



CURRICULUM VITAE

DEMOSTHENES FOKAS, B.Sc., Ph.D.

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EDUCATION

- **Post-doctoral Research in Chemistry, Harvard University, Cambridge, Massachusetts, USA (6/93-2/96).** Research in the area of carbohydrate chemistry. The project involved the synthesis of inositol glycosides and 6-OMe glucose polysaccharides. RESEARCH ADVISOR: Prof. Yoshito Kishi.
- **Ph.D. in Chemistry, Brown University, Providence, Rhode Island, USA (1988-1993).** DISSERTATION TITLE: *The Tandem Radical Cyclization Synthesis of Morphine Alkaloids.* The project involved the study of tandem radical cyclizations of arylcyclohexene ethers and its application in the synthesis of morphine alkaloids. THESIS ADVISOR: Prof. Kathlyn A. Parker.
- **B.S. in Chemistry, University of Ioannina, Ioannina, Greece (1983-1987).**

ACADEMIC-PROFESSIONAL EXPERIENCE

- **Department of Materials Science and Engineering, University of Ioannina, Greece.**
 - *Associate Professor of Chemistry* (05/2015-present).
 - *Assistant Professor of Chemistry* (04/2006-04/2015).
- **ARQULE, Inc., Woburn, Massachusetts, USA (07/1996-03/2006).**
 - *Senior Investigator-Team Leader* (11/2001-03/2006)
 - Design and synthesis of novel indole alkaloid-based screening libraries for drug discovery. This work resulted in the identification of a vinblastine-like series of new cytotoxic agents and the initiation of an internal new drug discovery program.
 - Managed and led a team of 10 chemists, 6 Ph.Ds and 4 B.Sc. chemists, in the ArQule-Pfizer Strategic Alliance. The team was responsible for the Library Design, Library Development and High Throughput Library Synthesis of ~30,000 compounds per year.

- **Senior Investigator** (9/2000-10/2001)
 - Managed the ArQule-Texas A&M research collaboration for the development and application of novel polymer-bound Pd catalysts for C-C bond formation reactions (Heck, Suzuki) and phase transfer hydrogenation reactions (nitro reduction and olefin hydrogenation). Research was done in collaboration with Prof. David E. Bergbreiter at Texas A&M University.
 - Development and application of inert Glove-Box chemistries (aryl metal halogen exchange and directed *ortho*-metallation) in an automated fashion for the high throughput synthesis of interesting heterocyclic ring systems.
- **Principal Investigator** (8/1998-8/2000)
 - Head of the New Chemistries Group: Led a team of four scientists (2 Ph.D. and 2 B.Sc. chemists) to develop new chemistries/transformations amenable to AMAP™ (Automated Molecular Assembly Plant). The work resulted in the automation of ArNO₂ group reduction and its application into solution phase high throughput synthesis.
 - Design of new multi-component reactions for the solution phase high throughput synthesis of diverse screening arrays (*Mapping Arrays*™) of biologically interesting heterocycles for the Lead Generation programs of ArQule's corporate partners (Abbott Labs, Roche Bioscience, Wyeth-Ayerst, Solvay Pharmaceuticals, Sankyo, Johnson&Johnson, Bayer AG, and Pharmacia-Searle). The work resulted in the solution phase synthesis of a spiro[pyrrolidine-2,3'-oxindole] library via a three component 1,3-dipolar cycloaddition reaction.
- **Staff Investigator** (7/1996-7/1998)
 - Research in the area of erythromycin and quinolone antibiotics. Design and synthesis of new analogues during the ArQule-Abbott Labs collaboration.
- **Harvard University, Cambridge, Massachusetts, USA** (6/1993-2/1996).
 - **Postdoctoral Fellow** in Chemistry. Research in the area of carbohydrate chemistry. The project involved the synthesis of inositol glycosides and 6-OMe glucose polysaccharides.
- **Brown University, Providence, Rhode Island, USA** (09/1988-5/1993).
 - **Teaching Assistant** in undergraduate organic chemistry courses (Chemistry 25, Chemistry 26). The duties included class lectures and laboratory supervision (09/1988-12/1990).
 - **Research Assistant** in the total synthesis of natural products (01/1991-05/1993).
- **MEVGAL DAIRY INDUSTRY S.A., Koufalia, Thessaloniki, Greece.**
 - Laboratory assistant in the department of product quality control (summer job 1985, 1986, 1987).
- **HELLENIC TEXTILES INDUSTRY S.A., Pella, Greece.**
 - Laboratory assistant in the department of product quality control (09/1987-06/1988).

