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Current Position

Professor and Director of the Laboratory of Pharmaceutical Technology

Education

1980-1984: Department of Pharmacy, School of Health Sciences, University of Athens, Greece, Degree: Bpharm (8.4/10)

1984-1988: Department of Pharmacy, School of Health Sciences, University of Athens, Greece, Degree: PhD (Biopharmaceutics)

1997: Pharmacist License

Postdoctoral Education and Research

1988-1989: School of Pharmacy, University of South California, Laboratory of Prof. Karl H.L. Hwang, Research on Liposomal Drug Delivery and Targeting.

1992-1993: School of Pharmacy, University of London, Laboratory of Prof. Gregory Gregoriadis, Research on Liposomal Delivery for Drugs and Vaccines

Research Interests and Activities

- Biopharmaceutics and Pharmacokinetics: Improving Drug Biodistribution and Pharmacokinetics through Advances Drug Delivery System Design
- Nanomedicines: Liposomal or Nanoparticulate systems for Controlled Drug (or Vaccine) Delivery and/or Targeting.
- Application of novel lipid vesicles (Arsonoliposomes) in Anticancer / Antiparasitic Therapeutics.
- Novel Controlled-(Release)-Drug-Releasing Stents.
- Delivery of Microbicides for prevention of Sexually transmitted HIV.
- Ocular Drug Delivery (intravitreal injection of novel drug delivery systems).
- Drug Delivery Systems for targeting alveolar macrophages after delivery by nebulization
- Liposomal Drugs -in- Polymeric Films for sustained drug release and drug protection.
- Application of Liposomes in Analytical Techniques

Grants

A. Research Grants

- University of Patras Research Committee 1991-1992: "Study of the influence of drug molecules on the properties of liposome membranes" - Coordinator & PI
- Greek Ministry of Research and Technology 1995-1998: "Study of the biophysical and biochemical properties of liposomes which incorporate arsonolipids in their bilayers"- Coordinator & PI
- Private Companies 1990 - : "Study of the Bioavailability of Pharmaceutical Formulations" - Coordinator & PI
- European FP6 Integrated Program, 2004-2009: "Selection and Development of

microbicided for mucosal use to prevent sexual HIV transmission/acquisition; acronym SHIVA contr. No. LSHP-CT-2004-503162, Partner (PI for Greece), WP-Leader, Vice Coordinator

- European FP6 Marie Curie (Early stage Scholarship EST) Program, 2004-2008: "Towards a Euro PhD in Advanced Drug Delivery", Partner-Host Institute (PI for Greece/ Host Lab)

- Greek Ministry of Education Heraklitos – Program: "Arsonoliposomes: Basic Study of lipid composition effects on the physicochemical properties, in vivo kinetics, activity and toxicity", (grant not received due to Graduate Student change). Coordinator & PI

- EU-INTEREG Project. 2006-2008:"ESTABLISHMENT OF A MULTIDISCIPLINARY SCIENTIFIC NETWORK FOR THE DEVELOPMENT AND APPLICATION OF BIOMATERIALS", Partner –WP Leader

- European FP7 Integrated Program, 2008-2013: "Nanoparticles for therapy and diagnosis of Alzheimer's disease"; acronym NAD-212043, Partner (PI for Greece), WP-Leader

B. Educational:

- 4 Socrates Grant for the organization of the Intensive Program-Workshop:"Liposome Technology and Applications in Therapeutics" and "Nanomedicines: Nanoparticulates for Drug Delivery", Coordinator,1997, 2000, 2003 and 2008

Publications

- Publications •Papers in peer-reviewed journals: 75
- Invited Papers & Reviews or Chapters in Book Series: 8
- Abstract in proceeding of international conferences: 105
- Papers in Greek Scientific Journals: 6
- Invited speaker in 43 National and International scientific or educational meetings, workshops etc
- Text Book (in Greek):
- Biopharmaceutics and Pharmacokinetics with Introduction in Clinical Pharmacokinetics (used until 2006).
- Pharmaceutical Formulations: Nanotechnology applications in Pharmaceutics
- 2 Practical course textbooks (1. Preparation of Formulations; 2. Practicals on Biopharmacy)

Teaching Activities

Undergraduate Program (Pharmacy Dept):

- Biopharmaceutics and Pharmacokinetics with Introduction in Clinical Pharmacokinetics (1989-2006)
- Practical course in Biopharmaceutics and Pharmacokinetics (1989-2006)
- Pharmaceutical Technology I: Pre-Formulation Studies [methods to increase drug bioavailability through formulation design (2002-)

- Pharmaceutical Technology II: Design, Preparation-Manufacturing and Quality Control of Drug Formulations.

