

## SHORT CURRICULUM VITAE



### **Gerasimos M. Tsivgoulis, Ph. D., Associate Professor**

Associate Professor Tsivgoulis Gerasimos was born in 1966 in Athens, Greece. He obtained his diploma (Chemistry) in 1987 (grade 9.44/10) and Ph.D. (Bioinorganic Chemistry) in 1991 from the University of Patras. He spent as a postdoctoral fellowship three and a half (3½) years at College de France under the supervision of Jean Marie Lehn (Nobel Prize 1987) (Paris, France). The following three and a half (3½) years was Independent researcher at the University of Groningen (The Netherlands). In September 2000 was appointed as Lecturer at the University of Patras (Greece). Currently, Gerasimos Tsivgoulis holds the position of Associate Professor at the same University. He is co-author of more than 41 original publications in peer review international journals and in one patent. His work has been cited >900 times.

### ***Research Interests***

Main topics:

ORGANIC CHEMISTRY AND NMR SPECTROSCOPY

SUPRAMOLECULAR CHEMISTRY

- Synthesis and Study of Supramolecular Systems
- Synthesis and Study of Arsonolipids
- NMR of Organoarsenic Compounds

### ***Teaching experience***

A. Undergraduate teaching.

Lectures in:

- “Principles of Polymerization”, (Dept. of Chemistry, University of Groningen, 1996-1999),
- “Spectroscopy of Organic Compounds” (Dept. of Chemistry, University of Patras),
- “Experimental Organic Chemistry” (Dept. of Chemistry, University of Patras),
- “Chemistry of Heterocyclic compounds” (Dept. of Chemistry, University of Patras),
- “NMR Spectroscopy” (Dept. of Chemistry, University of Patras),

Practical Courses:

- "Laboratory of Organic Chemistry" (Departments of Chemistry and Biology, University of Patras)

## B. Graduate teaching.

Lectures in:

- “Supramolecular Chemistry”, (Master diploma in “Organic synthesis and Applications in the Chemical Industry”, Dept. of Chemistry, University of Athens 2002-2009)
- “Supramolecular Chemistry”, (Master diploma in “Medicinal Chemistry: Design and Development of new Pharmaceutical Products”, Dept. of Chemistry, Pharmacy, Biology and Medicine, University of Patras)
- “Nanochemistry and Chemistry of Fullerenes”, (Master diploma in “Synthetic Chemistry”, Dept. of Chemistry, University of Patras),
- “Spectroscopy of Organic Compounds” (Master diploma in “Chemical Biology”, Dept. of Chemistry, Pharmacy, Biology and Medicine, University of Patras)

Practical Courses:

- “Synthetic Organic Chemistry”, (Master diploma in “Medicinal Chemistry: Design and Development of new Pharmaceutical Products”, Dept. of Chemistry, Pharmacy, Biology and Medicine, University of Patras),

## **Fellowships**

- a) Postgraduate fellowship given to Ph.D. students after selection (1987-1991)
- b) Marie Curie post doctoral fellowship under the program: “Human Capital and Mobility-Individual Fellowships” (1993-1995)

## **Awards**

- a) Special award as the best student of the Faculty of Sciences (1984)
- b) Annual governmental awards as the best student in my class (1984-1986)

## **Grants**

- 1) “Preparations of Arsonolipids as analogues of Phosphonolipids” grant for post-graduate studies offered by the General Secretariat of Research and Technology of Greece (1989)
- 2) Marie Curie post doctoral fellowship under the program: “Human Capital and Mobility-Individual Fellowships” (1993-1995)
- 3) Governmental (Materials Science Centre) four years financement for dissertation under the title “Switchable Energy transfer in A--> B systems” (1999)
- 4) Governmental (Materials Science Centre) two years financement for a post-doc under the title “Switchable Energy transfer in Supramolecular systems” (1999)
- 5) C.Karatheodoris four years grant “Photoswithable Ion channels” (2002)
- 6) Grant from Empirikion Fountation
- 7) Participation in the FP7-2008-NMP, Large Scale Project “ Nanoparticles for therapy and Diagnosis of Alzheimer disease", (2008 - 2013)