PATENTS

- Athanasios D. Spathis, **Demosthenes Fokas** and Demetrios K. Vassilatis. “*Nurr1:RXR Activating Compounds for Simultaneous Treatment of Symptoms and Pathology of Parkinson’s Disease*”. PCT Patent Application submitted in October 2016 (PCT/EP2016/075279), published under no. WO2017068070A1.
 - a US application with application no. US15770162, published under no. US20180311243A1; and
 - an EU application with application no. EP20160794950, published under no. EP3365329A1
- **Demosthenes Fokas**, William J. Ryan and David L. Coffen. “*Spiro[pyrrolidine-2,3'-oxindole] compounds and methods of use*”. U.S. Patent 06,358,750B1: Mar. 19, 2002

PUBLICATIONS IN PEER-REVIEWED JOURNALS

- Karanastasis, A. A.; Kenath, G. S.; Andersen, D.; **Fokas, D.**; Ryu, C. Y.; Ullal, C. K. “One-pot surfactant-free modulation of size and functional group distribution in thermoresponsive microgels”. *J. Colloid Interface Sci.* **2020**, *568*, 264-272.
- Argyros, O.; Karampelas, T.; Varela, A.; Asvos, X.; Papakyriakou, A.; Agalou, A.; Beis, D.; Davos, C. H.; **Fokas, D.**; Tamvakopoulos, C. “Targeting of the Breast Cancer Microenvironment with a Potent and Linkable Oxindole Based Antiangiogenic Small Molecule”. *Oncotarget* **2017**, *8*, 37250-37262.
- Spathis, A. D.; Asvos, X.; Ziavra, D.; Karambelas, T.; Topouzis, S.; Cournia, Z.; Qing, X.; Alexakos, P.; Smits, L.; Dalla, C.; Rideout, H.; Schwamborn, J. C.; Tamvakopoulos, C.; **Fokas, D.**; Vassilatis, D. K. “Nurr1:RXR α Heterodimer Activation as Monotherapy for Parkinson’s disease”. *Proc. Natl. Acad. Sci. USA* **2017**, *114*, 3999-4004.
- Karampelas, T.; Skavatsou, E.; Argyros, O.; **Fokas, D.**; Tamvakopoulos, C. “GSG: A gemcitabine based peptide conjugate with improved metabolic properties and dual mode of efficacy”. *Molecular Pharmaceutics* **2017**, *14*, 674-685.
- Argyros, O.; Karampelas, T.; Asvos, X.; Varela, A.; Sayyad, N.; Papakyriakou, A.; Davos, C. H.; Tzakos, A. G.; **Fokas, D.**; Tamvakopoulos, C. “Peptide–Drug Conjugate GnRH–Sunitinib Targets Angiogenesis Selectively at the Site of Action to Inhibit Tumor Growth”. *Cancer Res.* **2016**, *76*, 1181-1192.
- Kounnis, V.; Chondrogiannis, G.; Mantzaris, M. D.; Tzakos, A. G.; **Fokas, D.**; Papanikolaou, N. A.; Galani, V.; Sainis, I.; Briasoulis, E. “Microcystin LR Shows Cytotoxic Activity Against Pancreatic Cancer Cells Expressing the Membrane OATP1B1 and OATP1B3 Transporters.” *Anticancer Res.* **2015**, *35*, 5857-5865.