Practical course in Pharmaceutical Technology (1989-to-date)

- Radiopharmaceutics

Postgraduate Program (Pharmacy Dept):

- Applied Pharmacokinetics (1995-2006)
- Determination of Drugs in Biological Fluids (1995-)
- Pharmaceutical Statistics (1995-)
- Advanced Pharmaceutical Technology (Liquid, Semi-Solid, Solid) (1995-)

Postgraduate Program (School of Medicine):

- Pharmacokinetic Modeling
- Modulating Drug Pharmacokinetics by Advanced Drug Delivery Systems
For the Socrates Educational Program "Novel Drug Delivery Systems: and the Galenos and Marie Curie Network:
 - Technology and Applications in Therapeutics 10-day Workshop (1997-98, 1999-2000, 2003, 2008).

Professional Affiliation

- Panhellenic Association of Pharmacists
- AAPS (American Association of Pharmaceutical Scientists)
- APGI/APV (Association de Pharmacie Galenique Industrielle)
- European Federation of Pharmaceutical Scientists (EUFEPS)
- Controlled Release Society (CRS)
- CRS -Greek Chapter [President 1999-2001]
- International Liposome Society (ILS)
- Galenos Network for novel Drug delivery Exploitation and Education

Prizes-Honours:

- 1980-1984 : Scholarships from Greek State Scholarships' Foundation (IKY) for outstanding performance during undergraduate studies (Ranking in top 5% of class)
- Research Fellowship (from NIH grant), 1988-89, University of South California, L.A, USA
- Research Fellowship, 1992-93, University of London (from MOD grant), London, UK.
- Participation in three Research Proposal Evaluator panels (& Panel Rapporteur), European Commission, Research Directorate, 2004; 2005; 2007
- Member of Scientific Committee of the International Conference of European Association of Pharma Biotechnology [EAPB] (2004).
- Member of Scientific Advisory Board Europe, of New Drugs, official publication of EAPB (2004).
- Member of the Senate, Univ. of Patras (2004-5).
- Member of the Graduate Studies committee, Dept. of Pharmacy, Univ. of Patras (1998-).

- Coordinator of the Erasmus mobility Program for the Dept. of Pharmacy, Univ. of Patras (1998-).
- Evaluator for the Spanish Ministry of Development and Research (after invitation), Evaluadores, 2006, 2008
- Evaluator for Leukemia Research Organization, UK, 2008, and for a number of other foundations (TWAS, Israel Research Council, British cancer Research foundation, Dutch research foundation, Norwegian Excellence , etc.)
- President of the committee for evaluation of Pharmacy Technicians (2001-)
- Evaluator for the National Foundation of Drugs (EOF) for Clinical Studies and Formulation Bioequivalence Studies (after invitation), (2000-).
- Member of Scientific Committee of the International Conference of European Association of Pharma Biotechnology [EAPB] (2004)
- Member of Scientific Advisory Board Europe, of New Drugs, official publication of EAPB (2004).
- Reviewer for > 35 Pharmaceutical and related Scientific journals
- Associate Editor for Journal of Biomedical Nanotechnology-JBN, American Publishers (2006-)
- Editorial Board of J. Drug Delivery (2010-)
- Guest Editor for JBN-Special Issue on Nanomedicines, Sept 2008.
- Regional committee member of «lasted Conference on Nanotechnology and Applications-NANA 2008”, 29/9 – 1/10, Crete, Greece, 2008
- Evaluator for: CRS – Annual Conference, 2008, 2009; AAPS Annual Conference, 2008; lasted NANA conference -2008
- Publicity Committee member of the 3rd Skin and Formulation Symposium, March 9-10, Versailles, France, 2009; and 4th, 2012 Lyon, France

RECENT PRIZES: Best Young Investigator Award @ EuroNanoForum, May 2011, Budapest, HU [A. Skouras]; Best Poster (1/3)@ Pharm. Sciences Conf, Athens, April 2012 [E. Markoutsas]

