

CURRICULUM VITAE

Yannis G. Lazarou

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Born: September 22, 1961; Volos, Greece

Education: B.S. July 1984
Department of Chemistry,
University of Athens, Greece

Ph.D., January 1993
Department of Chemistry,
University of Crete, Greece

Awarded Scholarships

- 1) Graduate Student (1986-1991),
Photochemistry and Kinetics Laboratory,
Department of Chemistry, University of Crete, Greece
- 2) Graduate Researcher (1986-1991),
Institute of Electronic Structure and Laser,
Research Center of Crete, Greece
- 3) Zervas Foundation (1989), Athens, Greece
- 4) Postdoctoral Researcher (1991-1992),
Institute of Electronic Structure and Laser,
Foundation of Research and Technology, Greece

Professional Occupation

- 1991 - 1992 Postdoctoral Research Fellow
Institute of Electronic Structure and Laser
Foundation of Research and Technology
Heraklion, Crete, Greece
- 1991 - 1995 Research Assistant
Department of Chemistry, University of Crete

Heraklion, Greece

1996 – 1999 Teaching Assistant
Department of Chemistry, University of Crete
Heraklion, Greece

1999 - Researcher
Institute of Physical Chemistry /
Institute of Nanoscience and Nanotechnology
National Centre for Scientific Research "Demokritos"
Aghia Paraskevi, Attiki, Greece

Research Interests and Experience

Gas phase chemical kinetics.
Infrared and UV/Vis laser photochemistry.
Mass spectrometry and vacuum techniques.
Computational chemistry using *ab-initio*, density functional theory (DFT) and semi-empirical methods.
Assessment of the accuracy of quantum-mechanical calculations.
Chemistry of atmospheric and aqueous pollutants.
Mechanisms of organic reactions.
Supramolecular encapsulation of pharmaceuticals and toxins.
Development of computer code for molecular graphics and data treatment using Fortran, C and shell scripts.
Instrument-Computer Interfaces and machine language programming.

Collaborations

Dr. K. Yannakopoulou & Dr. I. Mavridis, *INN, NCSR "Demokritos", Greece*
Prof. K. Kormas, *Department of Ichthyology & Aquatic Environment, University of Thessaly, Greece*
Prof. C. Laspidou, *Department of Civil Engineering, University of Thessaly, Greece*
Prof. D. Georgiadis, *Department of Chemistry, University of Athens, Greece*
Dr. A. Papakyriakou, *INN, NCSR "Demokritos", Greece*
Prof. P. Papagiannakopoulos & Dr. V. Papadimitriou, *Department of Chemistry, University of Crete, Greece*
Prof. I. I. Morozov, *Semenov Institute of Chemical Physics, Russian Academy of Sciences, Moscow, Russia*
Dr. J. B. Burkholder, *Earth System Research Laboratory, National Oceanic and Atmospheric Administration (NOAA), Boulder, Colorado, USA*
Dr. S. Gligorovski, *Universite's d'Aix-Marseille - CNRS, Marseille, France and Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, Guangzhou, China*