- 8) Participation (collaborator) in a General Secretary of Research and Technology Project: "Pre-clinical and Toxicology Evaluation of Immunodominant Myelin Peptides/Mimetics Conjugated with Mannan towards Clinical Phase I-II Studies: A Potential Therapeutic Vaccine Drug in the Treatment of Multiple Sclerosis (MS)", (2011 - 2015)
- 9) Participation (collaborator) in a General Secretary of Research and Technology Bilateral program between Greece and Israel Project: "A novel combined approach for the Immunotherapy of Multiple Sclerosis", (2014 - 2015)

**Languages** : Greek (mother language), **English** (excellent), **French** (very good).

**Memberships**: Member of the Greek Chemist Companion.

**Conferences**: 30

**Publications**: 41

**Citations**: (self citations not included) >900

### List of publications

G. M. Tsivgoulis, D. N. Sotiropoulos and P. V. Ioannou\*, "Decomposition of Alkylarsonic Acids by Acylating Agents", *Phosphorus, Sulfur, and Silicon*, **1991**, 55, 165-168.

G. M. Tsivgoulis, D. N. Sotiropoulos and P. V. Ioannou\*, "1,2- Dihydroxypropyl-3-Arsonic Acid: a Key Intermediate for Arsonolipids", *Phosphorus, Sulfur, and Silicon*, **1991**, 57, 189-193.

G. M. Tsivgoulis, D. N. Sotiropoulos and P. V. Ioannou\*, "rac- (1,2- Diacyloxypropyl-3-Arsonic Acids: Arsonolipid Analogues of Phosphonolipids)", *Phosphorus, Sulfur, and Silicon*, **1991**, 63, 329-334.

S. P. Serves, G. M. Tsivgoulis, D. N. Sotiropoulos, P. V. Ioannou\* and M. K. Jain\*, , "Synthesis of (R) and (S) 1-2-Diacyloxypropyl-3-arsonic Acids: Optically active arsonolipids" *Phosphorus, Sulfur, and Silicon*, **1992**, 71, 99-105.

G. M. Tsivgoulis, and J.-M. Lehn\*, "Photonic Molecular Devices: Reversibly Photoswitchable Fluorophores for Nondestructive Readout for Optical Memory" *Angewandte Chemie International Edition English*, **1995**, 34(10), 1119-1122.

J. Rogers, B.-Z. Yu, S. P. Serves, G. M. Tsivgoulis, D. N. Sotiropoulos, P. V. Ioannou\* and M. K. Jain\*, "Kinetic Basis for the Substrate Specificity during Hydrolysis of Phospholipids by Secreted Phospholipase A<sub>2</sub>", *Biochemistry*, **1996**, 35(29), 9375-9384.

G. M. Tsivgoulis, and J.-M. Lehn\*, "Photoswitched and Functionalized Oligothiophenes: Synthesis, Photochemical and Electrochemical Properties ", *Chemistry: a European Journal*, **1996**, 2(11) 1399-1406.

G. M. Tsivgoulis, and J.-M. Lehn\*, "Photoswitched Sexithiophenes; Towards Switchable Molecular Wires",

*Advanced Materials*, **1997**, 9, 39-42.

G. M. Tsivgoulis, and J.-M. Lehn\*, "Multiplexing Optical Systems; Multicolor - Bifluorescent - Biredox Photochromic Mixtures.",

*Advanced Materials*, **1997**, 9, 627-630. (Εξώφυλλο στο περιοδικό)

J. Biteau, G. M. Tsivgoulis, F. Chaput, J.-P. Boilot\*, S. L. Gilat, S. Kawai, J.-M. Lehn, B. Darracq, F. Martin and Y. Levy, "Photochromism of Dithienylethene Derivatives Trapped in Sol-Gel Matrices",

*Mol. Cryst. Liq. Cryst.*, **1997**, 297, 65-72.

I. K. Spiliopoulos, G. M. Tsivgoulis and J. A. Mikroyannidis\*, "Rigid-Rod Polyamides And Polyimides Derived From 4,3"-Diamino-2',6'-Diphenyl- or Di(4-Biphenyl)-p-Terphenyl and 4-Amino-4"-Carboxy-2',6'-Diphenyl-p-Terphenyl",

*Macromolecules*, **1998**, 31, 522-529.

J. Biteau, F. Chaput, K. Lahlil, J.-P. Boilot\*, G. M. Tsivgoulis, J.-M. Lehn, B. Darracq, C. Marois, and Y. Levy, "Large and Stable Refractive Index Change in Photochromic Hybrid Materials",

*Chem. Mater.*, **1998**, 10(7), 1945-1950.

