2010.
- The Department of Physics of the University of Ioannina was evaluated in June 2010 from an international External Evaluation Committee, and the evaluation of five more Departments was completed in 2011.

The University of Ioannina was the only Greek University which participated both in 2005 and 2009 in European Universities Association (EUA) study cases.

Experience as a Member and Vice Chairman of the Council of HQAA

I. *Evaluation procedures in the field of Natural Sciences*

Since September 2010 up to August 2019 I have been a member of the Council of HQAA with responsibilities in the area of natural sciences (mathematics, physics, chemistry, material sciences and engineering, computer sciences and environmental sciences). During the period September 2010 until February 2014, forty (40) Departments have been successfully evaluated under my supervision with internationally recognized external evaluators from USA, Canada, Europe, Australia and Middle East.

II. *Accreditation procedures*

As a representative of HQAA in the "National Committee of the Referencing process of the Hellenic National Qualifications Framework (HNQF) to the European Qualifications Framework (EQF)", I have gained considerable experience of the European Qualifications Framework and National Qualifications and Accreditation frameworks of several European Countries. In the period 2011-2019 thirty-four (34) HEIs in Greece were evaluated and their internal evaluation committees were accredited.

EXAMPLES OF MY RECENT AND PAST EXPERIENCE AS ACADEMIC LEADER

GENERAL

During the last twenty (20) years:

- as a Rector of the University of Ioannina in the period 2006-2010,
- as a Vice-Rector of Economic Affairs and Strategic Development in the period 2003-2006,
- as a Chairman of four Departments:
- Department of Chemistry (2000-2004),
- Department of Biological Applications and Technologies (2004-2005),
- Department of Plastic Arts and Art Sciences (2007-2010),
- Department of Architecture Engineering (2009-2010),
- as a Member of the Hellenic Quality Assurance Agency (2010-2014),
- as a Vice Chairman of the Hellenic Quality Assurance Agency (2014-2019)

I have gained considerable experience in the initiation and implementation of the Strategic Plans and Development of the University of Ioannina and of the various Departments.

Furthermore, as a member of various national and international committees, I gained considerable experience about European educational and research policy.

STRATEGIC PLAN OF THE UNIVERSITY OF IOANNINA

The Strategic Plan 2008-2011 of the University of Ioannina outlined in great detail its mission and the vision, including the main strategic aims and priorities. It has been developed with a four-year horizon in accordance with the new Charter of the Greek Universities (2007). The University of Ioannina was established in 1964; it is a medium size University with 18 Departments, 14.000 registered undergraduate students, 3.000 postgraduate and PhD students, 550 faculty members, 300 administrative staff and 150 technical laboratory staff. The overall objective of the Strategic Plan of the University of Ioannina was to become a leading Institution in Greece and among the best Universities in South-East Europe in education and research, with international reputation.

The University of Ioannina was the first University in Greece to submit to the Ministry of Education and Religious Affairs a Strategic Plan, with the decision of the Senate. The strategy was organized into nine (9) "core" thematic objectives which summarize past, present, and future directions in:

- Education.
- Research.
- Transferring of Knowledge and Local Partnerships.
- Internationalization and Student Mobility.
- Estate Strategy and Infrastructure.
- Administrative Support Services.
- Quality Assurance.
- Engagement with the Local and Wider Community.
- Student Welfare.

The objectives of the Strategic Plan were largely based on the Greek National Strategic Reference Framework for Cohesion Policy (NSRF), 2007-2013 with emphasis to the region of Epirus. The NSRF was a strategic programming document, which described the development strategy in the framework of which the EU Structural and Cohesion Funds granted to Greece during the 2007-2013 period would be spent. The purpose of the NSRF was to establish a more strategic approach in the programming for the utilization Cohesion Policy resources with particular emphasis to less favored regions, like Epirus.