Scientific Publications

1. "Infrared Multiphoton Decomposition of Dimethylnitramine", Y.G. Lazarou and P. Papagiannakopoulos, *J. Phys. Chem.* **1990**, 94, 7114 - 7119
2. "Kinetics of the Reaction of Chlorine Atom with Dimethylnitramine", Y.G. Lazarou, C. Michael, and P. Papagiannakopoulos, *J. Phys. Chem.* **1992**, 96, 1705 - 1708
3. "Infrared Multiphoton Dissociation of Tetramethylsilane: Formation of Electronically Excited Trimethylsilyl Radical", C.M. Michael, Y. Lazarou, and P. Papagiannakopoulos, *Chem. Phys. Lett.* **1992**, 194, 415 - 422
4. "Infrared Multiphoton Decomposition of Diethylnitramine", Y.G. Lazarou, K.D. King, and P. Papagiannakopoulos, *J. Phys. Chem.* **1992**, 96, 7351 - 7355
5. "IR Laser Chemistry of Dimethylnitramine and Diethylnitramine", Y.G. Lazarou and P. Papagiannakopoulos, *Laser Chemistry* **1992**, 13, 101 - 111
6. "Kinetic Isotope Effect for Hydrogen/Deuterium Abstraction of Chlorine Atoms from $(\text{CH}_3)_2\text{NNO}_2$ and $(\text{CD}_3)_2\text{NNO}_2$ ", Y.G. Lazarou and P. Papagiannakopoulos, *Int. J. Chem. Kinet.* **1993**, 25, 229 - 237
7. "Kinetic Studies of the Reaction of Atomic Chlorine with N-Methylmethyleimine and 1,3,5-Trimethyl-hexahydro-1,3,5-triazine", Y.G. Lazarou and P. Papagiannakopoulos, *J. Phys. Chem.* **1993**, 97, 4468 - 4472
8. "Kinetic Studies of the Reaction of Chlorine Atoms with Tetramethylsilane", Y.G. Lazarou and P. Papagiannakopoulos, *J. Phys. Chem.* **1993**, 97, 6806 - 6810
9. "Absolute Rates of Recombination and Disproportionation of Dimethylaminy Radical", Y.G. Lazarou and P. Papagiannakopoulos, *J. Phys. Chem.* **1993**, 97, 9133 - 9140
10. "Gas Phase Reactions of $(\text{CH}_3)_2\text{N}$ Radicals with NO and NO_2 ", Y.G. Lazarou, K.G. Kambanis, and P. Papagiannakopoulos, *J. Phys. Chem.* **1994**, 98, 2110 - 2115
11. " CO_2 Laser Excitation of Triethylsilane: Time Resolved Luminescence of Diethylsilyl Radical", P. Papagiannakopoulos and Y.G. Lazarou, *Int. J. Chem. Kinet.* **1994**, 26, 857 - 867
12. "Absolute Reaction Rate of Chlorine atoms with Neopentane", K.G. Kambanis, Y.G. Lazarou, and P. Papagiannakopoulos, *Int. J. Chem. Kinet.* **1995**, 27, 343 - 349
13. "Kinetic studies of the Reaction of Cl Atoms with $\text{BrCH}_2\text{OCH}_3$ ", K.G. Kambanis, Y.G. Lazarou, I.I. Morozov and P. Papagiannakopoulos, *J. Phys. Chem.* **1995**, 99, 17169 - 17173
14. "Gas phase reaction kinetics of Cl atoms with ICH_2OCH_3 ", K.G. Kambanis, Y.G. Lazarou and P. Papagiannakopoulos, *Chem. Phys. Lett.* **1996**, 261, 457 - 462
15. "Kinetic studies of the Reaction of Cl Atoms with SiH_4 ", K.G. Kambanis, Y.G. Lazarou and P. Papagiannakopoulos, *J. Chem. Soc., Faraday Trans.* **1996**, 92, 3299 - 3303
16. "Kinetic studies of the Reaction of Cl Atoms with CH_3SSCH_3 ", K.G. Kambanis, Y.G. Lazarou and P. Papagiannakopoulos, *J. Chem. Soc., Faraday Trans.* **1996**, 92, 4905 - 4908
17. "Ab-initio computational study of the interaction of Cl atoms with HI, CH_3I and ICH_2OCH_3 ", Y.G. Lazarou, K.G. Kambanis and P. Papagiannakopoulos, *Chem. Phys. Lett.* **1997**, 271, 280 - 286

