

## **PERSONAL DATA**

Surname: **Troganis**  
First Name: **Anastassios**  
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## **EDUCATION-TRAINING**

1975-1980: B.Sc., University of Athens  
1987-1992: Ph.D., University of Athens  
1993-1994: Postdoctoral Researcher, Ohio State University  
1994-2006: Manager of the NMR Centre of the University of Ioannina  
1998-2000: Lecturer, Department of Chemistry, University of Ioannina, Greece  
2001-2004: Lecturer, Department of Biological Applications and Technology, University of Ioannina, Greece  
2005-2012: Assistant Professor, Department of Biological Applications and Technologies, University of Ioannina, Greece  
2012- Associate Professor, Department of Biological Applications and Technologies, University of Ioannina, Greece

## **COURSES**

### *I) Undergraduated courses*

- a) Physical Chemistry in Biological Systems
- b) Structural Biology

### Practical courses

- a) Experimental Physical Chemistry in Biological System

### *II) Post-Graduated courses*

- a) Applications of Nuclear Magnetic Resonance in Chemistry and Biology

## **RESEARCH INTERESTS:**

- Development of NMR Techniques
- Structural Studies of Biological Active Compounds
- Solvation Studies of Model Compounds and Peptides
- Analysis of Plant Extracts using NMR Techniques
- Metabonomic studies of Biological Fluids

## **AWARDS**

- Scholarship by N.C.S.R “Demokritos”, 1982-1986
- Scholarship by N.I.H., 1992-1994

## **RESEARCH PROJECTS**

Coordinator of 3 projects and main researcher in 13 projects.

## **CITATION**

963 hetero-citations according to according to Scopus.

