

## Curriculum Vitae

**Dimitrios G. Fatouros** *BSc, MSc, PhD*

**Date:** February 26, 1969

**Nationality:** Greek

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### Qualifications

**PhD (Pharmaceutical Technology):** University of Patras, School of Pharmacy

**MSc (Industrial Pharmaceutics):** University of Patras, School of Pharmacy

**BSc (Chemistry):** University of Patras, Department of Chemistry

### Employment history

**Assistant Professor:** Aristotle University of Thessaloniki, School of Pharmacy, Greece (November 2009 -

**Senior Lecturer in Pharmaceutics:** University of Portsmouth, United Kingdom (November 2006 - November 2009)

**Assistant Professor:** Danish University of Pharmaceutical Sciences, Copenhagen (January 2004 - October 2006)

**Postdoctoral Research Fellow:** University of Leiden, Leiden/Amsterdam Centre for Drug Delivery (June 2000 -June 2003)

**Referee** for Pharmaceutical and related Journals (>20)

**Conference Referee:** IASTED NANA Conference 2008, 2010, Controlled Release Society (CRS) Annual Conference 2010, 2011, 2012

**Grand Referee:** British Society for Antimicrobial Chemotherapy (BSAC), Biotechnology and Biological Sciences Research Council (BBSRC), Association for International Cancer Research (AICR), UK

**Academic Editor:** PLoS One

**Member of Editorial Boards:** Journal of Biomedical Nanotechnology, The Open Nanomedicine Journal

### Member of Scientific Societies

1994-Member of Union of the Greek Chemists

2000-Member of Controlled Release Society (CRS) Local Chapter Greece

2006-Member of Controlled Release Society

### Awards

Drug Research Academy award Equipment grant 2006, Denmark

Drug Research Academy award Equipment grant 2004, Denmark

2004 - 2006: Drug Research Academy Fellowship (Danish University of Pharmaceutical Sciences)

March 1996 - October 1996: Visiting scientist, London School of Pharmacy (Center for Drug Delivery Research), Erasmus Fellowship

### Research Interests

- Boron neutron-capture therapy (BNCT) : development and characterization of boron containing liposomes
- Oral delivery:[(self micro/nano-emulsifying drug delivery systems [SM(N)EDDS]), *In vitro* - *in vivo* correlations using the *in vitro* lipolysis model, physicochemical characterization of lipolytic products (Cryo-TEM, SAXS), inorganic materials (zeolites) as MRI contrast and drug delivery agents]
- Nasal delivery: protein and peptide delivery *via* the nasal route with chitosan derivatives
- Nanomedicines (super paramagnetic iron oxide nanoparticles, carbonaceous materials, polymeric micelles)
- Skin delivery:(iontophoresis, electroporation) and skin visualization (electron microscopy)