18. "Absolute Reaction Rate of Chlorine Atoms with Iodomethane", K.G. Kambanis, Y.G. Lazarou and P. Papagiannakopoulos, *Chem. Phys. Lett.* **1997**, 268, 498 - 504
19. "Absolute Rate Constants for the Reactions of Cl Atoms with CH₃Br, CH₂Br₂ and CHBr₃", K.G. Kambanis, Y.G. Lazarou and P. Papagiannakopoulos, *J. Phys. Chem. A* **1997**, 101, 8496 - 8502
20. "Kinetic Study for the Reactions of Chlorine Atoms with a Series of Hydrofluoroethers", K. G. Kambanis, Y. G. Lazarou and P. Papagiannakopoulos, *J. Phys. Chem. A* **1998**, 102, 8620 – 8625.
21. "Theoretical Investigation of the Thermochemistry of Hydrofluoroethers", Y. G. Lazarou and P. Papagiannakopoulos, *Chem. Phys. Lett.* **1999**, 301, 19 - 28.
22. "Absolute Reaction Rate of Chlorine Atoms with Chloriodomethane", K. G. Kambanis, D. Y. Argyris, Y. G. Lazarou and P. Papagiannakopoulos, *J. Phys. Chem. A* **1999**, 103, 3210 – 3215.
23. "Theoretical Calculation of Bond Dissociation Energies and Enthalpies of Formation for Halogenated Molecules", Y.G. Lazarou, A. V. Prosmiris, V. C. Papadimitriou, and P. Papagiannakopoulos, *J. Phys. Chem. A* **2001**, 105, 6729 – 6742.
24. "Thermochemical Properties for Small Halogenated Molecules Calculated by the Infinite Basis Extrapolation Method", Y.G. Lazarou, V. C. Papadimitriou, A. V. Prosmiris, and P. Papagiannakopoulos, *J. Phys. Chem. A* **2002**, 106, 11502 - 11517.
25. "Absolute Reaction Rates of Chlorine Atoms with CF₃CH₂OH, CHF₂CH₂OH, and CH₂FCH₂OH", V. C. Papadimitriou, A. V. Prosmiris, Y.G. Lazarou, and P. Papagiannakopoulos, *J. Phys. Chem. A* **2003**, 107, 3733 - 3740.
26. "Kinetic Study for the Reactions of Several Hydrofluoroethers with Chlorine Atoms", V. C. Papadimitriou, K. G. Kambanis, Y.G. Lazarou, and P. Papagiannakopoulos, *J. Phys. Chem. A* **2004**, 108, 2666 - 2674.
27. "Keto Forms of Salicylaldehyde Schiff Bases: Structural and Theoretical Aspects", S. D. Chatziefthimiou, Y. G. Lazarou, E. Hadjoudis, T. Dziembowska, and I. M. Mavridis, *J. Phys. Chem. B* **2006**, 110, 23701 - 23709
28. "Kinetic Study for the Reactions of Cl Atoms with CF₃CH₂CH₂OH, CF₃CF₂CH₂OH, CHF₂CF₂CH₂OH, and CF₃CHF₂CH₂OH", V. C. Papadimitriou, D. K. Papanastasiou, V. G. Stefanopoulos, A. M. Zaras, Y. G. Lazarou and P. Papagiannakopoulos, *J. Phys. Chem. A* **2007**, 111, 11608 - 11617.
29. "Absolute Rate Coefficient Determination and Reaction Mechanism Investigation for the Reaction of Cl Atoms with CH₂I₂ and the Oxidation Mechanism of CH₂I Radicals", V.G. Stefanopoulos, V. C. Papadimitriou, Y.G. Lazarou and P. Papagiannakopoulos, *J. Phys. Chem. A* **2008**, 112, 1526 - 1535.
30. "Hydroxyl Radical Reactions with Halogenated Ethanol in Aqueous Solution: Kinetics and Thermochemistry", I. Morozov, S. Gligorovski, P. Barzagli, D. Hoffman, Y.G. Lazarou, E. Vasiliev and H. Herrmann, *Int. J. Chem. Kinet.* **2008**, 40, 174 - 188.
31. "Heterogeneous light-induced ozone processing on the organic coatings in the atmosphere", S. Nieto, L. Nieto-Gligorovski, S. Gligorovski, B. Temime-Roussel, S. Barbati, Y. G. Lazarou, H. Wortham, *Atmos. Environ.* **2009**, 43, 1683 - 1692.
32. "Novel polycarboxylated EDTA-type cyclodextrins as ligands for lanthanide binding: study of their luminescence, relaxivity properties of Gd(III) complexes,