## **PUBLICATIONS**

1. S. Hamodrakas, E. Alexandraki, A. Troganis and C.I. Stassinopoulou  
Models of Binding of 4-nitrophenyl- $\alpha$ -D-mannopyranoside to the Lectin Concanavalin A. -*Int. J. Biol. Macromolecules* 11(1), 17-22, **1989**.
2. A. Hempel, N. Camerman, S.J. Hamodrakas, F.P. Ottensmeyer, A. Troganis, C.I. Stassinopoulou and A. Camerman  
2,2,6,6-Tetramethylpiperidine-1-oxyl-4-yl  $\alpha$ -D-glycoside. - *Acta Cryst.*, C49, 298-300, **1993**.
3. A. Troganis and C.I. Stassinopoulou  
Modes of Association of Concanavalin A with  $\alpha$ -D-glycosides. -*Bioch. Biophys. Acta*, 1206(2), 215-224, **1994**.
4. I.P. Gerotheranassis, A. Troganis and C. Vakka  
 $^{17}\text{O}$  and  $^1\text{H}$ - $^{15}\text{N}$  Heteronuclear Multiple Quantum Coherence ( $^1\text{H}$ - $^{15}\text{N}$  HMQC) NMR of Linear Amides: Evidence of an Out-of-Plane (Torsion Angle) Deformation of the Amide Bond and Pyramidity at the Amide Nitrogen. - *Tetrahedron*, 51(34), 9493-500, **1995**.
5. I.P. Gerotheranassis, C. Vakka and A. Troganis  
 $^{17}\text{O}$  NMR Studies of the Solvation State of Cis/Trans Isomers of Amides and Model Protected Peptides. -*J. Magn. Res.*, (B), 111(3), 220-9, **1996**.
6. I.P. Gerotheranassis, A. Troganis and C. Vakka  
The First Experimental Evidence of Differential Hydration of E/Z Isomers of Sterically Hindered Amides: One Dimensional Steady-State Selective Intermolecular  $^{13}\text{C}$ ,  $^1\text{H}$  Overhauser Effect Study of Tert-butylformamide, - *Tetrahedron Letters*, 37(36), 6569-72, **1996**.
7. I. Bertini, A. Coutsolelos, A. Dikiy, C. Luchinat, G. Spyroulias and A. Troganis  
Structural and Dynamic Information on Double-Decker  $\text{Yb}^{3+}$  and  $\text{Dy}^{3+}$  Porphyrin Complexes in Solution through  $^1\text{H}$  NMR, *Inorg. Chem.*, 35(21), 6308-15, **1996**.
8. E. Katsarou, A. Troganis and N. Hadjiliadis  
Binary and Ternary Complexes of Platinum (II) with the Dipeptide Esters Gly-GlyOEt, Gly-AlaOMe, Gly-2-AbOMe, Gly-nValOMe, Gly-nLeuOMe and the Nucleosides GuO (Guanosine) and Cyd (Cytidine). *Inorg Chim. Acta*, 256(1), 21-8, **1997**.
9. A. Troganis, I.P. Gerotheranassis and D. Papademitriou  
Experimental Evidence of Specific Solute-Solvent Interactions of Fullerenes  $\text{C}_{60}$  and  $\text{C}_{70}$  in Solution: One dimensional Steady State Intermolecular  $^{13}\text{C}$ ,  $^1\text{H}$  Overhauser Effect Study. *J. Magn. Reson.*, 130(1), 149-52, **1998**.
10. C.G. Kalodimos, I.P. Gerotheranassis, A. Troganis, B. Looock and M. Momenteau  
 $^{13}\text{C}$  Shieldings,  $^{18}\text{O}$  Isotope Effects on  $^{13}\text{C}$  Shieldings and  $^{57}\text{Fe}$ - $^{13}\text{C}$  Spin Couplings of the Fe-C-O Unit in Superstructured Hemoprotein Models: Comparison with Hemoproteins, C-O Vibrational Frequencies and X-ray Structural Data. *J. Biomol. NMR*, 11(4), 423-35, **1998**.
11. C.I. Stassinopoulou, A. Troganis, L. Leondiadis, E. Bouchager and P. Cordopatis  
Solution Structure of the 35-54 Peptide Fragment of Human Interleukin-2 Receptor  $\beta$ -Chain. *J. Protein Chem.*, 17(6), 552-3, **1998**.
12. I.P. Gerotheranassis, V. Exarhou, V. Lagouri, A. Troganis, M. Tsimidou and D. Boskou  
Methodology for Identification of Phenolic Acids in Complex Phenolic Mixtures by High Resolution Two-Dimensional Nuclear Magnetic Resonance. Application to Methanolic Extracts of two Oregano Species. *J. Agr. Food Chem.*, 46(10), 4185-92, **1998**.
13. K.D. Soulti, A. Troganis, T. Kabanos, A. Keramidas, Y. Deligiannakis, C.P. Raptopoulou and A. Terzis  
Model Studies of the Interaction of Vanadium(III) and Oxovanadium(IV/V) with the Carbonyl Amide Oxygen. *Inorg. Chem.*, 37(26), 6785-94, **1998**.
14. A.I. Karakatsani, T.A. Liapikos, A.N. Troganis and D.C. Tsoukatos  
Involvement of Phospholipids on Apolipoprotein B Modification during Low Density Lipoprotein Oxidation. *Lipids*, 33(12), 1159-62, **1998**.
15. A.J. Tasiopoulos, A.N. Troganis, A. Evangelou, C.P. Raptopoulou, A. Terzis, Y. Deligiannakis and T.A. Kabanos  
Synthetic Analogues for Oxovanadium(IV)-Glutathione Interaction: An EPR, Synthetic and Structural Study of Oxovanadium(IV) Compounds with Sulphydryl Containing Pseudopeptides and Dipeptides. *Chem. Eur. J.*, 5(3), 910-21, **1999**.
16. T. Tselios, L. Probert, G. Kollias, I. Daliani, E. Matsoukas, A. Troganis, I.P. Gerotheranassis, T. Mavromoustakos, G.J. Moore and J.M. Matsoukas  
Design and Synthesis of a Potent Cyclic Analogue of the Myelin Basic Protein Epitope MBP<sub>72-85</sub>: Importance of the Ala<sub>81</sub> Carboxyl Group and of a Cyclic Conformation for the Induction of Experimental Allergic Encephalomyelitis (E.A.E). *J. Med. Chem.*, 42(7), 1170-77, **1999**.