## List of Publications

### Papers in referred journals

1. E.Vavoulidis, V.Karagkiozaki, P.Karagiannidis, M.Gioti, D.G.Fatouros, I.S.Vizirianakis, S.Logotheidis. Development of a nanoporous multilayer drug delivery platform for medical implants. **International Journal of Nanomedicine**, in press
2. N.Bouropoulos, O.L.Katsamenis, P.A.Cox, S.Norman, P.Kallinteri, M.Favretto, S.N.Yannopoulos, A.Bakandritsos, D.G.Fatouros. Probing the perturbation of lecithin bilayers by unmodified C<sub>60</sub> fullerenes using experimental methods and computational simulations. **Journal of Physical Chemistry C**, 2012, 116 : 3867 - 3874
3. A.Müllertz, D.G.Fatouros, J.R.Smith, M.Vertzoni, C.Reppas. Insights into intermediate phases of human intestinal fluids visualised by atomic force microscopy and cryo-transmission electron microscopy *ex vivo*. **Molecular Pharmaceutics**, 2012, 9 : 237 - 247
4. D.G.Fatouros, D.Douroumis, V.Nikolakis, S.Ntais, A.M.Moschovi, V.Trivedi, B.Khima, M.Roldo, H.Nazar, P.A.Cox. *In vitro* and *in silico* investigations of drug delivery *via* zeolite BEA. **Journal of Materials Chemistry**, 2011, 21 : 7789 - 7794
5. D.G.Fatouros, K.Power, O.Kadir, I.Dékány, S.N.Yannopoulos, N.Bouropoulos, A.Bakandritsos, M.D. Antonijevic, G.D.Zouganelis, M.Roldo. Stabilisation of SWNTs by alkyl-sulphate chitosan derivatives of different molecular weight: towards the preparation of hybrids with anticoagulant properties. **Nanoscale**, 2011, 3 : 1218 - 1224
6. H.Nazar, D.G.Fatouros, S.M. van der Merwe, N.Bouropoulos, G.Avgouropoulos, J.Tsibouklis, M.Roldo. Thermosensitive hydrogels for nasal drug delivery: the formulation and characterisation of systems based on *N*-trimethyl chitosan chloride. **European Journal of Pharmaceutics and Biopharmaceutics**, 2011, 77 : 225 - 232
7. S.Piovesan, P.A.Cox, J.R.Smith, D.G.Fatouros, M.Roldo. Novel biocompatible chitosan decorated SWNTs for biomedical applications: theoretical and experimental investigations. **Physical Chemistry Chemical Physics**, 2010, 12 : 15636 - 15643
8. K.K.Hansen, F.Jacobsen, D.G.Fatouros, A.Müllertz. Biorelevant media simulating fed state intestinal fluids: Colloid phase characterization and impact on solubilisation capacity. **Journal of Pharmaceutical Sciences**, 2010, 99 : 3522 - 3532
9. A.Bakandritsos, G.Matthaiolabakis, R.Zboril, N.Bouropoulos, J.Tucek, D.G.Fatouros, K.Avgoustakis. Preparation, stability and cytocompatibility of magnetic PLA-PEG hybrids. **Nanoscale**, 2010, 2 : 564 - 572
10. S.N.Yannopoulos, G.D.Zouganelis, S.Nurmohamed, J.R.Smith, N.Bouropoulos, D.G.Fatouros, J.Tsibouklis. Physisorbed  $\alpha$ -carborane onto lyso-phosphatidylcholine-functionalised single-walled carbon nanotubes: a potential carrier system for the therapeutic delivery of boron. **Nanotechnology**, 2010, 21 : 085101
11. A.Bakandritsos, R.Zboril, N.Bouropoulos, P.Kallinteri, M.E.Favretto, T.L.Parker, A.Müllertz, D.G.Fatouros. Preparation of magnetically guided lipid based nanoemulsions using self-emulsifying technology. **Nanotechnology**, 2010, 21 : 055104
12. M.Roldo, J.R.Smith, P.A.Cox, K.Papagelis, N.Bouropoulos, D.G.Fatouros. *N*-octyl- $\alpha$ -sulfate chitosan stabilises single wall carbon nanotubes in aqueous media and bestows biocompatibility. **Nanoscale**, 2009, 1 : 366 - 373
13. O.L.Katsamenis, N.Bouropoulos, D.G.Fatouros. Interactions of fullerenes C<sub>60</sub> with large unilamellar vesicles. **Journal of Biomedical Nanotechnology**, 2009, 5 : 416 - 420
14. D.G.Fatouros, I.Walrand, B.Bergenstahl, A.Müllertz. Physicochemical characterization of simulated intestinal fed state fluids containing lyso-phosphatidylcholine and cholesterol. **Dissolution Technologies**, 2009, 16 : 47 - 50
15. S.Green, M.Roldo, D.Douroumis, N.Bouropoulos, D.Lambrou, D.G.Fatouros. Chitosan derivatives alter release profiles of model compounds from calcium phosphate implants. **Carbohydrate Research**, 2009, 33 : 901 - 907

