

SHORT CURRICULUM VITAE

Surname Bouropoulos
Name Nikolaos
Citizenship Greek
Date of birth July 5th 1968 in Athens, Greece
Working address: Department of Materials Science University of Patras, GR-26504, Patras, Greece. e-mail: nbouro@upatras.gr Tel: +30 2610 997874

Education

- 1987-1992: B.Sc. in Chemistry. Dept. of Chemistry, University of Patras, Greece
- 1993-1997: PhD in Chemical Engineering. Department of Chemical Engineering, University of Patras, Greece. Thesis Title: "Crystallization of e-caprolactame"

Positions

- 2007-: Assistant Professor. Department of Materials Science, University of Patras Greece
- 2002- 2007: Lecturer. Department of Materials Science, University of Patras, Greece
- 2001-2002: Lecturer (contract for the academic year 2001-2002) Department of Pharmacy, University of Patras, Greece
- 2000-2001: Research Associate. Center for Craniofacial Molecular. Biology, School of Dentistry, University of Southern California, Los Angeles, USA
- 1999-2000: Postdoctoral student: Weizmann Institute of Science. Department of Structural Biology, Israel.

Research Interests

1. Allograph materials as bone substitutes: a) Synthesis, characterization and properties of calcium phosphate bone cements and calcium phosphate ceramics. b) Synthesis, structural, textural properties and bioactivity of bioactive glasses.
2. Biological mineralization: a) Pathological calcification (e.g urinary stones, encrustations of urinary biomaterials, meniscal calcification) b) Non pathological calcification (e.g dental enamel formation).
3. Crystal growth and dissolution of sparingly soluble salts (e.g. calcium oxalate, calcium phosphate, calcium carbonate).
4. Molecular and Nanostructured materials. Solubilization and physicochemical properties of carbon nanotubes and fullerenes by using biological molecules
5. Controlled drug delivery systems based on biomacromolecules.
6. Development, structural and optical characterization of semiconductive ZnO nanostructures.

Professional Affiliations

- 1993-: Member of the Hellenic Society of Chemists.
- 2004-: Member of the Hellenic Society of Biomaterials
- 2005- : Member of Hellenic Research Club for Connective Tissue and Matrix Biology

Prizes/Honors

- 'New Investigator Award', 7th International Conference on the Chemistry and Biology of Mineralized Tissues, November 4-9, 2001 Jacksonville, USA
- Editorial Board Member: "Sensor Letters"
- Guest Editor: "Science of Advanced Materials" A Special Issue on "Advanced Materials for Technological and Biomedical Applications" Guest Editors: Dr. N. Bouropoulos and Dr. S.Baskoutas, (Volume 2, Number 2, June 2010)

Teaching activities in the Department of Materials Science

Undergraduate courses:

- Introduction in Biomaterials: 2002-2011
- Biomaterials Laboratory: 2002-2011
- Instrumental Method of Analysis: 2002-2007
- Advanced Biomaterials: 2003-2011

Postgraduate courses:

- Biomolecular Materials I: 2004-2010
- Biomolecular Materials II: 2004-2010

Principal Investigator in Research Projects

1. New methodologies on development of bioactive glasses: Synthesis, structure, properties, applications. "Pythagoras II 2005-2007". Funded by the Greek Ministry of Education. Budget: 80.000 Euros
2. Studies on mucus degeneration of human menisci. Relationship between dynamic properties and structural lesions. Project K. Karatheodoris 2007-2010. Funded by University of Patras Research Committee. Budget: 24.000 Euros

Reviewer in International Journals

- Acta Biomaterialia
- Journal of Biomaterials Science: Polymer Edition
- Journal of Materials Chemistry
- Journal of Biomedical Nanotechnology
- Journal of the American Ceramic Society
- Journal of Colloid and Interface Science
- Pharmaceutical Research
- Bioinorganic Chemistry and Applications
- Journal of Pharmacy and Pharmacology
- Powder Technology
- Journal of Microencapsulation
- Critical Reviews in Biotechnology

- Colloids and Surfaces B
- Carbohydrate Research
- European Polymer Journal
- Advanced Composites Letters
- Materials Chemistry and Physics
- Journal of Nanostructured Polymers and Nanocomposites
- Journal of Non-Crystalline Solids
- Photonics and Nanostructures
- International Journal of Pharmaceutics
- Carbohydrate Polymers
- Solid State Sciences
- Modern Physics Letters B
- Sensors Letters
- Drug Development and Industrial Pharmacy
- Crystal Research and Technology
- Ceramics International

