

George F. Nounesis, CV

Personal Data

Born 1959, Corfu, Greece
Married, Two Children

Biomolecular Physics Laboratory
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Professional Preparation

Physics Department, National and Kapodistrian University of Athens	B.Sc. in Physics	1982
School of Physics and Astronomy, University of Minnesota	Ph.D. in Physics	1987
Department of Chemistry, Massachusetts Institute of Technology	Postdoctoral Research	1990

Academic & Research Appointments

Fall 2010	Invited Professor	University of Bordeaux I, Centre de Recherche Paul Pascal
2002 – present	Director of Research	Biomolecular Physics Laboratory, National Centre for Scientific Research “Demokritos”, Greece
1996 – 2002	Research Associate Professor	National Centre for Scientific Research, “Demokritos”, Greece
1992 – 1995	Research Scientist Director, Complex Fluids Facility	Francis Bitter National Magnet Laboratory, Massachusetts, Institute of Technology
1991 – 1992	Research Associate	Center for Materials Science and Engineering, Massachusetts Institute of Technology
1987 – 1990	Postdoctoral Research Associate	Chemistry Department, Massachusetts Institute of Technology
1982 – 1987	Research Assistant (84 - 87), Teaching Associate (82 - 84)	School of Physics and Astronomy, University of Minnesota

Professional Record, Awards, and Achievements

2011	Member of the International Scientific Committee, European Conference on Liquid Crystals, Maribor, Slovenia
2008	Member of the Board of Directors, HBio, Hellenic Bio Cluster, a coalition of Greek companies in the Life Science sector
2007	Empeirikeion Award for Research in Physical Sciences, Empeirikeion Foundation, Greece
2007	Member of the Editorial Board, Current Proteomics, Bentham Science Publishers
2002 – 2008	Deputy Director, Institute of Radioisotopes & Radiodiagnostic Products, NCSR “Demokritos”, Greece
2004 – present	Member of the Board of Directors and the Scientific Board, BioGenomica S.A., Centre for Genetic Research and Analysis, Halandri, Greece
2006	Member of the International Scientific Committee, 21st International Liquid Crystal Conference, Keystone, Colorado, USA

- 1998 – 2001 National Delegate of Greece / Management Committee Member: European Union COST Action on Soft Condensed Matter Physics, Brussels, Belgium
- 1999 Vice Chairman, European Conference on Liquid Crystals, (ECLC 99)
- 1999 – 2000 Guest Editor, Molecular Crystals & Liquid Crystals, Gordon and Breach Science Publications, Philadelphia, USA
- 1995 Alan Berman Publication Award, U.S. Department of the Navy
- 1987 Thesis Dissertation Fellowship, University of Minnesota, USA
- 1986 Stanwood Johnston Memorial Fellowship, University of Minnesota, USA
- 1986 Special Research Award, University of Minnesota, USA

Synergistic Activities

Scientific Coordinator of the Research Direction “Biodiagnostics” of the Institute of Radioisotopes & Radiodiagnostic Products involving research activities in the Laboratories of Molecular Diagnostics, Protein Chemistry, Biomolecular Physics, Immunodiagnosics, Mass Spectroscopy, Peptide and Immuno-peptide Chemistry, Radiobiology and Immunosensors.

Founder and Scientific Director of the Research Program “Biomolecular Systems” at NCSR “Demokritos” coordinating Molecular Biology, Genetics, and Biophysical Chemistry Research Activities towards interdisciplinary research in Molecular Diagnostics (1998 – 2005).

Co-founder of BioGenomica SA, a spin-off company of NCSR “Demokritos” developing innovative biosensor devices and providing customized high-throughput genetic testing (2004).

Visiting Professor: Graduate Program in Protein Biotechnology, University of Crete (Department of Biology, 2004, 2005, 2006), Graduate Program in Clinical Chemistry and Molecular Diagnostics, National and Kapodistrian University of Athens (Department of Chemistry, 2005, 2006), PhD Thesis Supervisor, National Technical University of Athens (Department of Applied Mathematics and Natural Sciences, 1999 to present), Graduate Program in Polymer Science and Technology, University of Patras (Departments of Physics and Materials Science, 1998, 1999, 2000)

Principal Investigator, Research Grants from, The European Commission (FP3, FP6 and FP7), The General Secretariat of Research and Technology of Greece, The Department of Education of Greece, The US National Science Foundation and DARPA.

Manuscript Reviewer - Peer-Reviewed Journals: Physical Review Letters, Physical Review E, European Journal of Physics E, Langmuir, MCLC, Liquid Crystals, Biomacromolecules, IUBMB Life, International Journal of Biomacromolecules, BBA, etc

Grant-proposal Evaluator for the General Secretariat of Research and Technology of Greece.