Patents

1. Liposomes containing particulate materials. WO9509610 (A1) Publication date: 1995-04-13/US2002041895 - 2002-04-11 Inventor(s): G. Gregoriadis, S.G. Antimisiaris, I. Gursel.
2. A method for immobilization of bioactive substances on surfaces for improving haemocompatibility. Greek Patent, 2006, Inventor(s): S. G. Antimisiaris, I. Missirlis, G. Michanetzis, G. Koromila.
3. Complex formulations for administration of microbicides or other categories of drugs via mucosal (or vaginal or rectal) routes, with high drug-loading capacity and controllable drug release rates. Greek Patent, 20090100244, 2009, Inventor(s): S.G.Antimisiaris, P.Klepetsanis, S. Mourtas
4. Treatment of Prostate tumors with arsonoliposomes, US Provisional Patent, B1021US00, 2010, Inventors: S.G. Antimisiaris, P.V. Ioannou, M. Wei
5. Novel curcumin derivatives with improved physicochemical properties and surface-decorated Nanoliposomes (with the derivatives) with very high affinity for Amyloid- β 1-42 peptide. Greek Patent application 20100100563, 2010, and EPO 11007990.2-2012. Inventor(s): S.G.Antimisiaris, F. Nicotra, S. Mourtas, C. Zona, B. LaFerla, A. Niaraki.

Selected Publications

- G. Besson, M. Caron, S. Lekana-Douki Etenna, A. Mintsas-Ndong, S. Mourtas, B. Sallé, C.De Giuli Morghen, P. LaColla, S. Antimisiaris M. Kazanji Protective properties of non-nucleoside reverse transcriptase inhibitor (MC1220) incorporated into liposome against intravaginal challenge of Rhesus Macaques with RT SHIV, **Virology** 405 (1), 225-233, 2010
- E Markoutsas, G Pampalakis, A Niarakis, I. A. Romero, B. Weksler, P-Or Couraud, S. G. Antimisiaris, Uptake and permeability studies of BBB-targeting immunoliposomes using the hCMEC/D3 cell line, **EJPB**, 77: 2, 265-274, 2011
- S. Mourtas, M. Canovi, C. Zona, D. Aurilia, A. Niarakis, (..), S. G. Antimisiaris, Curcumin-decorated nanoliposomes with very high affinity for amyloid-b1-42 peptide, **Bio materials**, 32: 6, 1635-1645, 2011
- Canovi, M., Markoutsas, E., Lazar, A.N., Pampalakis, G., Clemente, C., (..), Antimisiaris, S.G .The binding affinity of anti-A β 1-42 MAb-decorated nanoliposomes to A β 1-42 peptides in vitro and to amyloid deposits in post-mortem tissue. **Biomaterials** 32 (23), pp. 5489-5497, 2011
- M-T. Popescu, S. Mourtas, G. Pampalakis, S. G. Antimisiaris, C. Tsitsilianis, pH-Responsive Hydrogel/Liposome Soft Nanocomposites For Tuning Drug Release, **Bio macromolecules**, (2011), 12(8), 3023-3030.

- A.Skouras, S. Mourtas, E. Markoutsas, M-C. De Goltstein, C Wallon, S Catoen, SG. Antimisiaris. USPIO encapsulating nanoliposomes with high entrapping efficiency, stability and magnetic properties. **Nanomedicine: Nanotechnology, Biology and Medicine**, 7 (5) , pp. 572-579, 2011.

- M. Taylor, S Moore, S Mourtas, A Niarakis, (..) Antimisiaris, M Gregori, David Allsop. Effect of curcumin-associated and lipid ligand functionalised nanoliposomes on aggregation of the Alzheimer's A β peptide. **Nanomedicine: Nanotechnology, Biology, and Medicine** (5) , pp. 541-550, 2011.

- E. Markoutsas, K. Papadia, C. Clemente, O. Flores, S.G. Antimisiaris. Anti-A β MAb and dually-decorated nanoliposomes: Effect of A β 1-42 peptides on interaction with hCMEC/D3 cells, **European Journal of Pharmaceutics and Biopharmaceutics**, Ahead of Print, 2012