Publications in Peer-Reviewed Journals

1995

1. C. Kontoyannis, N. Bouropoulos, P.Koutsoukos 'Quantitative Analysis of Impurities in ϵ -caprolactam by Raman Spectroscopy' *The Analyst*, 120 (1995)347
2. E. Dalas, D. Tsamouras, N. Bouropoulos 'Primary Solid State Batteries' *Ionics*, 1 (1995)235

1996

3. N. Bouropoulos, D. Karavias, P. Koutsoukos 'Determination of Heavy Metals in Human Gallstones by Anodic Stripping Voltametry' *Analisis*, 24 (1996)89
4. N. Bouropoulos, C. Bouropoulos, P. Klepetsanis, M. Melekos, G. Barbalias, P. Koutsoukos 'A Model System for the Study Urinary Stone Formation' *Br J Urology*, 78 (1996)169

1997

5. N. Bouropoulos, C. Kontoyannis, P. Koutsoukos 'Nucleation Kinetics of ϵ -caprolactam Melts in the Presence of Water Impurity' *J.Crystal Growth*, 171 (1997)538
6. N. Bouropoulos, C. Kontoyannis, P.Koutsoukos 'Influence of Operational Variables on the Crystallization of ϵ -caprolactam from Melts' *J.Crystal Growth*, 177 (1997)119
7. C. Kontoyannis, N. Bouropoulos, P. Koutsoukos 'Use of Raman Spectroscopy for the Quantitative Analysis of Calcium Oxalate Hydrates: Application for the Analysis of Urinary stones' *Appl. Spectroscopy*, 51 (1997)64
8. C. Kontoyannis, N. Bouropoulos, P. Koutsoukos 'Urinary Stone Layer Analysis of Mineral Components by Raman Spectroscopy, IR Spectroscopy and X-Ray Powder Diffraction. A Comparative study' *Appl. Spectroscopy*, 51 (1997)1205
9. C. Kontoyannis, N. Bouropoulos, P. Koutsoukos 'Raman Spectroscopy: A Tool for the Quantitative Analysis of Mineral Components of Solid Mixtures.The Case of Calcium Oxalate Monohydrate and Hydroxyapatite' *Vibr. Spectroscopy*, 15 (1997)53

1998

10. C. Bouropoulos, N. Bouropoulos, M. Melekos, P. Koutsoukos, G. Chitanu, A. Angelescu-Dogaru, A. Carpov 'The Inhibition of Calcium Oxalate Monohydrate Crystallization by Maleic acid Copolymers' *J. Urology*, 159 (1998)1755

2000

11. C. Kontoyannis, N. Bouropoulos, H. Dauaer, C. Bouropoulos, N. Vagenas 'Analysis of Prostatic Stent Encrustation and of Entrapped Urinary Stone Using FT-IR and FT-Raman Spectroscopy' *Appl. Spectroscopy*, 54 (2000)1205
12. G. Barbalias, C. Bouropoulos, N.Vagenas, N.Bouropoulos, D. Siablis, E. Liatsikos, D. Karabatidis, P. Koutsoukos 'Encrustation of a Metal Alloy Urinary Stent. A Mechanistic Investigation' *Eur. Urology*, 38 (2000)144
13. N. Bouropoulos, P. Koutsoukos 'Spontaneous Precipitation of Struvite from Aqueous Solutions' *J Crystal Growth*, 213 (2000)381

2001

14. N. Bouropoulos, S. Weiner, L. Addadi 'Calcium Oxalate Crystals in Tomato and Tobacco Plants: Morphology and in Vitro Interactions of Crystal Associated Macromolecules' *Chemistry-A European Journal* 7(2001)1881

2002

15. J Moradian-Oldak, N. Bouropoulos, L. Wang, N. Gharakhanian. 'Analysis of Self-Assembly and Apatite Binding Properties of Amelogenin Protein Lacking the Hydrophylic C-terminal' *Matrix Biology*, 21 (2002)197

2003

16. N. Bouropoulos, J Moradian-Oldak, 'Analysis of Hydroxyapatite Surface Coverage by Amelogenin Nanospheres Following the Langmuir Model for Protein Adsorption' *Calcified Tissue International* 72(2003)59
17. J Moradian-Oldak, Iijima M, N. Bouropoulos, Wen H.B. "Assembly of amelogenin proteolytic products and control of octacalcium phosphate crystal morphology" *Connective Tissue Research* 44(2003)58