J. C. Owrutsky, H. H. Nelson, A. P. Baronavski, O.-K. Kim\*, G. M. Tsivgoulis, S. L. Gilat, and J.-M. Lehn, "Optical Properties and Dynamics of a Photochromic Bisthienylethene in Solution and in Polymer Film",

*Chem. Phys. Lett.*, **1998**, 293, 555-563.

G. M. Tsivgoulis, D. N. Sotiropoulos and P. V. Ioannou\*, "On the Behaviour of Sulfonates towards As(III) Nucleophiles",

*Phosphorus, Sulfur, and Silicon*, **1998**, 141, 97-110.

J. A. Mikroyannidis\* and G. M. Tsivgoulis, "Synthesis and Characterization of Soluble, Blue-Fluorescent Polyamides and Polyimides Containing Substituted p-Terphenyl as well as Long Aliphatic Segments in the Main Chain",

*J. Polym. Sci. Part A: Polym. Chem.*, **1999**, 37, 3646-3656.

M. P. L. Werts, M. van den Boogaard, G. Hadziioannou and G. M. Tsivgoulis\*, "Towards Mechanically Linked Polyrotaxanes by Sequential Deprotection - Coupling Steps of Bifunctional Rotaxanes",

*Chemical Communications*, **1999**, 623-624.

E. Drakopoulou, G. M. Tsivgoulis, A. Mukhopadhyay, A. Brisson\*, "Design and Synthesis of Multifunctional phospholipids",

*Tetrahedron Letters*, **2000**, 41(21), 4131-4134.

M. P. L. Werts, M. van den Boogaard, G. M. Tsivgoulis and G. Hadziioannou\*, "Mechanically Linked Polyrotaxanes: A stepwise approach"

*Macromolecules*, **2003**, 36(19) 7004-7013.

M. N. Haikou, G. M. Tsivgoulis and P. V. Ioannou\*, "On the Reaction of Triaryl Trithioarsenites (ArS)<sub>3</sub>As with Octasulfur",

*Z. Anorg. Allg. Chem.*, **2004**, (630), 1084-1089.

E. Ntararas, H. Matralis\* and G. M. Tsivgoulis\*, "Easily Characterized systems of C<sub>60</sub> grafted on SiO<sub>2</sub>",

*Tetrahedron Letters*, **2004**, 45(22), 4389-4391.

G. M. Tsivgoulis, P. A. Afroudakis and P. V. Ioannou\*, "Preparation of dehydro-L-(+)-ascorbic acid dimmer by oxidation of ascorbic acid with arsenic acid/iodine and formation of complexes between arsenious acid and ascorbic acid",

*J. Inorg. Biochem.*, **2004**, (98), 649-656.

G. M. Tsivgoulis, T. C. Fotopoulou and P. V. Ioannou\*, "The oxidation of Trialkyl Trithioarsenites (RS)<sub>3</sub>As, by octasulfur/Triethylamine and Dioxygen",

*Phosphorus, Sulfur, and Silicon*, **2006**, 181, 413-425.

M. A.Lala, G. M. Tsivgoulis and P. V. Ioannou\*, "Preparation of 2,3,4-trihydroxybutylarsonic acid: A starting compounds for novel arsonolipids",

*Phosphorus, Sulfur, and Silicon*, **2007**, 182(12) 2747-2760.