- and PM3 theoretical calculations", D. Maffeo, M. Lampropoulou, M. Fardis, Y. G. Lazarou, I. M. Mavridis, D. A. I. Mavridou, E. Urso, H. Pratsinis, D. Kletsas and K. Yannakopoulou, *Org. Biomol. Chem.* **2010**, *8*, 1910 - 1921.
33. "Atmospheric Chemistry of $\text{CF}_3\text{CF}=\text{CH}_2$ and (Z)- $\text{CF}_3\text{CF}=\text{CHF}$: Cl and NO_3 Rate Coefficients, Cl Reaction Product Yields, and Thermochemical Calculations", V.C. Papadimitriou, Y.G. Lazarou, R.K. Talukdar, J.B. Burkholder, *J. Phys. Chem. A* **2011**, *115*, 167 - 181.
34. "S-Nitroso- β -Cyclodextrins as New Bimodal Carriers: Preparation, Detailed Characterization, Nitric-Oxide Release, and Molecular Encapsulation", L. Piras, T. A. Theodossiou, M. D. Manouilidou, Y.G. Lazarou, S. Sortino, K. Yannakopoulou, *Chem. Asian J.* **2013**, *8*, 2768 - 2778.
35. "Staudinger Ligation Towards Cyclodextrin Dimers in Aqueous/Organic Media. Synthesis, Conformations and Guest Encapsulation Ability", M.D. Manouilidou, Y.G. Lazarou, I.M. Mavridis, K. Yannakopoulou, *Beilstein J. Org. Chem.* **2014**, *10*, 774 - 783.
36. "Probing the Mechanism of Allylic Substitution of Morita-Baylis-Hillman Acetates (MBHAs) by using the Silyl Phosphonite Paradigm: Scope and Applications of a Versatile Transformation", M. Kalyva, A.L. Zografos, E. Kapourani, E. Giambazolias, L. Devel, A. Papakyriakou, V. Dive, Y.G. Lazarou, D. Georgiadis, *Chem. Eur. J.* **2015**, *21*, 3278 -3289.
37. "Theoretical investigation of microcystin-LR, microcystin-RR and nodularin-R complexation with α -, β -, and γ -cyclodextrin as a starting point for the targeted design of efficient cyanotoxin traps", A.S. Archimandritis, T. Papadimitriou, K.A. Kormas, C.S. Laspidou, K. Yannakopoulou, Y.G. Lazarou, *Sust. Chem. & Pharm.* **2016**, *3*, 25-32.
38. "Positively charged cyclodextrins as effective molecular transporters of active phosphorylated forms of gemcitabine into cancer cells", V. Rodriguez-Ruiz, A. Maksimenko, G. Salzano, M. Lampropoulou, Y.G. Lazarou, V. Agostoni, P. Couvreur, R. Gref, K. Yannakopoulou, *Sci. Rep.* **2017**, *7*, 8353.
39. "Formation of highly oxygenated multifunctional compounds from cross-reactions of carbonyl compounds in the atmospheric aqueous phase", M. Mekic, J. Liu, W. Zhou, G. Loisel, J. Cai, T. He, B. Jiang, Z. Yu, Y.G. Lazarou, X. Li, M. Brigante, D. Vione, S. Gligorovski, *Atmos. Environ.* **2019**, *219*, 117046.
40. "Formation of Toxic Unsaturated Multifunctional and Organosulfur Compounds From the Photosensitized Processing of Fluorene and DMSO at the Air-Water Interface", M. Mekic, J. Zeng, B. Jiang, X. Li, Y.G. Lazarou, M. Brigante, H. Herrmann, S. Gligorovski, *J. Geophys. Res.: Atmospheres* **2020**, *125*, e2019JD031839.
41. "Geochemical modeling of mercury in coastal groundwater", A.E. Spyropoulou, Y.G. Lazarou, A.A. Sopalidis, C.S. Laspidou, *Chemosphere* **2022**, *286*, 131609.