2004

18. N. Bouropoulos, J. Moradian-Oldak "Induction of apatite by the cooperative effect of amelogenin and the 32KDa enamelin" *Journal of Dental Research* 83(2004)284
19. Bithelis G., Bouropoulos N., Liatsikos E., Perimenis P., Koutsoukos P., Barbalias G. "Assesment of encrustations in polyurethane ureteral stents" *Journal of Endourology* 18 (2004)550
20. C. Bouropoulos, N. Vagenas, P. Klepetsanis, N. Stavropoulos, N. Bouropoulos * "Growth of calcium oxalate monohydrate on uric acid crystals at sustained supersaturation" *Crystal Research and. Technology* 39(2004)699

2005

21. N. Bouropoulos, D. Kouzoudis, C. Grimes "The Real-time, in-situ monitoring of calcium oxalate and brushite precipitation using magneto elastic sensors" *Sensors and Actuators B Chem* 109(2005)227
22. D. Fatouros, N. Bouropoulos, P. Ioannou, S. Antimisiaris "Stability and aggregation studies of non-sonicated arsonolipid containing vesicles" *Cell Mol Biol Lett.* 10(2005)173

2006

23. D. E. Mouzakis, N. Bouropoulos, G. Bithelis, E. Liatsikos, and G. Barbalias "Ageing assessment by dynamic mechanical analysis of in-vivo encrusted polymeric urinary stents" *Journal of Endourology* 20(2006)64
24. N. Bouropoulos, D. E. Mouzakis, G. Bithelis, E. Liatsikos and G. Barbalias "Vickers hardness studies of calcium oxalate monohydrate and brushite urinary stones" *Journal of Endourology* 20(2006)59
25. V. Petta, J. Moradian-Oldak, S. N. Yannopoulos and N. Bouropoulos * "Dynamic light scattering study of an amelogenin gel-like matrix" *European Journal of Oral Sciences* 114 Suppl 1(2006)308
26. G. Pasparakis, N. Bouropoulos*, "Swelling studies and in vitro release of verapamil from calcium alginate and calcium alginate-chitosan beads" *International Journal of Pharmaceutics* 323(2006)34
27. D. Tasis, D. Kastanis, C. Galiotis, N. Bouropoulos*, Growth of calcium phosphate mineral on carbon nanotube buckypapers *Physica Status Solidi B*, 243(2006)3230

2007

28. D. Douroumis, N. Bouropoulos, A. Fahr, «Physicochemical characterization of solid dispersions of three antiepileptic drugs prepared by solvent evaporation method» *J Pharm Pharmacol.* 59(2007)645
29. A. Chrissanthopoulos, S. Baskoutas, N. Bouropoulos, V. Dracopoulos, D. Tasis, S. N. Yannopoulos "ZnO nanostructures grown on carbon nanotubes by thermal evaporation" *Thin Solid Films*, 515(2007)8524
30. S. Baskoutas, P. Giabouranis, S. Yannopoulos, V. Dracopoulos, L. Toth, A. Chrissanthopoulos, N. Bouropoulos *. "Preparation of ZnO nanoparticles by thermal decomposition of zinc alginate" *Thin Solid Films* 515(2007)8461
31. D. Tasis, S. Pispas, C. Galiotis, N. Bouropoulos* "Growth of calcium carbonate on non-covalently modified carbon nanotubes" *Materials Letters*, 61(2007)5044
32. D. Douroumis, D. Fatouros, N. Bouropoulos, K. Papagelis, D. Tasis "Colloidal stability of carbon nanotubes in an aqueous dispersion of phospholipids" *Int J Nanomedicine.* 4(2007)761

2008

33. A. G. Kalampounias, N. Bouropoulos*, K. Katerinopoulou, S. N. Yannopoulos "Textural and structural studies of sol-gel derived CaO- and MgO silica glasses" *Journal of Non Crystalline Solids* 354(2008)749
34. D. Tasis, K. Papagelis, D. Douroumis, J. Smith, N. Bouropoulos, D. Fatouros. "Diameter-Selective Solubilization of Carbon Nanotubes by Lipid Micelles" *Journal of Nanoscience and Nanotechnology*, 8(2008)420
35. A. Bakandritsos, N. Bouropoulos, R. Zboril, K. Iliopoulos, N. Boukos, G. Chatzikyriakos, S. Couris. "Optically Active Spherical Polyelectrolyte Brushes with a Nanocrystalline Magnetic Core" *Advanced Functional Materials* 18(2008)1694