- Karampelas, T.; Argyros, O.; Sayyad, N.; Morgan, K.; Kolios, G.; Millar, R. P.; Tzakos, A. G.; **Fokas, D.**; Tamvakopoulos, C. “GnRH-Gemcitabine Conjugates for the Treatment of Androgen-Independent Prostate Cancer: Pharmacokinetic Enhancements Combined with Targeted Drug Delivery”. *Bioconjugate Chem.* **2014**, *25*, 813-823.
- Ouzouni, M.-D.; **Fokas, D.*** “Synthetic Studies on Kinamycin Antibiotics: Stereoselective Synthesis of the Highly Oxygenated D-Ring and Construction of the ABD Ring System of Kinamycins”. *Eur. J. Org. Chem.* **2013**, 6181-6189.
- Chatziioannou, A. N.; Siskos, A. P.; Loxas, D.; Kavatzas, N.; Agrogiannis, G.; **Fokas, D.**; Katsiboulas, M.; Malagari, K.; Dimitriou, C. A.; Kostomitsopoulos, N.; Tsigkou, O.; Tamvakopoulos, C. “Transarterial Embolization with Sorafenib in animal livers: a pharmacokinetic study”. *J. Vasc. Interv. Radiol.* **2013**, *24*, 1657-1663.
- **Fokas, D.***; Kaselj, M.; Isome, Y.; Wang, Z. “Diversity Oriented Synthesis of a Vinblastine-Templated Library of 7-Aryloctahydroazono[5,4-b]indoles via a Three-Component Reaction”. *ACS Comb. Sci.* **2013**, *15*, 49-58.
- Kitsati, N.; **Fokas, D.**; Ouzouni, M.-D.; Mantzaris, M. D.; Barbouti, A.; Galaris, D. “Lipophilic Caffeic Acid Derivatives Protect Cells against H₂O₂-Induced DNA Damage by Chelating Intracellular Labile Iron”. *J. Agr. Food Chem.* **2012**, *60*, 7873-7879.
- Dimos, K.; Antoniou, M. K.; Meichanetzoglou, A.; Lympelopoulou, S.; Ouzouni, M.-D.; Koutselas, I. B.; **Fokas, D.**; Karakassides, M. A.; Agostino, R. G.; Gournis, D. “Naphthalene-based periodic nanoporous organosilicas: I. Synthesis and structural characterization”. *Micropor. Mesopor. Mater.* **2012**, *158*, 324-331.
- Tzakos, A. G.; **Fokas, D.**; Johannes, C.; Moussis, V.; Hatzimichael, E.; Briasoulis, E. “Targeting Oncogenic Protein-Protein Interactions by Diversity Oriented Synthesis and Combinatorial Chemistry Approaches”. *Molecules* **2011**, *16*, 4408-4427.
- Vangeli, O. C.; Romanos, G. E.; Beltsios, K. G.; **Fokas, D.**; Kouvelos, E. P.; Stefanopoulos, K. L.; Kanellopoulos, N. K. “Grafting of Imidazolium Based Ionic Liquid on the Pore Surface of Nanoporous Materials-Study of Physicochemical and Thermodynamic Properties”. *J. Phys. Chem. B* **2010**, *114*, 6480-6491.
- Vangeli, O. C.; Romanos, G. E.; Beltsios, K. G.; **Fokas, D.**; Athanasekou, C. P.; Kanellopoulos, N. K. “Development and characterization of chemically stabilized ionic liquid membranes-Part I: Nanoporous ceramic supports”. *J. Membr. Sci.* **2010**, *365*, 366-377.
- Sainis, I.; **Fokas, D.**; Vareli, K.; Tzakos, A.; Kounnis, V.; Briasoulis, E. “Cyanobacterial Cyclopeptides as Leads to Novel Targeted Cancer Drugs”. *Marine Drugs* **2010**, *8*, 629-657.