EDUCATION

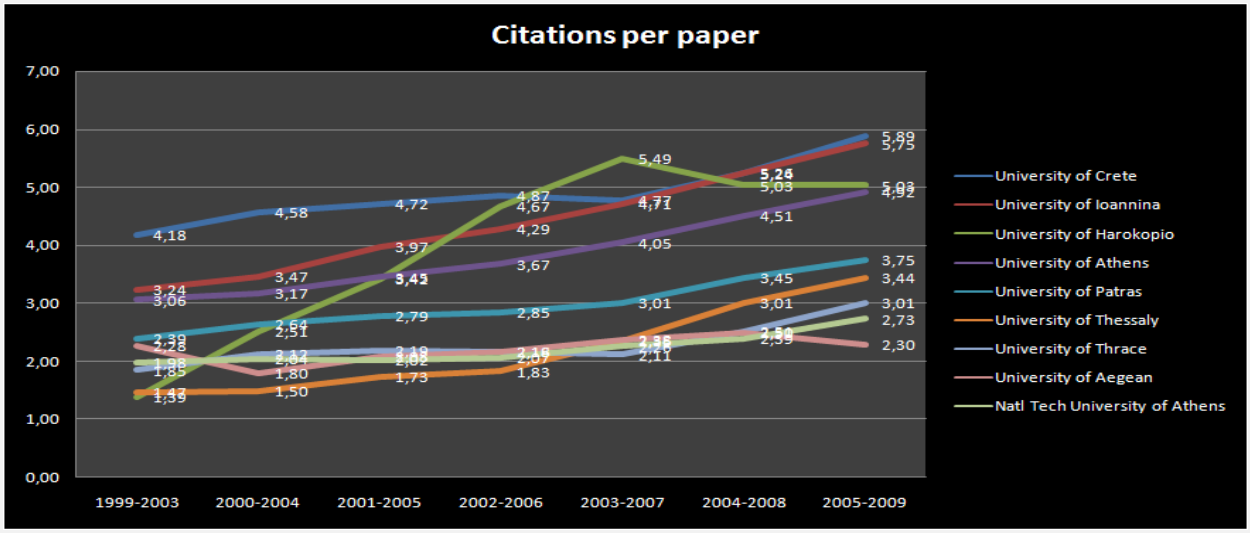
New Faculties and Departments

- The Department of Architecture Engineering was founded in 2009.
- The Department of Marketing of Agricultural Products was founded in 2009.
- The Department of Science and Technology of Materials was renamed to Department of Materials Science Engineering (2009). This was one of the two Departments of the School of Engineering.

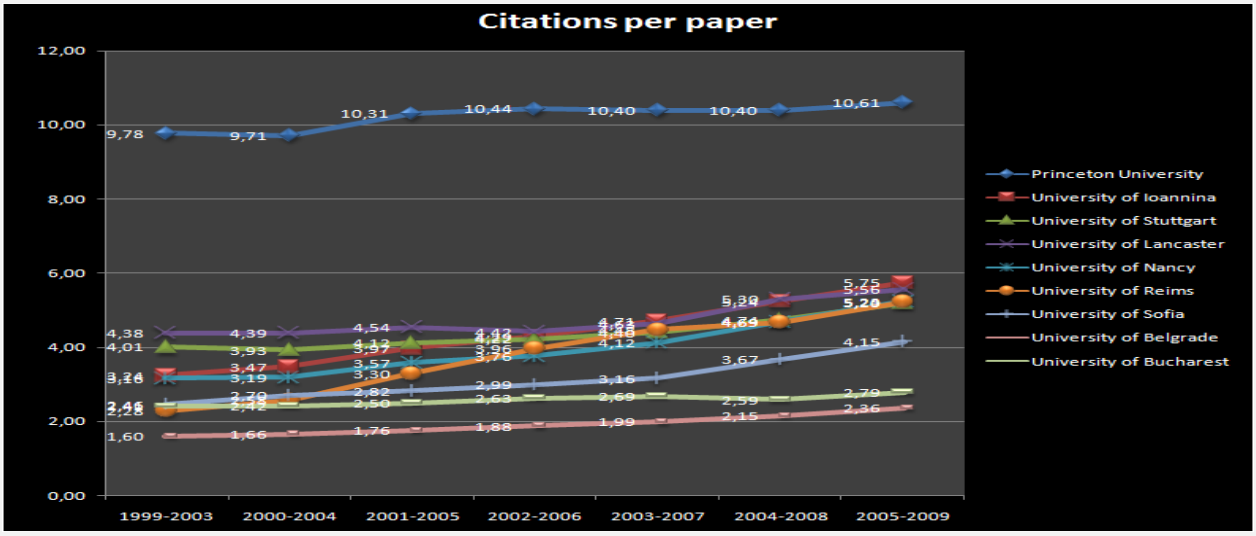
RESEARCH

The University's strategic plan has set the ambition to become to top research led University in Greece and among the best research Universities in South-East Europe. The goal was achieved as it is evident from the significant increase in the number of citations per paper in the period 2000-2009 and despite the fact that the national contribution to the support of research declined from 0.6% of GDP in 1999 to <0.55% in 2004.

Selected Greek Universities



Selected International Universities



Network of Research Supporting Infrastructure

A Network of Research Supporting Infrastructure was established with the goal to encourage basic and applied research carried out in various academic Departments. This endeavor was funded by the National Reform Program of Greece (primarily), the University of Ioannina and other funding sources. The Network aims primarily:

- To promote large-scale research activities focusing on cutting-edge scientific fields.
- To enhance cooperation between research groups.
- To improve the scientific research impact of the University.
- To increase effectiveness in receiving research funding.
- To support educational activities at the undergraduate and, mainly, postgraduate level.

As part of its strategic policy, the University of Ioannina has made constant provision for expanding the Network's infrastructure, for providing the Network with expert scientific and technical staff and carrying out evaluation procedures. Evaluation was conducted on a regular basis (2005, both internal and external, and 2009, internal), addressing the quality of services provided by the Network of research supporting infrastructure, laboratories, as well as their scientific impact on research carried out in the University of Ioannina.

