

Theophanes Raptis

Curriculum Vitae

PERSONAL DETAILS

Birth Date : April 3rd, 1965
Marital Status : Single
Residency : Lefkosias 23 Str., 112 53,
Lamia, Fthiotis, Greece
Tel. : +30 210 8677509 /22313 08656
Mob : +30 6979780381 / 6976213895
e-mail : traptis@protonmail.com
raptis.theophanes@gmail.com
github: <https://github.com/rtheo>

Mr Theophanes Raptis has worked as a research assistant in EU research projects at the R&D Unit of the Division of Applied Technologies, in the NCSR “Demokritos” institute as well as the El.-Eng. Dept. of the Technical Education Institute of Piraeus. He is also collaborating with the Physical Chemistry laboratory, Dept. of Chemistry in the University of Athens. He holds a BSc in Physics from the University of Crete (1995) and he has followed a post graduate training in theoretical physics from the physics sector of the National Technical University of Athens under a PhD scholarship from the Material Science Institute, NCSR Demokritos (1997-1999).

He has worked in Protein Folding and Molecular Dynamics problems. His research interests include computational physics applications, computational modeling and simulation of physical and abstract dynamical systems, cellular automata and complex systems. He is experienced in using FORTRAN, C, MATLAB in the context of such applications and he also has basic knowledge of MAPLE, REDUCE and, Maxima programming environments.

Among others, he has developed programs for a special suite of Molecular

Mechanics, Monte-Carlo Optimization of polymeric structures and post-processing of Molecular Dynamics trajectories. The suite is constantly under development in cooperation with Dr Vasilios Raptis, currently in FORTH, Heraklion, Crete. He has also collaborated with prof. Anthony Boucouvalas of the Communication Networks and Applications Laboratory, Univ. Peloponnese in the study of “holey” optical fibers with unconventional “grindex” profiles.

He has a number of publications including articles in peer reviewed journals and ArXiv preprints. He has been awarded a patent from the Greek Industrial Property Organisation (OBI) for an Artificial Volition Method in Autonomous Robotics.

Peer reviewed articles:

Alberto Fraile, Osame Kinouchi, Prashant Dwivedi, Roberto Martinez, Theophanes Raptis, Daniel Fernandez "Prime numbers and random walks in a square grid", Phys. Rev. E, 104, 054114 (2021)

V. Raptis, C. Dimitroulis, T. Raptis "Just type Polyana and press Enter: a post-processing application designed with simplicity of use in mind", Mol. Sim., 47(2-3) (2019)

T. E. Raptis "Encoding discrete quantum algebras in a hierarchy of binary words" 11th Vigier Conf. 2018, Liege, Belgium, J. Phys.:IOP Conf. Series, (2019) 012041

T. E. Raptis, C. D. Papageorgiou "Beltrami Flows, Non-Diffracting Waves and Axion Beltrami-Maxwell Postulates" , IARAS Conference, Dec 28-30, Athens, Greece (2018)

T. E. Raptis, “‘Viral’ Turing Machines, Computations from Noise, and Combinatorial Hierarchies” submitted (2017).

T. E. Raptis, “Spectral Representations and Global Maps of Cellular

Automata Dynamics”, *Chaos, Solitons & Fractals*, 91 (2016)

T. E. Raptis, F. O. Minotti, “Possible Measurements Effects of Light Propagating in Electromagnetized Vacuum as Predicted by a Scalar –Tensor Theory of Gravitation”, accepted for publication in *Classical Quant. Grav.*

T. E. Raptis, “A Closed Algebra of Clebsch Forms from Whittaker Superpotentials and Applications in Electromagnetic Research”, *Prog. Electromag. Res. Lett.* 42, 97-107, 2013.

T. E. Raptis, V. E. Raptis, J. Samios “Quantitative study of diffusion jumps in atomistic simulations of model gas–polymer systems” *Mol. Phys.* 110 (11-12), 1171-1178, 2012.

T. E. Raptis, C. D. Papageorgiou “Ionic collisions in metallic lattices under transient current pulses”, *Eur. Phys. J.-App. Phys.* 54 (1), 2011.

T. E. Raptis, C. D. Papageorgiou “A Solid State Ion Collider with Transient Current Pulses”, *J. Phys. Conf. Ser.* 286 (1), 012044, 2011.

T. E. Raptis, C. D. Papageorgiou “Fragmentation of Thin Wires under High Voltage Pulses and Bipolar Fusion” *AIP Conf. Proc.* 1203, 955, 2010.

T. E. Raptis, C. D. Papageorgiou “Dipole electromagnetic forces on thin wires under transient high voltage pulses”, *Eur. Phys. J.-App. Phys.* 48 (3), 2009.

T. E. Raptis, V. E. Raptis, J. Samios, "A new effective method for quantitative analysis of diffusion jumps, applied in Molecular Dynamics simulations of small molecules dispersed in short chain systems.", *J. Phys. Chem. B*, 111 (49), 13683-13693, 2007.

Conferences:

E. Georgantzios, T. E. Raptis, A. C. Boucouvalas, “Resonant Transmission Line Modeling of Holey Fibers”, to appear at INASE Conf., Athens 2017.

C. D. Papageorgiou, T. E. Raptis, A. C. Boucouvalas, “Wannier-Stark Ladders and the Resonance Technique”, at INASE Conf., Athens 2017.

C. D. Papageorgiou, T. E. Raptis, A. C. Boucouvalas, “Simulation of Quantum Wires with Resonant Transmission Lines” to appear at INASE Conf., Athens 2017.

C. D. Papageorgiou and T. E. Raptis “A Transmission Line Model for the Spherical Beltrami Problem”, 2nd Chaotic Modeling and Simulation International Conference (CHAOS2009). Chania, Crete, Greece, 1 – 5 June 2009. Published in C. H. Skiadas and I. Dimotikalis (Eds) Chaotic Systems: Theory and Applications, pp. 241-248, World Scientific, Singapore, 2010.

T. Raptis, V. Raptis, J. Samios, “Detection of Diffusive Jumps of Small Penetrants Dispersed in Polymer Systems”, 7th Panhellenic Polymer Conference, Ioannina, Greece, 2008 [poster presentation].

T. E. Raptis “Reversibility and Criticality in a Deterministic ‘Self-Extracting’ Bak Sneppen Automaton” 20th Nonlinear Science and Complexity International Conference, Patras, July 2007 [poster presentation].

A. Aggarwal, Y. Bakopoulos, T. Raptis, Y. Doxaras, E. Kotsialos, and S. Kouremenos “The divider set: a new concept in morphology” in Proceedings of the 10th WSEAS international conference on Computers (ICCOMP'06), Zoran S. Bojkovic (Eds.), World Scientific and Engineering Academy and Society (WSEAS), Stevens Point, Wisconsin, USA, 114-119, 2006.

T. E. Raptis “Reversible Cellular Automata without memory”, 19th Summer School/Panhellenic Conference on "Nonlinear Science and Complexity", Thessaloniki, Greece, 12 – 22 July 2006 [poster presentation].

T. Raptis, V. Raptis, J. Samios “Mechanisms of Gaseous Molecules Diffusion through Amorphous Linear Polymers: A Study via Molecular

Dynamics Simulation”, 6th Panhellenic Polymer Conference, Patras, Greece, 2006 [poster presentation].