- **Fokas, D.***; Hamzik, J. A. “One-Pot Synthesis of 7-Aryloctahydroazonino[5,4-b]indoles based on the Fragmentation of Indolizino[8,7-b]indoles and the Insertion of Indoles and 3,4,5-Trimethoxyphenol”. *SynLett* **2009**, 581-584.
- **Fokas, D.***; Wang, Z. “A Facile Synthesis of 2,3,6,11-Tetrahydro-1H,5H-indolizino[8,7-b]indole-11b-Carboxylic Acid Methyl Ester via a 9-BBN Mediated Tertiary Lactam Reduction”. *Synth. Commun.* **2008**, 38, 3816-3822.
- Parker, K. A.; **Fokas, D.** “Enantioselective Synthesis of (-)-Dihydrocodeinone: A Short Formal Synthesis of (-)-Morphine”. *J. Org. Chem.* **2006**, 71, 449-455.
- Guo, M.-J.; Varady, L.; **Fokas, D.**; Baldino, C. M.; Yu, L. “A Novel Tunable Aromatic Bromination Method Using Alkyl Bromides and Sodium Hydride in DMSO”. *Tetrahedron Lett.* **2006**, 47, 3889-3892.
- **Fokas, D.***; Yu, L.; Baldino, C. M. “Strategies for the Synthesis of Novel Indole Alkaloid-Based Screening Libraries for Drug Discovery”. *Molecular Diversity* **2005**, 9, 81-89.
- Yang, D.; **Fokas, D.***; Li, J.; Yu, L.; Baldino, C. M. “A Versatile Method for the Synthesis of Benzimidazoles from *o*-Nitroanilines and Aldehydes in One Step via a Reductive Cyclization”. *Synthesis* **2005**, 47-56.
- Orgueira, H. A.; **Fokas, D.**; Isome, Y.; Chan, P. C.-M.; Baldino, C. M. “Regioselective Synthesis of [1,2,3]-Triazoles Catalyzed by Cu(I) Generated in situ from Cu(0) Nanosize Activated Powder and Amine Hydrochloride Salts”. *Tetrahedron Lett.* **2005**, 46, 2911-2914.
- **Fokas, D.***; Patterson, J. E.; Slobodkin, G.; Baldino, C. M. “Access to the Noryohimban [6,5,6,5,6] Ring System via an Intramolecular Furan Diels-Alder Reaction”. *Tetrahedron Lett.* **2003**, 44, 5137-5140.
- Powers, D. G.; Casebier, D. S.; **Fokas, D.**; Ryan, W. J.; Troth, J. R.; Coffen, D. L. “Automated Parallel Synthesis of Chalcone Based Screening Libraries”. *Tetrahedron* **1998**, 54, 4085-4096.
- **Fokas, D.***; Ryan, W. J.; Casebier, D. S.; Coffen, D. L. “Solution Phase Synthesis of a Spiro[pyrrolidine-2,3'-oxindole] Library via a Three Component 1,3-Dipolar Cycloaddition Reaction”. *Tetrahedron Lett.* **1998**, 39, 2235-2238.
- Parker, K. A.; **Fokas, D.** “Stereochemistry of Radical Cyclizations to Side-Chain Olefinic Bonds. An Approach to Control of the C-9 Center of Morphine”. *J. Org. Chem.* **1994**, 59, 3927-3932.
- Parker, K. A.; **Fokas, D.** “The Radical Cyclization Approach to Morphine. Models for Highly Oxygenated Ring-III Synthons”. *J. Org. Chem.* **1994**, 59, 3933-3938.

- Parker, K. A.; **Fokas, D.** “Convergent Synthesis of (±)-Dihydroisocodeine in Eleven Steps by the Tandem Radical Cyclization Strategy. A Formal Total Synthesis of (±)-Morphine”. *J. Am. Chem. Soc.* **1992**, *114*, 9688-9689.