Research Collaborators

J. Ladas (Medical School, Harvard University, USA), A. Papageorgiou (Turku Centre for Biotechnology, Finland), A. Lai (Medical School, University of Cardiff, UK), C.E. Vorgias (Department of Biology, University of Athens, Greece), Z. Kutnjak (Jozef Stefan Institute, Slovenia), S. Krajl (University of Maribor, Slovenia), I. Lelidis (University of Amiens, France and University of Athens, Greece), S. Sprunt and S. Kumar (Kent State University, USA), J. Thoen (Catholic University of Leuven, Belgium), P. Pissis (National Technical University of Athens Greece), D. J. Photinos (University of Patras, Greece), K. Petratos (Institute of Molecular Biology and Biotechnology, FORTH, Greece)

Graduate Advisor: C. C. Huang, University of Minnesota

Postdoctoral Advisors: C.W. Garland and R.J. Birgeneau, MIT

Ph.D. Students: G. Cordoyiannis, Ph.D. 2005 (now a Research Associate at the Condensed Matter Physics Department, J. Stefan Institute, Slovenia), S. Pyrpasopoulos Ph.D. 2005 (now a Research Associate at the Medical School, University of Pennsylvania, USA), S. Giatrellis, Ph.D. 2006, (now a Postdoctoral Research Fellow at Department of Clinical Chemistry and Biochemistry, Umea University, Sweden). A. Thanassoulas, Ph.D. 2009 (now a Postdoctoral Research Associate, University of Bordeaux I, France)

Currently supervising three Ph.D. Candidates, Graduate Fellows at NCSR “Demokritos”. An additional Ph.D. Candidate is supported by a National Fellowship.

Recent Publications, 2005 -2009 (Peer-Reviewed Journals Only)

1. S. Pyrpassopoulos, A. Ladopoulou, M. Vlassi, Y. Papanikolau, C. E. Vorgias, D. Yannoukakos and G. Nounesis, "Thermal denaturation of the BRCT tandem repeat region of the human tumour suppressor gene product BRCA1", **Biophysical Chemistry** **114**, **1** (2005)
2. G. Cordoyiannis, G. Nounesis, V. Bobnar, S. Kralj, and Z. Kutnjak, "Confinement-induced orientational order in a ferroelectric liquid crystal containing dispersed aerosils", **Physical Review Letters** **94**, **027801** (2005)
3. Z. Kutnjak, G. Cordoyiannis, G. Nounesis, A. Lebar, and S. Žumer, "Calorimetric study of phase transitions in a liquid-crystal-based microemulsion," **The Journal of Chemical Physics** **122**, **224709** (2005)
4. I. Tsogas, D. Tsiourvas, C.M. Paleos, S. Giatrellis and G. Nounesis, "Interaction of l-arginine with dihexadecylphosphate unilamellar liposomes: the effect of the lipid phase organization", **Chemistry and Physics of Lipids** **134**, **59** (2005)
5. I. Tsogas, D. Tsiourvas, C.M. Paleos, S. Giatrellis and G. Nounesis, "Interaction of Poly-L-arginine with Dihexadecyl Phosphate/Phosphatidylcholine Liposomes", **Langmuir** **21**, **5997** (2005)
6. A. Pantos, D. Tsiourvas C. M. Paleos and G. Nounesis, "Enhanced drug transport from unilamellar to multilamellar liposomes induced by molecular recognition of their lipid membranes", **Langmuir** **21**, **6696** (2005)
7. A. Pantos, D. Tsiourvas, G. Nounesis and C. M. Paleos "Interaction of Functional Dendrimers with Multi-lamellar Liposomes: Design of a Model System for Studying Drug Delivery", **Langmuir** **21**, **7483** (2005)
8. E. G. Kapetaniou, A. Thanassoulas, A. P. Dubnovitsky, G. Nounesis and A. C. Papageorgiou "Effect of pH on the structure and stability of *Bacillus circulans* ssp. *alkalophilus* phosphoserine aminotransferase: Thermodynamic and crystallographic studies", **Proteins: Structure, Function, and Bioinformatics** **63**, **742** (2006)
9. G. Cordoyiannis, S. Kralj, G. Nounesis, S. Zumer and Z. Kutnjak, "Soft-stiff regime crossover for an aerosil network dispersed in liquid crystals", **Physical Review E** **73**, **031707** (2006)
10. S. Pyrpassopoulos, M. Vlassi, A. Tsortos, Y. Papanikolau, K. Petratos, C.E. Vorgias and G. Nounesis, "Equilibrium heat-induced denaturation of Chitinase 40 from *Streptomyces Thermoviolaceus*", **Proteins: Structure, Function, and Bioinformatics** **64**, **513** (2006)
11. I. Tsogas, D. Tsiourvas, G. Nounesis and C.M. Paleos, "Modelling cell membrane transport: interaction of guanidynylated poly(propylene imine) dendrimers with a liposomal membrane consisting of phosphate based lipids", **Langmuir** **22**, **11322** (2006)