17. A. Troganis, I.P. Gerothanassis, Z. Athanassiou, T. Mavromoustakos, G. Hawkes and C. Sakarellos  
Thermodynamic Origin of Cis/Trans Isomers of a Proline-Containing  $\beta$ -Turn Model Dipeptide in Aqueous Solution: A Combined Variable Temperature  $^1\text{H}$ -NMR, Two-Dimensional  $^1\text{H}$ ,  $^1\text{H}$  Gradient Enhanced Nuclear Overhauser Effect Spectroscopy (NOESY), One-Dimensional Steady-State Intermolecular  $^{13}\text{C}$ ,  $^1\text{H}$  NOE and Molecular Dynamics Study. *Biopolymers*, 53(1), 72-83, **2000**.
18. V. Tsikaris, A. Troganis, V. Moussis, E. Panou-Pomonis, M. Sakarellos-Daitsiotis and C. Sakarellos  
Arg Side Chain-Backbone Interactions Evidenced in Model Peptides by  $^{17}\text{O}$ -NMR Spectroscopy. *Biopolymers*, 53(2), 135-9, **2000**.
19. C.G. Kalodimos, I.P. Gerothanassis, R. Pierattelli and A. Troganis  
Multinuclear ( $^{13}\text{C}$ ,  $^{17}\text{O}$ ,  $^{57}\text{Fe}$ ) NMR Studies of Carbonmonoxy Heme Proteins and Synthetic Model Compounds. *J. Inorg. Biochem.* 79(1-4), 371-380, **2000**.
20. A.J. Tasiopoulos, A.N. Troganis, Y. Deligiannakis, A. Evangelou, T.A. Kabanos, J.D. Woolins and A. Slawin  
Synthetic Analogues for Oxovanadium(IV/V)-Glutathione Interaction: An NMR, EPR, Synthetic and Structural Study of Oxovanadium(IV/V) Compounds with Sulfhydryl Containing Pseudopeptides and Dipeptides. *J. Inorg. Biochem.*, 79(1-4), 159-170, **2000**.
21. T. Tselios, I. Daliani, S. Deraos, S. Thymianou, E. Matsoukas, A. Troganis, I. Gerothanassis, A. Mouzaki, T. Mavromoustakos, L. Robert and J. Matsoukas  
Treatment of Experimental Allergic Encephalomyelitis (EAE) by a Rationally Designed Cyclic Analogue of Myelin Basic Protein (MBP) Epitope 72-85. *Bioorg. Med. Chem. Lett.*, 10(24), 2713-2717, **2000**.
22. V. Exarchou, A. Troganis, I.P. Gerothanassis, M. Tsimidou and D. Boskou  
Identification and Quantification of Caffeic and Rosmarinic Acid in Complex Plant Extracts by the Use of Variable-Temperature Two-Dimensional Nuclear Magnetic Resonance Spectroscopy. *J. Agr. Food Chem.*, 49(1), 2-8, **2001**.
23. M. Papadopoulos, B. Nock, T. Maina, I. Pirmettis, C. Raptopoulou, A. Tasiopoulos, A. Troganis, T. Kabanos, A. Terzis and E. Chiotelis  
Novel Lipophilic Amidate Oxorhenium and Oxotechnetium Complexes as Potential Brain Agents: Synthesis, Characterization and Biological Evaluation. *J. Biol. Inorg. Chem.*, 6(2), 159-165, **2001**.
24. G. Balayiannis, D. Papaioannou and A. Troganis\*  