BOOK CHAPTERS

- **Demosthenes Fokas** and Carmen M. Baldino. “Elimination Chemistry in the Solution and Solid Phase Synthesis of Combinatorial Libraries” in *HandBook of Combinatorial Chemistry*, K. C. Nicolaou, R. Hanco, Eds: Wiley-VCH Verlag, Germany, **2002**, Vol. 1, pp. 279-304.

PRESENTATIONS IN CONFERENCES (Abstracts and Posters)

- V. Kounnis, G. Chondrogiannis, M. D. Mantzaris, **D. Fokas**, N. A. Papanikolaou, I. Sainis, E. Briasoulis. “Pancreatic cancer cells expressing the OATP1B3 transporter show promising sensitivity to the highly cytotoxic microcystin-LR molecule”. 26th EORTC – NCI – AACR Symposium on Molecular Targets and Cancer Therapeutics, 18-21 November 2014, Barcelona, Spain. *European Journal of Cancer*, Vol. 50, Suppl. 6 (2014), p86, abstract# 258 (poster).
- T. Karampelas, O. Argyros, N. Sayyad, A.G. Tzakos, **D. Fokas**, C. Tamvakopoulos. “A gemcitabine prodrug for the treatment of castration-resistant prostate cancer: Reduced metabolic inactivation combined with targeted drug delivery”. 23rd Biennial Congress of the European Association for Cancer Research, 5–8 July 2014, Munich, Germany. *European Journal of Cancer*, Vol. 50, Suppl. 5 (2014) S182, abstract# 755 (poster).
- Theodoros Karampelas, Orestis Argyros, Nisar Sayyad, Charalampos Pappas, Andreas G. Tzakos, **Demosthenes Fokas**, Constantin Tamvakopoulos. “Novel GnRH-Gemcitabine conjugates for the treatment of androgen-independent prostate cancer: Targeted drug delivery combined with pharmacokinetic enhancements”. 8th Congress of the Hellenic Society for Basic and Clinical Pharmacology, Biomedical Research Foundation of the Academy of Athens, Athens, May 23-25, 2014.
- Orestis Argyros, Theodoros Karampelas, Xenophon Asvos, **Demosthenes Fokas** and Constantin Tamvakopoulos. “Dual Targeting of Tumor Angiogenesis and GnRH-R Expressing Prostate Cancer Cells Using Novel Sunitinib-GnRH Conjugates”. 8th Congress of the Hellenic Society for Basic and Clinical Pharmacology, Biomedical Research Foundation of the Academy of Athens, Athens, May 23-25, 2014.
- Theodoros Karampelas, Orestis Argyros, Nisar Sayyad, Andreas G. Tzakos, **Demosthenes Fokas**, Constantin Tamvakopoulos. “Preclinical Evaluation of GnRH-Gemcitabine Conjugates for the Treatment of Prostate Cancer: Targeted Drug Delivery Combined with Pharmacokinetic Enhancements”. 11th International Symposium on GnRH, Salzburg, Austria, February 9-11, 2014.

