Curriculum Vitae

Name	
Position	Professor, Department of Physics, University of Thessaloniki
Education	B.A.(1971), Augustana College, Sioux Falls, S. Dakota, USA. Majored in Chemistry. M.S.(1974), University of Illinois, Urbana, Illinois USA. Majored in Chemical Physics. Ph.D.(1979), University of Michigan, Ann Arbor, Michigan USA, in Chemical Physics. Doctoral dissertation: Coherence studies in the first electronic excited singlet state of solid naphthalene (Supervised by Prof. R. Kopelman). Recipient of the F. Knoller fellowship**.**
Former carrier	1971-1978 Teaching and Research Assistant at the University of Illinois and at the University of Michigan, USA. 1979-1980 Lecturer, University of Michigan, Ann Arbor, Michigan, USA. 1978-1979: Researcher at the Greek Army Research Center, Galatsi, Athens, Greece, where I completed my military service. 1980-1985 Visiting Assistant Professor, Department of Physics, University of Crete, 71100 Iraklion, Greece. 1985-1989: Assistant Professor, Department of Physics, Division of Solid State Physics, University of Thessaloniki, 54124 Thessaloniki, Greece. 1989-1990: Sabbatical year of absence at IBM Corp., Kingston-NY, USA. Scientific Engineering Computations. 1989-1997: Associate Professor, Department of Physics, Division of Solid State, University of Thessaloniki, 54124 Thessaloniki, Greece. 1997-now: Professor, Department of Physics, Division of Solid State, University of Thessaloniki, 54124 Thessaloniki, Greece.
Research activities	In my tenure at the University of Thessaloniki I have led a research group of average size of ten (10) members, at all levels of their study (Undergraduate to post-doctoral). Approximately one (1) PhD degree awarded per year. This research has been supported by several funding agencies, in over 50 different projects over the past 25 years, in which I was the Principal Investigator. Average funding is at the level of ~€200,000 per year. Some examples in the last decade include: European Commission: INTAS 2000-2005 European Commission: INTERREG, 2004-2007 and 2012-2014, project ICoSCIS European Commission: Nest (Pathfinder), STREP project DYSONET, 2005-2008, Principal Investigator, and Coordinator. European Commission: Nanotechnologies, STREP project INTERCONY, 2006-2009 European Commission, Coordination Action project GIACS, 2004-2009 European Commission: ICT thematic Area, IP(Integrated Project) project MULTIPLEX, 2012-2016

	Greek Secretariat of Research and Technology: Project PENED, 2004-2008 Greek Secretariat of Research and Technology: Several IRAKLITOS and PYTHAGORAS projects, 2004-2013. NATO, Science for Peace Project 1997-2000 Bilateral scientific agreements with Germany, France, USA, Belgium, Russia, Bulgaria, etc.
Research interests	Theoretical Condensed Matter Physics. Molecular dynamics of the solid state and of crystal lattices. Dynamical properties, transport, kinetics. Phase transitions and Statistical physics of disordered systems, disordered lattices and other structures, systems of non-integer dimensionality, fractals. Transport properties in excited states and in molecular cluster states. Trapping. Kinetic growth models, crystal growth, percolation phenomena, scaling theory. Non-equilibrium systems. Nanoparticle kinetics, Brownian rotation. Random walks in ordered and random lattices, and in other complex systems, their properties and applications to physical, chemical, and biological phenomena. Kinetics of molecular and chemical phenomena. Chemical reactions of catalytic nature on surfaces, in porous materials, on wires. Diffusion controlled processes on such systems, diffusion-limited aggregation, etc. Networks. Structure and Dynamics of networked system. Spreading phenomena on networks. Scale-free networks. Random networks. Social and economic networks. Properties of networked entities. Graph theory. Game Theory. Mathematical modelling and simulation of neural networks. Computational and artificial networks. Dynamics of signal transfer in neurons in biological brains and applications to learning, memory, and other functions. Large-scale computer simulation techniques. Monte-Carlo methods. Numerical solutions of complicated physical systems where analytical solutions are not amenable. Grid Computing and Parallel Computing. Smart algorithms for solution of Complex problems. Direct comparison of modelling results with experimental systems of other Laboratories in a plethora of physical problems, e.g. liquid crystals, crystal growth, nanoparticle dynamics, reaction-diffusion processes, dendrimer dynamics, pharmaceutical systems diffusion, etc.
Five most important publications	L. Skarpalezos, A. Kittas, P. Argyrakis, R. Cohen, S. Havlin, Anomalous biased diffusion in networks, Phys. Rev. E. **88**, 012817 (2013) P. Giazitzidis, P. Argyrakis, Generalized Achlioptas process for the delay of criticality in the percolation process, Phys. Rev. E. **88**, 024801 (2013) N. Bastas, M. Maragakis, P.Argyrakis, D. ben-Avraham, S. Havlin, S. Carmi, Random walk with priorities in communication-like networks, Phys. Rev. E. **88**, 022803(2013) P. Argyrakis and R. Kopelman, Nature of segregation of reactants in diffusion controlled A+B reactions: Role of mobility in forming compact clusters, European Physical Journal. B. **86**, 162 (2013) J. Smart, M. Scott, J.B. McCarthy, K.T. Tan, P. Argyrakis, S. Bishop, R.

	Conte, S. Havlin, M. San Miguel and D. Stauffacher, Big science and big administration - Confronting the governance, financial and legal challenges of FuturICT, Eur. Phys. J. Special Topics **214**, 635-666 (2012)