16. D.G.Fatouros, I.Walrand, B.Bergensstahl, A.Müllertz. Colloidal structures in media simulating intestinal fed stated conditions with and without lipolysis products. **Pharmaceutical Research**, 2009, 26 : 361 - 374
17. A.Bakandritsos, N.Bouropoulos, A.Koutoulogenis, A.Boukos, D.G.Fatouros. Synthesis and characterization of iron oxide nanoparticles encapsulated in lipid membranes. **Journal of Biomedical Nanotechnology**, 2008, 4 : 313 - 318
18. D.G.Fatouros, F.S.Nielsen, L.Hadjileontiadis, D.Douroumis, A.Müllertz. *In vitro-in vivo* relation in lipid based formulations using the *in vitro* dynamic lipolysis model combined with fuzzy neural networks. **European Journal of Pharmaceutics and Biopharmaceutics**, 2008, 69 : 887 - 898
19. A.J.Wise, J.R.Smith, N.Bouropoulos, M. van der Merwe, D.G.Fatouros. Preparation and characterization of stable single wall carbon nanotubes *N*-trimethyl-chitosan colloidal dispersions. **Journal of Biomedical Nanotechnology**, 2008, 4 : 67 - 72
20. D.Tasis, K.Papagelis, D.Douroumis, J.R.Smith, N.Bouropoulos, D.G.Fatouros. Diameter selective solubilization of carbon nanotubes by lipid micelles. **Journal of Nanoscience and Nanotechnology**, 2008, 8 : 420 - 423
21. D.Douroumis, D.G.Fatouros, N.Bouropoulos, K.Papagelis, D.Tasis. Colloidal stability of carbon nanotubes in an aqueous dispersion of phospholipids. **International Journal of Nanomedicine**, 2007, 2: 761 - 766
22. D.G.Fatouros, G.Roshan Deen, L.Arleth, B.Bergensstahl, F.S.Nielsen, J.S.Pedersen, A.Müllertz. Structural changes of self nano emulsifying drug delivery systems during *in vitro* lipid digestion monitored by small angle x-ray scattering. **Pharmaceutical Research**, 2007, 24 : 1844 - 1853
23. D.G.Fatouros, B.Bergensstahl, A.Müllertz. Morphological evolution on a lipid based drug delivery systems during *in vitro* digestion. **European Journal of Pharmaceutical Sciences**, 2007, 31 : 85 - 94
24. D.G.Fatouros, H.W.M.Groenink, A.M. de Graaff, A.C. van Aelst, H.K.Koerten, J.A.Bouwstra. Visualization studies of human skin *in vitro/in vivo* under the influence of electric fields. **European Journal of Pharmaceutical Sciences**, 2006, 29 : 160 - 170
25. D.G.Fatouros, A.K.Nugroho, J.A.Bouwstra. Electrically assisted skin delivery of pergolide *in vitro*: effect of pH, donor concentration and surfactants. **Journal of Drug Delivery Science and Technology**, 2006, 16 : 369 - 373
26. S.Koutsopoulos, D.G.Fatouros, P.V.Ioannou, S.G.Antimisiaris. Thermal behaviour of novel non-sonicated arsonoliposomes. **Biophysical Chemistry**, 2006, 121 : 150 - 154
27. S.Piperoudi, D.Fatouros, P.V.Ioannou, P.M.Frederik, S.G.Antimisiaris. Incorporation of PEG-lipids in arsonoliposomes can produce highly stable arsenic-containing vesicles of specific lipid composition. **Chemistry and Physics of Lipids**, 2006, 139 : 196 - 206
28. D.G.Fatouros, N.Bouropoulos, P.V.Ioannou, S.G.Antimisiaris. Stability and aggregation studies of non-sonicated arsonolipid containing vesicles. **Cellular and Molecular Biology Letters**, 2005, 1: 173 - 183
29. D.G.Fatouros, S.Piperoudi, O.Gortzi, P.M.Frederik, P.V.Ioannou, S.G.Antimisiaris. Physical stability of arsonoliposomes: effect of calcium ions. **Journal of Pharmaceutical Sciences**, 2005, 94: 46 - 55
30. D.G.Fatouros, P.Klepetsanis, S.G.Antimisiaris, P.V.Ioannou. Effect of pH on the electrophoretic mobility of a novel class of liposomes: arsonoliposomes. **International Journal of Pharmaceutics**, 2005, 288 : 151 - 156
31. D.G.Fatouros, J.A.Bouwstra. Iontophoretic delivery of timolol maleate across human stratum corneum: effect of temperature and vehicle formulation. **Journal of Drug Delivery Science and Technology**, 2004, 14: 479 - 484
32. P.Kallinteri, D.Fatouros, P.Klepetsanis, S.G.Antimisiaris. Arsenic trioxide liposomes: encapsulation efficiency and *in vitro* stability. **Journal of Liposome Research**, 2004, 14 : 27 - 38
33. D.G.Fatouros, J.A.Bouwstra. Iontophoretic enhancement of Timolol maleate across human skin *in vitro*. **Journal of Drug Targeting**, 2004, 12 : 19 - 24
34. D.G.Fatouros, S.G.Antimisiaris. Effect of amphiphilic drugs on the stability and  $\zeta$ -potential of their liposome formulations: a study with prednisolone, diazepam and griseofulvin. **Journal of Colloid and Interface Science**, 2002, 251 : 271 - 277

35. D.G.Fatouros, K.Hatzidimitriou, S.G.Antimisiaris. Liposomes encapsulating prednisolone and prednisolone-cyclodextrin complexes: comparison of membrane integrity and drug release. **European Journal of Pharmaceutical Sciences**, 2001, 13: 287 - 296
36. D.G.Fatouros, S.G.Antimisiaris. Physicochemical properties of liposomes incorporating hydrochlorothiazide and chlorothiazide. **Journal of Drug Targeting**, 2001, 9 : 61 - 74
37. D.Fatouros, O.Gortzi, P.Klepetsanis, S.G.Antimisiaris, M.C.A.Stuart, A. Brisson, P.V.Ioannou. Preparation and properties of arsonolipid containing liposomes. **Chemistry and Physics of Lipids**, 2001, 109 : 75 - 89
38. S.G.Antimisiaris, D.Siablis, E.Liatsikos, S.Kalogeropoulou, I.Tsota, V.Tsotas, D.Karnabatidis, D.G.Fatouros, G.A.Barbalias. Liposome-coated metal stents: an *in vitro* evaluation of controlled-release modality in the ureter. **Journal of Endourology**, 2000, 14 : 743 - 747
39. M.Kokkona, P.Kallinteri, D.Fatouros, S.G.Antimisiaris. Stability of SUV liposomes in the presence of cholate and pancreatic lipases: effect of lipid composition. **European Journal of Pharmaceutical Sciences**, 2000, 9 : 245 - 252
40. E.Dallas, D.Fatouros. The effect of extremely low frequency (ELF) electric fields on biomineralization *in vitro*. **Journal of Crystal Growth**, 1992, 124 : 27 - 32