- Theodoros Karampelas, Orestis Argyros, Nisar Sayyad, Andreas G. Tzakos, **Demosthenes Fokas** and Constantin Tamvakopoulos. “Discovering novel therapeutics for the treatment of Prostate Cancer: An academic perspective with emphasis on targeted delivery”. World Biotechnology Congress Meeting, Boston, USA, June 3-6, 2013.
- Theodoros Karampelas, Orestis Argyros, Nikolaos Kostomitsopoulos, Kevin Morgan, Nisar Sayyad, Andreas G. Tzakos, **Demosthenes Fokas** and Constantin Tamvakopoulos. “Cancer cell’s surface traits-An ally in designing targeted cancer therapies–A GnRH based approach”. European Association for Cancer Research, July 7-10 2012, Barcelona, Spain. *European Journal of Cancer*, Vol. 48, Suppl. 5 (2012) S197, abstract# 824 (poster).
- Tamvakopoulos C, Siskos AP, Sofianos ZD, Siepi E, Andreakos E, Katsiboulas M, Kostomitsopoulos N, **Fokas D**, Kavatzas N, Malagari K, Loxas D, Chatziioannou A. “Targeted delivery of anticancer drugs for the treatment of hepatocellular carcinoma”. Biomedical Research Foundation of the Academy of Athens, Athens, June 2011 (poster).
- Athanasios D. Spathis, Xenofontas Asvos, Theodoros Karampelas, Despina Ziavra, Zoe Cournia, **Demosthenes Fokas**, Constantin Tamvakopoulos and Demetrios K. Vassilatis. “Validation of Nurr1 as a Drug Target for the Treatment of Parkinson’s disease”. Biomedical Research Foundation of the Academy of Athens, Athens, June 2011 (poster).
- Athanasios D. Spathis, Despina Ziavra, Xenofontas Asvos, Theodoros Karampelas, Zoe Cournia, Constantin Tamvakopoulos, **Demosthenes Fokas** and Demetrios K. Vassilatis. “Decoding the puzzle of nurr-o-protection dynamics in dopaminergic cells”. Biomedical Research Foundation of the Academy of Athens, Athens, June 2011.
- E. Papagrigoriou, D. L. Giokas, M.-D. Ouzouni, **D. Fokas**, A. G. Vlessidis. “Spectrophotometric Determination and Speciation of Iron as its ICL-670 Complex”. 7th Aegean Analytical Chemistry Days Conference, Mytilene, Lesbos, Greece, 29 September-3 October 2010 (poster).
- Mira Kaselj, Yuko Isume, Zhimin Wang, **Demosthenes Fokas**, Ji-Feng Liu, Daniel Yohannes, and Carmen M. Baldino. “Synthesis of Novel Vinblastine-like Libraries”. 39th National Organic Chemistry Symposium, Salt Lake City, UT, USA, June 2005 (poster).
- Feng Li, Zhimin Wang, **Demosthenes Fokas**, Carmen M. Baldino, Kenneth J. Kellar, Yingxian Xiao, and Daniel Yohannes. “Synthesis of Nicotinic Acetylcholine Receptor Ligands: Conversion of Pyridine to Pyridone”. Organic division abstract #601, 229th American Chemical Society National Meeting, San Diego, CA, USA, March 2005 (poster).
- Shou-Yuan Lin, **Demosthenes Fokas**, Carmen M. Baldino, Kenneth J. Kellar, Yingxian Xiao, and Daniel Yohannes. “Synthesis of 6,9-Disubstituted (\pm)-Cyfusine”. Organic division abstract #602, 229th American Chemical Society National Meeting, San Diego, CA, USA, March 2005 (poster).

- Youseng Guan, **Demosthenes Fokas**, Carmen M. Baldino, Kenneth J. Kellar, Yingxian Xiao, and Daniel Yohannes. “Diversity Oriented Synthesis of Novel Nicotinic Acetylcholine Receptor Ligands Related to Cytisine”. Organic division abstract #603, 229th American Chemical Society National Meeting, San Diego, CA, USA, March 2005 (poster).
- Srinivasa Rao Akireddy, **Demosthenes Fokas**, Carmen M. Baldino, Kenneth J. Kellar, Yingxian Xiao, and Daniel Yohannes. “Synthesis of Novel Nicotinic Acetylcholine Receptor Ligands Related to Cytisine”. Organic division abstract #604, 229th American Chemical Society National Meeting, San Diego, CA, USA, March 2005 (poster).
- MaoJun Guo, **Demosthenes Fokas**, Libing Yu, Lazslo Varady, and Carmen M. Baldino. “Aromatic Bromination Using Alkyl Bromides and Sodium Hydride in DMSO”. Organic division abstract #159, 227th American Chemical Society National Meeting, Anaheim, CA, USA, March 2004.
- S. Rao Akireddy and **Demosthenes Fokas**. “Reduction of Aromatic Nitro Groups with Aqueous Sodium Dithionite: Application to Automated Parallel Synthesis”. Organic division abstract #329, 226th American Chemical Society National Meeting, New York, NY, USA, September 2003.
- David G. Powers, David S. Casebier, **Demosthenes Fokas**, William J. Ryan, Jonah R. Troth and David L. Coffen. “Automated Parallel Synthesis of Chalcone Based Screening Libraries”. Organic division abstract #62, 214th American Chemical Society National Meeting, Las Vegas, Nevada, USA, September 1997.
- Kathlyn A. Parker and **Demosthenes Fokas**. “The Radical Cyclization Approach to Morphine. Stereochemistry of Endocyclic Closure in a Constrained Styrene System”. Organic division abstract #19, 204th American Chemical Society National Meeting, Washington D.C., USA, August 1992.
- Kathlyn A. Parker and **Demosthenes Fokas**. “The Convergent and Stereocontrolled Synthesis of Morphine Alkaloids”. Organic division abstract #20, 204th American Chemical Society National Meeting, Washington D.C., USA, August 1992.