- K. Prousalis, G. M. Tsivgoulis, T. Tsegenidis\*, "Production of antibodies from chicken egg yolk to phenyl-N-methylcarbamate insecticides for analytical purposes", *International Journal of Environmental Analytical Chemistry* **2007**, 87(13-14), 1065-1078.
- G. M. Tsivgoulis, M. A. Lala and P. V. Ioannou\*, "Preparation of DL-2,3,4-trihydroxybutylarsonic acid and DL-2,3-dihydroxybutane-1,4-bis(arsenic acid): starting compounds for novel arsonolipids", *Chem. Phys. Lip.*, **2007**, 148(2), 97-104.
- G. M. Tsivgoulis, and P. V. Ioannou\*, "A reinvestigation of the synthesis of arsonolipids (2,3-diacyloxypropylarsonic acids)", *Chem. Phys. Lip.*, **2008**, 152(2), 113-121.
- P. V. Ioannou\*, G. M. Tsivgoulis\*, D. G. Vachliotis, "The Lewis-base Behaviour of Bunsen's Cacodyl Disulfide,  $\text{Me}_2\text{As(S)-S-AsMe}_2$ , Towards Molecular Halides of Group 13", *Main Group Chemistry*, **2009**, 8 (3), 151-161.
- T. D. Sideris, G. M. Tsivgoulis, D. G. Vachliotis and P. V. Ioannou\*, "The Reactions of Triethylamine-activated Octasulfur with Thioarsinites,  $\text{L}_2\text{As-SPh}$  (L = Me, Ph), Bunsen's Cacodyl Disulfide, and Triphenylarsine", *Main Group Chemistry*, **2009**, 8 (3), 163-176.
- G. M. Tsivgoulis\*, and P. V. Ioannou\*, "A high yield procedure for the preparation of arsonolipids (2,3-diacyloxypropylarsonic acids)", *Chem. Phys. Lip.*, **2010**, 163, 51-55.
- G. M. Tsivgoulis, and P. V. Ioannou\*, "The nucleophilicity of  $\text{M(SPh)}_3$  (M = P, As) and  $\text{PhAs(SPh)}_2$  towards carboxylic acid anhydrides", *Main Group Chemistry*, **2011**, 10, 51-62.
- P. V. Ioannou\* and G. M. Tsivgoulis, "The nucleophilicity of  $\text{M(SPh)}_3$  (M = P, As) and  $\text{L-As(SPh)}_2$  (L = Ph, 2-O<sub>2</sub>N-Ph) towards fatty acyl chlorides,  $\text{RCOCl}$ ", *Main Group Chemistry*, **2011**, 10, 177-185.
- P. V. Ioannou\* and G. M. Tsivgoulis, "On the use of organotin reagents for the preparation of partially esterified glycerol and meso-erythritol", *Main Group Chemistry*, **2011**, 10, 115-125.
- P. V. Ioannou\*, M. A. Lala and G. M. Tsivgoulis, "Preparation and properties of fully esterified erythritol", *Eur. J. Lipid Sci. Technol.*, **2011**, 113, 1357-1362.
- G. M. Tsivgoulis\*, and P. V. Ioannou, "Esterification equilibrium constants of arsonic and arsinic acids" *Monatshefte fuer Chemie*, **2012**, 143(12), 1603-1608.
- P. V. Ioannou\* and G. M. Tsivgoulis, "Preparation of thiolates of arsenic (III) and bismuth(III) with dithioerythritol, 2-mercaptoethanesulfonic acid and its sodium salt, 6-mercaptopurine and its riboside", *Main Group Chemistry*, **2012**, 11, 89-102.
- P. V. Ioannou\*, G. M. Tsivgoulis\*, and M. A. Lala, "Racemic 2,3,4-Triacyloxybutylarsonic Acids: A New Class of Arsonolipids with Three Acyl Chains", *Phosphorus, Sulfur, and Silicon*, **2013**, 188, 941-954.
- P. V. Ioannou\* and G. M. Tsivgoulis\*, "Thiolates of arsenic(III) and Bi(III) with the anti-hypertensive drug captopril", *Main Group Chemistry*, **2013**, 12, 221-233.
- P. V. Ioannou\* and G. M. Tsivgoulis\*, "Thiolates of arsenic(III), antimony(III), and bismuth(III) with DL-dihydrolypoic acid", *Monatshefte fuer Chemie*, **2014**, 145(6), 897-909.
- P. V. Ioannou\* and G. M. Tsivgoulis, "The reaction of dithioerythritol and dithiothreitol with As(III), Sb(III), and Bi(III) compounds", *Monatshefte fuer Chemie*, **2015**, 146(2), 249-257.

G. G. Kordopati, T.V. Tselios, T. Kellici, F. Merzel, T. Mavromoustakos, S. G. Grdadolnik\*, G. M. Tsivgoulis\*, "A novel synthetic luteinizing hormone-releasing hormone (LHRH) analogue coupled with modified  $\beta$ -cyclodextrin: Insight into its intramolecular interactions", *Biochim. Biophys. Acta, General*, **2015**, 1850, 159–168.

P. V. Ioannou\* and G. M. Tsivgoulis, "The reduction of p-arsanilic acid (p-aminophenylarsonic acid) to its arsonous acid or arsine oxide: a case study", *Main Group Chemistry*, **2015**, 14, 237-253.