NMR Center of the University of Ioannina

Research Resources

(i) *Awards for Research Excellence*

The University of Ioannina supported academics and reward research excellence. The Awards of Research Excellence (of e.g. 10-400 K€) were provided on a regular basis for research achievement and significant future potential in the period 2007-2010.

(ii) *Research Infrastructure*

Excellent research requires world-leading facilities, which are becoming increasingly expensive and sophisticated. The University of Ioannina applied centrally several well documented specific research infrastructures projects, and played a major role in the formulation and implementation of the research strategy policy of NSRF in the Region of Epirus. As a result, very significant support of over 8,000,000 € for research infrastructure was award.

(iii) *European Territorial Cooperation*

The University of Ioannina played a primary role in the following programs which were distributed to cross-border and transnational programs:

- Cross-border cooperation program
- Transnational cooperation program MED.
- Cross-border cooperation program of the Mediterranean basin ENPI.
- Interregional cooperation program INTERREG IVC.

QUALITY ASSURANCE

The University of Ioannina in close collaboration with the Hellenic Quality Assurance Agency (established by Low in 2005), became the prototype institution for the implementation of both internal and external evaluation procedures as shown above in the section of Quality Assurance in the University of Ioannina.

INTERNATIONALIZATION AND STUDENT MOBILITY AS AN INSTITUTIONAL PRIORITY

Educational mobility and educational exchanges were considered as critical components of sharing knowledge, building intellectual capital and remaining competitive in the globalized word. The University of Ioannina participated actively in

- Comenius
- Erasmus
- Leonardo da Vinci
- Grundtvig
- Bologna Promoters
- European Language Label

The University of Ioannina also operates a Center of Greek Language and Culture. The main mission is:

- Teaching of Modern Greek language as a second/foreign language.
- Design teaching material and linguistic manuals.
- Organize meetings and conferences focusing on teaching the Greek language and culture.
- Carry out examination for the Certificate of attainment in Modern Greek.

Teaching of Modern Greek is provided to:

- Socrates/Erasmus, LdV, Lingua, Tempus etc. exchange students.
- Foreign undergraduates and postgraduate students of CUT.
- Foreign doctoral candidates and post-doctorate researchers at the University.

In the period 1996-2010 more than 5.500 students from 79 countries participated in the programs.

ENGAGEMENT WITH THE LOCAL AND WIDER COMMUNITY

- Provision of public access to libraries, galleries and collections, concerts, sport facilities.
- Working with local councils to deliver improved public transport links to the University.
- Establishment of Doors Open Week for students of secondary schools.
- Adult and continuing education.

The University of Ioannina was among the five Greek Universities, which received the approval of the Ministry of Education to establish an Institute for Continuing Education. The basic aims of the institute are to provide learning opportunities for adults and to widen access to University education to the community.

- The Scientific and Technological Park of Epirus (STPE)

STPE was established in 1997 in the Campus of the University of Ioannina. The second phase of development during the period 2008-2010 (including the construction of a building (1,800 m^2) and scientific instrumentation of 2,400,000 €). It is a member of the Scientific and Technological Parks Union, of the International Association of Science Parks (IASP) and of the b2 Europe network. Its main objectives is to support innovative businesses in the region, the transfer of know-how aiming to new product planning and development by means of new technologies, as well as the development of new services, the promotion and advancement of collaborative networks between research institutes, businesses and other organizations both on national and international scale.

ESTATE AND INFRASTRUCTURE

Over the last five years the University of Ioannina, has made significant investment in infrastructure, resulting in considerable expansion and improvements in the overall performance of the estate. The University campus building area was expanded by 20,000m^2 which include:

1) The new entrance of the University.
2) A new building (~ 3,750 m^2, 6,500,000 €) for the Department of Material Science Engineering. It was constructed within 19 months (December 2009) compared to 24 months which was the original plan.
3) Completion of a Conference Centre which houses a Conference Hall (550 seats) and a number of seminar rooms and workshops.
4) Expansion of the Science and Technology park (see above).
5) Sports Facilities. Completion of field stadium, four outdoor tennis, basketball and volleyball country.
6) Student residual accommodation (see below).

Building of the Department of Material Science Engineering

Completion of the field Stadium

STUDENT WELFARE

Accommodation

Student's residential accommodation was of high priority and presented a significant capital and operational asset despite the fact that the University of Ioannina has residual accommodation of 11% of the registered undergraduate students, compared to an average of 2% of the Greek Universities. During the years 2006-2010 three residential accommodations were completed which increased the number of rooms by a factor of 35%. More specifically:

1. A residence of 98 rooms, fully equipped, was completed in November 2009, within 20 months, compared to 24 months which was originally planned.
2. A resident of 98 rooms, fully equipped, was completed in September 2010 within 20 months, compared to 24 months which was the original plan.
3. The 'Zappeian' Students Residence (donation of the "Zappeion Foundation"). This residence of 96 rooms was a donation of the "Zappeian Foundation". The construction work was completed in July 2010 within seventeen (17) months, compared to 24 months as was the original plan.

Student's Residence Accommodation (November 2007)

Zappeian Residence Hall (July 2010)