RESEARCH GRANTS AWARDED

- **ARISTEIA II Research Program, Greek Ministry of Education (2014):** “*Novel EGF-bound Drug Conjugates to Target Breast and Lung Cancer*”. Principal Investigator: Associate Professor, Constantinos Tamvakopoulos, Laboratory of Pharmacology, Biomedical Research Foundation of the Academy of Athens. The project was funded by the General Secretariat for Research and Technology with an amount of 215,000 € (2/2014-7/2015). Research engaged in the design and synthesis of cytotoxic conjugates of chemotherapeutic agents with EGFR and HER2 binding peptides for the selective targeting of lung and breast cancer cells and tumors, respectively.

- **Research Program for the Support of Postdoctoral Fellows, Greek Ministry of Education (2012):** “*Development and evaluation of novel targeted drugs for prostate cancer treatment*”. Postdoctoral Fellow: Dr. Orestis Argyros, Biomedical Research Foundation of the Academy of Athens. Principal Investigator: Associate Professor, Constantinos Tamvakopoulos, Laboratory of Pharmacology, Biomedical Research Foundation of the Academy of Athens. The project was funded by the General Secretariat for Research and Technology with an amount of 150,000 € (2/2012-2/2015). Research engaged in the design and synthesis of cytotoxic conjugates of chemotherapeutic agents with GnRH-R binding peptides for the targeting of prostate cancer cells and tumors that overexpress GnRH-Rs. A conjugate, namely GSG, with enhanced pharmacokinetic profile and potential clinical applications was identified.
- **Michael J. Fox Foundation Research, USA (2009):** “*Nurr1 as Drug Target for the Treatment of Parkinson’s Disease*”. Principal Investigator: Assistant Professor, Demetrios Vassilatis, Biomedical Research Foundation of the Academy of Athens. The project was funded by the Michael J. Fox Foundation with an amount of 250,000 USD (7/2009-6/2011). I was engaged in the design and synthesis of small molecules that penetrate the blood-brain barrier and activate the Nurr1-RXR heterodimer. This work led to the discovery of a brain permeable compound for the validation of Nurr1, an orphan nuclear receptor involved in neuroprotection, as a drug target for the treatment of Parkinson’s disease.
- **FP7-PEOPLE-2007-4-3-IRG:** “*The synthesis of diazobenzo[a]fluorene antitumor antibiotics: Lomaiviticins A, B and Kinamycin C*”. Contract number 200176. Principal Investigator: Assist. Professor Demosthenes Fokas. The proposal was funded by the European Union with an international reintegration grant (IRG) of the amount of 100,000.00 € (09/2008-08/2012). The project pertained the development of a synthetic methodology of the kinamycin antitumor antibiotics where a concise and stereoselective synthesis of the highly oxygenated D-ring and construction of the ABD-ring system of kinamycins were achieved.
- **University of Ioannina, Research Grant for Instrumentation Support (2008):** “*The use of preparative high performance liquid chromatography (HPLC) in the analysis and synthesis of bioactive natural products and their analogues*”. Principal Investigator: Assist. Professor Demosthenes Fokas. The proposal was funded by the University of Ioannina with an amount of 65,000.00 € for the purchase of a SHIMADZU prep-HPLC system in September 2008.