12. G. Cordoyiannis, S. Kralj, G. Nounesis, Z. Kutnjak and S. Zumer “Pretransitional effects near the Smectic-A – Smectic-C* phase transition of hydrophilic and hydrophobic aerosil networks dispersed in ferroelectric liquid crystals”, **Physical Review E** **75**, 021702 (2007)
13. G. Nikolopoulos, S. Pyrpassopoulos, A. Thanassoulas, P. Klimenzou, C. Zikos, M. Vlassi, C. E. Vorgias, D. Yannoukakos and G. Nounesis, “Thermal unfolding of human BRCA1 BRCT-domain variants”, **Biochimica et Biophysica Acta, Proteins & Proteomics** **1774**, 772 (2007)
14. S. Pyrpassopoulos, D. Niarchos, G. Nounesis, N. Boukos, I Zafiropoulou and V. Tzitzios, “Synthesis of Au nanoparticles – 2D and 3D organization”, **Nanotechnology** **18**, 485604 (2007)
15. I. Konstantopoulou, T. Rampias, A. Ladopoulou, G. Koutsodontis, S. Armaou, T. Anagnostopoulos, G. Nikolopoulos, S. Kamakari, G. Nounesis, A. Stylianakis, C. Karanikiotis, E. Razis, H. Gogas, A. Keramopoulos, V. Gaki, C. Markopoulos, D. Skarlos, N. Pandis, T. Bei, I. Arzimanoglou, G. Fountzilias and D. Yannoukakos, “Greek BRCA1 & BRCA2 mutation spectrum: Two BRCA1 mutations account for half the carriers found among high-risk breast/ovarian cancer patients”, **Breast Cancer Research & Treatment** **107**, 431 (2008)
16. A. Chroni, S. Pyrpassopoulos, A. Thanassoulas, G. Nounesis, V.I. Zannis and E. Stratikos, “Biophysical analysis of progressive C-terminal truncations of human apolipoprotein E4: insights into secondary structure and unfolding properties”, **Biochemistry** **47**, 9071 (2008)
17. F. Orfaniotou, P. Tzamalīs, A. Thanassoulas, E. Stefanidi, A. Zees, E. Boutou, M. Vlassi, G. Nounesis and C.E. Vorgias, “The stability of the archaeal HU histone-like DNA-binding protein from *Thermoplasma Volcanium*”, **Extremophiles** **13**, 1 (2009)
18. S. Giatrellis, G. Nikolopoulos, Z. Sideratou and G. Nounesis, “Thermodynamic study of the interaction of cationic binary-lipid liposomes with plasmid DNA”, **Journal of Liposome Research**, Epub ahead of print, Mar 2 (2009)
19. G. Cordoyiannis, A. Zidarsek, G. Lahajnar, Z. Kutnjak, H. Amenitsch, G. Nounesis and S. Kralj, “Influence of the controlled-porous glass confinement on the layer spacing of smectic-A liquid crystals”, **Physical Review E** **79**, 051703 (2009)
20. I. Drikos, G. Nounesis and C.E. Vorgias, “Characterization of cancer-linked BRCA1-BRCT missense variants and interaction with phosphoprotein targets”, **Proteins, Structure, Function, and Bioinformatics** **77**, 464 (2009)
21. Z. Sideratou, N. Sterioti, D. Tsiourvas, L.A. Tziveleka, A. Thanassoulas, G. Nounesis and C.M. Paleos, “Arginine end-functionalized poly(L-lysine) dendrigrafts for the stabilization and controlled release of insulin”, **Journal of Colloid and Interface Science** **351**, 433 (2010)
22. K. Misiakos, P.S. Petrou, S.E. Kakabakos, D. Yannoukakos, H. Contopanagos, T. Knoll, T. Velten, M. Defazio, L. Schiavo, M. Passamano, D. Stamou and G. Nounesis, “Fully integrated monolithic optoelectronic transducer for real-time protein and DNA detection: The NEMOSLAB approach”, **Biosensors and Bioelectronics** 2010 Aug 3. [Epub ahead of print]

23. E. Karatairi, B. Rozic, Z. Kutnjak, V. Tzitzios, G. Nounesis, G. Cordoyiannis, J. Thoen, C. Glorieux and S. Kralj, "Nanoparticle-induced widening of the temperature range of liquid-crystalline blue phases" **Physical Review E** **81**, 041703 (2010)
24. A. Thanassoulas, M. Nomikos, M. Theodoridou, D. Yannoukakos, D. Mastellos and G. Nounesis, "Thermodynamic study of the BRCT domain of BARD1 and its interaction with the -pSER-X-X-Phe-motif-containing BRIP1 peptide" **Biochimica et Biophysica Acta, Proteins & Proteomics** **1804**, 1908 (2010)