#### Review articles

41. H.Nazar, M.Roldo, D.G.Fatouros, S.M. van der Merwe, J.Tsibouklis. Hydrogels for mucosal delivery. **Therapeutic Delivery**, 2012, 3: 535 - 555
42. G.Calabrese, J.J.Nesnas, E.Barbu, D.Fatouros, J.Tsibouklis. The formulation of polyhedral boranes in the Boron Neutron Capture Therapy (BNCT) of cancers. **Drug Discovery Today**, 2012, 17 : 153 - 159
43. D.G.Fatouros, A.Müllertz. *In vitro* lipid digestion models in drug design for enhancing oral bioavailability. **Expert Opinion on Drug Metabolism and Toxicology**, 2008, 4 : 65 - 76
44. D.G.Fatouros, D.M.Karpf, F.S.Nielsen, A.Müllertz. Clinical studies with oral lipid based formulations of poorly soluble compounds. **Therapeutics and Clinical Risk Management**, 2007, 3 : 591 - 604
45. D.G.Fatouros, P.V.Ioannou, S.G.Antimisiaris. Arsonoliposomes: Novel nanosized arsenic containing vesicles for drug delivery. **Journal of Nanoscience and Nanotechnology**, 2006, 6 : 1 - 20

#### Contributions to books

46. D.G.Fatouros, A.Müllertz. Development of self-emulsifying drug delivery systems (SEDDS) for oral bioavailability enhancement of poorly soluble drugs in Drug Delivery Strategies for poorly water-soluble drugs, Eds. A.Fahr, D.Douroumis **John Wiley & Sons Ltd**, 2012, *accepted for publication*
47. D.G.Fatouros, G.Calabrese, E.Barbu, M.Roldo, A.G.Fatourou, J.Tsibouklis. Boron neutron capture therapy: agents and lipid carriers in "*Handbook of Personalized Medicine: Advances in Nanotechnology, Drug Delivery and Therapy*" Ed. Vizirianakis I. **Pan Stanford Publishing**, 2012, *accepted for publication*
48. M. Roldo, D.G.Fatouros. Chitosan-derivatives based hydrogels as drug delivery platforms: applications in drug delivery and tissue engineering "Biomaterials and Nanostructures for Active Implants", in "Studies in Mechanobiology, Tissue Engineering and Biomaterials" Ed. Zilberman M. **Springer-Verlag**, 2011, 351 - 376
49. D.G.Fatouros, M.Roldo, S.M. van der Merwe. Stabilization of carbon nanotube suspensions in "Carbon Nanotubes: From Bench Chemistry to Promising Biomedical Applications" Ed.Pastorin G. **Pan Stanford Publishing**, 2011, 1 - 22
50. Kallinteri P, Antimisiaris SG, D.G.Fatouros. in Pharmaceutical Manufacturing Handbook: Production and Processes. Chapter 5.3: Liposomes and Drug Delivery, **John Wiley and Sons**, 2008, 443 - 534
51. D.Fatouros, A.Müllertz. Using the *in vitro* dynamic lipolysis modelling as a tool for exploring IVIVC relationships for oral lipid-based formulations. In: Oral Lipid-Based Formulations: Enhancing the Bioavailability of Poorly Water-Soluble Drugs. Ed. Hauss D. **Drugs and the Pharmaceutical Sciences Informa Health Care**, 2007, 257 - 273

#### **Other refereed publications**

52. A.Larsen, D.Fatouros, J.Jacobsen, A.Müllertz. Dynamisk model for fordøjelse af lipidbaserede lægemidler i tarmen: **Dansk kemi**, 2008, 89 : 30 - 33
53. D.G.Fatouros, A.Müllertz. Digestion of drug delivery systems. **Lægemiddelforskning Danish Newsletter**, 2007 20 - 21
54. D.G.Fatouros, A.Müllertz. *In vitro* digestion. **European Biopharmaceutical Review**, Winter 2007, 114 - 116
55. D.G.Fatouros, J.A.Bouwstra. Timolol maleate: a promising drug candidate for electrically assisted skin delivery. **Controlled Release Society Newsletter** , 2006 23: 15 - 17

**Abstracts:** > 35

**Invited Lectures :** 10