TEACHING ACTIVITIES

- **UNDERGRADUATE COURSES**
 - **ETY 202: Chemistry II**-Organic chemistry (spring semester, 1st year students), 4 hours per week (2006-present).
 - **ETY 105: General Chemistry Laboratory**-Introductory laboratory course (fall semester, 1st year students), 3 hours per week (2011-present).
 - **ETY 713: Special Topics in Organic Chemistry**-Advanced organic chemistry course

(fall semester, 4th year students), 3 hours per week (2006-present).

- **ETY 716: Introduction to Medicinal Chemistry**-Introductory course addressing medicinal chemistry and drug discovery principles (fall semester, 4th year students), 3 hours per week (2007-present).

- **GRADUATE COURSES**

- **Molecular Biomaterials**-Special topics in the chemistry of proteins and nucleic acids for students attending the joint graduate program “CHEMISTRY AND TECHNOLOGY OF MATERIALS”, sponsored by the Departments of Chemistry and Materials Science and Engineering at the University of Ioannina. Fall semester, 3 hours per semester (2013-present).

SUPERVISION OF GRADUATE STUDENTS

- Supervised the doctoral work of two (2) graduate students in the Department of Materials Science and Engineering at the University of Ioannina.
 - **Maria-Dimitra Ouzouni (2008-2013)**: Dissertation Title: “Synthetic Studies on Kinamycin Antibiotics: Stereoselective Synthesis of the Highly Oxygenated D-Ring and Construction of the ABD-Ring System of Kinamycins”. Ph.D. Thesis was publicly defended in November 2013.
 - **Olga Vaggeli (2008-2013)**: Dissertation Title: “Ionic liquid modified porous materials and membranes for gas separation applications”. Ph.D. Thesis was publicly defended in December 2013.
- Supervised the master thesis work of seven (7) graduate students in the Department of Materials Science and Engineering at the University of Ioannina. 1) **Georgia Akilina Gouta** (2016-2018); 2) **Panagiotis Anagnostakis** (2017-2019); 3) **Stratos Kritikopoulos** (2017-2019); 4) **Paraskevi-Anna Valaka** (2018-2020); 5) **Christodoulos Mitrogiannis** (2018-2020); 6) **Ariadni Lykobardaki** (2018-2020); 7) **Charitini Dimarelia** (February 2020-present). Research focused on the design and synthesis of targeted drug conjugates. Their work on the design and synthesis of new linkers, new linkable drug analogues and highly functionalized scaffolds has put the ground work for the design of multi-drug conjugates with multiple modalities for targeted delivery of cancer therapeutics.

HONORS-AWARDS

- Peer reviewer for several journals: Tetrahedron Letters, Journal of Heterocyclic Chemistry, Journal of Organic Chemistry, Drug Discovery today, Journal of Combinatorial Chemistry, Canadian Journal of Chemistry, SYNTHESIS, Monatshefte für chemie, Molecules, Organic Process Research and Development, Journal of Pharmaceutical and Biomedical Analysis, Journal of the American Chemical Society.

- Award for best presentation at a company wide meeting: “*Industry Perspectives: Current Challenges in Lead Generation in Modern Drug Discovery*”. Presented at ArQule, Inc., Woburn, Massachusetts, USA, May 2003.
- Annual academic scholarship covering tuition fees and board from Brown University (1988-1993).
- Greek Ministry of Education Highest Awards of Excellence (1979-1983, 1984-1987).

PROFESSIONAL AFFILIATIONS/MEMBERSHIPS

- Interscience Molecular Oncology Laboratory (iMOL), University of Ioannina, Cancer Biobank Center (<http://www.imol.edu.gr>) (2008-present).
- Hellenic Chemical Society (2006-present).
- American Chemical Society (1989-present).