Configuration and Conformation of a Novel Uridine Analogue:  $^1\text{H}$  and  $^{13}\text{C}$  NMR Spectra of (5'S)-1-[2'-(2-hydroxyethyl)tetrahydropyran-5'-yl]-1H-pyrimidine-2,4-dione. *Magn. Reson. Chem.*, 40, 244-246, **2002**.
25. D. Morikis, M. Roy, A. Sahu, A. Troganis, P.A. Jennings, G. Tsokos and J.D. Lambris  
The Structural Basis of Compstatin Activity Examined by Structure-function-based Design of Peptide Analogs and NMR. *J. Biol. Chem.*, 277(17), 14942-14953, **2002**.
26. D. Skalkos, E. Tatsis, I.P. Gerothanassis, and A. Troganis  
Towards a consensus structure of hypericin in solution: direct evidence for a single tautomer and different ionization states in protic and nonprotic solvents by the use of variable temperature gradient  $^1\text{H}$  NMR. *Tetrahedron*, 58(24), 4925-4929, **2002**.
27. V. Exarchou, N. Nenadis, M. Tsimidou, I.P. Gerothanassis, A. Troganis and D. Boskou  
Antioxidant Activities and Phenolic Composition of Extracts from Greek Oregano, Greek Sage and Summer Savory. *J. Agr. Food Chem.*, 50(19) 5294-5299, **2002**.
28. V. Exarchou, A. Troganis, I.P. Gerothanassis, M. Tsimidou and D. Boskou  
Do strong intramolecular hydrogen bonds persist in aqueous solution? Variable temperature gradient  $^1\text{H}$ ,  $^1\text{H}$ - $^{13}\text{C}$  GE-HSQC and GE-HMBC NMR studies of flavonols and flavones in organic and aqueous mixtures. *Tetrahedron*, 58(37), 7423-7429, **2002**.
29. A.G. Tzakos, A.M.J.J. Bonvin, A. Troganis, P. Cordopatis, M.L. Amzel, I.P. Gerothanassis and N.A.J. van Nuland  
On the molecular basis of the recognition of angiotensin II (AII) NMR structure of AII in solution compared with the X-ray structure of AII bound to the mab Fab131. *Eur. J. Biochem.*, 270(5), 849-860, **2003**.
30. A.S. Galanis, G.A. Spyroulias, R. Pierattelli, A. Tzakos, A. Troganis, I.P. Gerothanassis, G. Pairas, E. Manessi-Zoupa and P. Cordopatis  
Zinc Binding in Peptide Models of Angiotensin-I Converting Enzyme Active Sites Studied Through  $^1\text{H}$ -NMR and Chemical Shift Perturbation Mapping. *Biopolymers*, 69(2), 244-252, **2003**.
31. A.N. Troganis\*, C. Tsanaktsidis and I.P. Gerothanassis  
 $^{14}\text{N}$  NMR Relaxation Times of Several Protein Amino Acids in Aqueous Solution - Comparison with  $^{17}\text{O}$  NMR Data and Estimation of the Relative Hydration Numbers in the Cationic and Zwitterionic Forms. *J. Magn. Reson.*, 164(2), 294-303, **2003**.
32. V. Theodorou, A.N. Troganis and I.P. Gerothanassis  
On the detection of both carbonyl and hydroxyl oxygens in amino acid derivatives: a  $^{17}\text{O}$  NMR reinvestigation. *Tetrahedron Letters*, 45(10), 2243-2245, **2004**.