36. N. Bouropoulos, G. C. Psarras, N. Moustakas, A. Chrissanthopoulos, S. Baskoutas "Optical and Dielectric Properties of ZnO-PVA Nanocomposites" *Physica Status Solidi a*. 205(2008)2033
37. A.J. Wise, J.R. Smith, N. Bouropoulos, S. N. Yannopoulos, S.M. van der Merwe, D. Fatouros "Single wall carbon nanotubes dispersions stabilized with n-trimethyl-chitosan". *Journal of Biomedical Nanotechnology*, 4(2008) 67
38. N. Bouropoulos, I. Tsiaoussis, P. Pouloupoulos, P. Roditis, S. Baskoutas "ZnO controllable sized quantum dots produced by polyol method: An experimental and theoretical study" *Materials Letters* 62(2008)3533
39. A. Chrissanthopoulos, N. Bouropoulos, S.N. Yannopoulos «Vibrational spectroscopic and computational studies of sol-gel derived CaO-MgO-SiO₂ binary and ternary bioactive glasses» *Vibrational Spectroscopy*, 2008(48)118
40. A. Nochos, D. Douroumis, N. Bouropoulos * "In vitro release of bovine serum albumin from alginate/HPMC alginate beads" *Carbohydrate Polymers* 74(2008)451
41. A. Bakandritsos, N. Bouropoulos, A. Koutoulogenis, N. Boukos, D.G. Fatouros "Synthesis and Characterization of Iron oxide Nanoparticles Encapsulated in Lipid Membranes" *Journal of Biomedical Nanotechnology*, 4(2008)313
42. D. Mouzakis, N. Bouropoulos, D. Kallidonis, D. Karnabatidis, K. Katsanos, C. Constantinidis, P. Perimenis, D. Siambelis, E. Liatsikos "Viscoelastic property mapping along encrusted polymeric urinary catheters" *Journal of Endourology* 22(2008)1761

2009

43. S. Green, M. Roldo, D. Douroumis, N. Bouropoulos, D. Lamprou, D. Fatouros, "Chitosan derivatives alter release profiles of model compounds from calcium phosphate implants" *Carbohydrate Research*, 344(2009)901
44. O. Katsamenis, N. Bouropoulos, D. Fatouros "Interaction of fullerenes C₆₀ with Large Unilamellar Vesicles" *Journal of Biomedical Nanotechnology* 5 (2009)416
45. M. Roldo, K. Power, J. Smith, P. Cox, K. Papagelis, N. Bouropoulos, D. Fatouros "N-octyl-O-sulphate chitosan stabilises single wall carbon nanotubes in aqueous media and bestows biocompatibility" *Nanoscale* 1(2009)366-373

2010

46. A. Bakandritsos, R. Zboril, N. Bouropoulos, P. Kallinteri, M. Favretto, T. Parker, A. Mullertz, D. Fatouros "The preparation of stable magnetically guided lipid based nanoemulsions using self-emulsifying technology" *Nanotechnology* 21 (5): Art. No. 055104 (2010)
47. S. Yannopoulos, G. Zouganelis, S. Nurmohamed, J. Smith, N. Bouropoulos, G. Calabrese, D. Fatouros, J. Tsibouklis "Physisorbed o-carborane onto lyso-phosphatidylcholine-functionalised single-walled carbon nanotubes: a potential carrier system for the therapeutic delivery of boron" *Nanotechnology*, 21 (8): Art. No. 085101 (2010)

48. O. Andriotis, O. Katsamenis, D. Mouzakis, N. Bouropoulos*, "Preparation and characterization of bioceramics produced from calcium phosphate cements" *Crystal Research and Technology* 3(2010)239-243
49. A. Bakandritsos, G. Mattheolabakis, R. Zboril, N. Bouropoulos, J. Tucek, D. G. Fatouros, K. Avgoustakis "Preparation, stability and cytocompatibility of magnetic/PLA-PEG hybrids", *Nanoscale* 2(2010)564-572
50. N. Bouropoulos, A. Stampolakis, and D. E. Mouzakis "Dynamic Mechanical Properties of Calcium Alginate-Hydroxyapatite Nanocomposite Hydrogels", *Science of Advanced Materials* 2(2010)239-242
51. A. Chrissanthopoulos, S. Baskoutas, N. Bouropoulos, V. Dracopoulos, P. Pouloupoulos and S. N. Yannopoulos «Synthesis and characterization of ZnO/NiO p-n heterojunctions: ZnO nanorods grown on NiO thin film by thermal evaporation» *Photonics and Nanostructures*

*denotes corresponding author

Book Chapters:

- F. Kyriazis, S.N. Yannopoulos, A. Chrissanthopoulos, S. Baskoutas, N. Bouropoulos. "ZnO nanostructures grown by thermal evaporation and thermal decomposition" J.P. Reithmaier et al. (eds.), *Nanostructured Materials for Advanced Technological Applications*, 211-214 Springer Science, 2009, ISBN 978-1-4020-9914-4