33. A.G. Tzakos, I.P. Gerotheranassis and A.N. Troganis  
On the Structural Basis of the Hypertensive Properties of Angiotensin II: A Solved Mystery or a Controversial Issue? *Current Topics in Medicinal Chemistry*, 4(4), 431-444, **2004**.
34. A.G. Tzakos, P. Fuchs, N.A.J. van Nuland, A. Troganis, T. Tselios, S. Deraos, J. Matsoukas, I.P. Gerotheranassis and A.M.J.J. Bonvin  
NMR and molecular dynamics studies of an autoimmune myelin basic protein peptide and its antagonist - Structural implications for the MHC II (I-A(u))-peptide complex from docking calculations, *Eur. J. Biochem.*, 271(16), 3399-3413, **2004**.
35. Matsoukas J, Apostolopoulos V, Kalbacher H, Papini AM, Tselios T, Chatzantoni K, Biagioli T, Lolli F, Deraos S, Papathanassopoulos P, Troganis A, Mantzourani E, Mavromoustakos T, Mouzaki A  
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36. Tzakos AG, Koursoula P, Troganis A, Theodorou V, Tselios T, Svarnas C, Matsoukas J, Apostolopoulos V, Gerotheranassis IP  
Structure and function of the myelin proteins: Current status and perspectives in relation to multiple sclerosis, *Curr. Med. Chem.*, 12 (13), 1569-1587, **2005**.
37. Troganis AN, Sicilia L, Barbarossou K, Gerotheranassis IP, Russo N  
Solvation properties of N-substituted cis and trans amides are not identical: Significant enthalpy and entropy changes are revealed by the use of variable temperature H-1 NMR in aqueous and chloroform solutions and ab initio calculations, *J. Phys. Chem. A*, 109 (51), 11878-11884, **2005**.
38. Tatsis EC, Boeren S, Exarchou V, Troganis AN, Vervoort J, Gerotheranassis IP  
Identification of the major constituents of *Hypericum perforatum* by LC/SPE/NMR and/or LC/MS, *Phytochemistry*, 68 (3), 383-393, **2007**.
39. Tatsis EC, Exarchou V, Troganis AN, Gerotheranassis IP  
<sup>1</sup>H NMR determination of hypericin and pseudohypericin in complex natural mixtures by the use of strongly deshielded OH groups, *Anal. Chim. Acta*, 607, 219-226, **2008**.
40. Kontogianni, V.G., Exarchou, V., Troganis, A., Gerotheranassis, I.P.  
Rapid and novel discrimination and quantification of oleanolic and ursolic acids in complex plant extracts using two-dimensional nuclear magnetic resonance spectroscopy-Comparison with HPLC methods, *Anal. Chim. Acta*, 635(2), 188-195, **2009**.
41. Exarchos K.P., Papaloukas C., Exarxos T.P., Troganis A.N., Fotiadis D.I.  
Prediction of cis/trans isomerization using feature selection and support vector machines, *Journal of Biomedical Informatics*, 42(1), 140-149, **2009**.
42. Goulas V., Exarchou V., Troganis A.N., Psomiadou E., Fotsis T., Briasoulis E., Gerotheranassis I.P.  
Phytochemicals in olive-leaf extracts and their antiproliferative activity against cancer and endothelial cells, *Molecular Nutrition and Food Research*, 53(5), 600-608, **2009**
43. Exarchos K.P., Exarchos T.P., Papaloukas C., Troganis A.N., Fotiadis D.I  
Detection of discriminative sequence patterns in the neighbourhood of proline cis peptide bonds and their functional annotation, *BMC Bioinformatics*, 10:113, **2009**
44. Charisiadis P., Exarchou V., Troganis A.N., Gerotheranassis I.P.  
Exploring the "forgotten" -OH NMR spectral region in natural products, *Chem. Communications*, 46(20), 3589-3591, **2010**
45. D.K. Laimou, M. Katsara, M.T.I. Matsoukas, V. Apostolopoulos, A.N. Troganis\*, T.V. Tselios\*  
Structural elucidation of Leuprolide and its analogues in solution: insight into their bioactive conformation, *Amino Acids*, 35(5), 1147-1160, **2010**
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A new method for the determination of free l-carnitine in serum samples based on high field single quantum coherence filtering 1H-NMR spectroscopy, *Anal. and Bioanal. Chem.*, 399, 2285-2294, **2011**
47. Laimou D, Lazoura E, Troganis A.N, Matsoukas M.T, Deraos S.N, Katsara M, Matsoukas J, Apostolopoulos V, Tselios T.V  
Conformational studies of immunodominant myelin basic protein 1–11 analogues using NMR and molecular modelling, *J Comput Aided Mol Des*, **2011**.
48. P. G. Takis, V. S. Melissas\*, A. N. Troganis\*  
A "hidden" role of amino and imino groups is unveiled during the micro-solvation study of three biomolecule groups in water, *New J. Chem.*, 36, 1866-1878, **2012**.
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Four new depsides in *Origanum dictamnus* methanol extract, *Phytochemistry Letters*, 6(1), 46-52, **2013**.

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Probing micro-solvation in "numbers": The case of neutral dipeptides in water, *Physical Chemistry Chemical Physics*, 15(19), 7354-7362, 2013.