Laboratory Teaching Staff in Physical Chemistry (2014 till now)
Department of Chemistry, University of Crete

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Laboratory of Photochemistry and Kinetics,
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Research Scientist III (RS3)
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Regular Visiting Research Scientist (RS3), (2009 till now)
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PERSONAL:

Born: February 2nd 1977, Argos, Greece
Marital status: Single
Languages: Greek (*Native*), English (*Excellent*)

EDUCATION:

Post-Doctoral – Research Associate, September **2006 -08**

PhD Degree in Physical Chemistry, December **2005 (2001 – 2005)**
PhD Thesis: *"Kinetic Studies for the Reactions of OH Radicals and Cl Atoms with Fluorinated Alcohols in the Gas Phase and Investigation of their Tropospheric Degradation Mechanism"*
Laboratory of Photochemistry and Kinetics University of Crete, Department of Chemistry
Supervisor: Prof. Panos Papagiannakopoulos
https://www.didaktorika.gr/eadd/handle/10442/16017

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MSc Degree in Chemistry, January **2001**
Master Thesis: *"Temperature-dependent measurements of absolute rate coefficients for the reactions of Cl atoms with CF_3CH_2OH, CHF_2CH_2OH and CH_2FCH_2OH in the gas phase and oxidation products characterization of the primary dehydrogenated radicals"*
Laboratory of Photochemistry and Kinetics, University of Crete, Department of Chemistry
Supervisor: Prof. Panos Papagiannakopoulos

Diploma in Chemistry, September **1998** (7.27, *Very Good*)

Graduation Thesis: *"Determination of the Kinetic Parameters for the Reaction of Deuterium Atoms with Methyl Bromine in the Gas Phase"* and *"Determination of the Kinetic Parameters for the Reaction of Chlorine Atoms with Siloxanes in the Gas Phase"*
Laboratory of Photochemistry and Kinetics, University of Crete, Department of Chemistry
Supervisor: Prof. Panos Papagiannakopoulos

SCHOLARSHIPS AND DISTINCTIONS:

Invited Senior Scientist in Douai, Lille IMT-University, Atmospheric Sciences and Environmental Engineering Department, June-July **2018** and September – October **2019**.
Visiting Research Scientist, 2010, 2012, 2013, 2015, 2017, 2018, 2019 (*three to five months per year*), University of Colorado–National Oceanic and Atmospheric Administration (NOAA/CSD) (open collaboration till to date)

Scholarship of Post-doctoral Research, Cooperative Institute Research in Atmospheric Sciences (CIRES), University of Colorado, National Oceanic and Atmospheric Administration (NOAA/CSD), **2006 – 08**

Post-Doctoral – Research Associate, (December 2005 – August 2006)
Laboratory of Photochemistry and Kinetics, Department of Chemistry, University of Crete

Performance Scholarship for Graduate Studies, State Scholarship Foundation, **1999 –2000**

MSc Degree Scholarship, (EPEAEK), Graduate Program – Applied Molecular Spectroscopy (A.M.S.), **1998 –2000**

SUPERVISING EXPERIENCE:

Philosophiae Doctorate, Ph.D.:

Graduated[1]	Dr. Vassileios G. Stefanopoulos (2009)[#,2]
Dr. Maria E. Aggelaki (2021)[%]	Dr. Dimitrios K. Papanastasiou (2007)[#,2]
Dr. Aristotelis M. Zaras (2011)[#,&,2]	***On-Going***
Dr. Manolis N. Romanias (2009)[#,2]	MSc. Maria-Areti Spanoudaki

[1] co-supervising with: [#]Prof. Panos Papagiannakopoulos; [&]Dr. Yannis G. Lazarou; [%]Prof. Maria Kanakidou; [2]Instruments development, experiments designing and scientific advisor with regard data analysis, interpretation and presentation

Master of Science, M.Sc.:

Graduated	
MSc. Pantanassa Telliou (*2023*)	MSc. Christina Spitieri (*2014*)
MSc. Maria-Areti Spanoudaki (*2022*)	MSc. Emmanuel S. Karafas (*2011*)
MSc. Georgia Antonopoulou (*2019*)	MSc. Evangelos Lazos (*2009*)
MSc. Nikolaos Kaloudis (*2018*)	MSc. Antoinia G. Zogka (*2009*)
MSc. Maria E. Aggelaki (*2017*)	MSc. Manolis N. Romanias (*2007*)
MSc. Zoe Foutouli (*2017*)	MSc. Dimitrios K. Papanastasiou (*2005*)
MSc. Aikaterini D. Panagiotaki (*2016*)	MSc. Aristotelis M. Zaras (*2004*)

Graduation Thesis:

Graduated	
Evangelia Kokkinaki (*2024*)	Eirini Malegiannaki (*2018*)
Ioannis-Aristeidis Flouris (*2023*)	Eirini Dimoulia (*2018*)
Aikaterini Xezonaki (*2022*)	Emmy Christaki (*2018*)
Foteini Arvaniti (*2022*)	Ioannis Sarris (*2017*)
Vassileios Vassileiou (*2021*)	Georgia Antonopoulou (*2017*)
Thomas Giotopoulos (*2021*)	Marios Tsikos (*2017*)
Pantanassa Telliou (*2020*)	Christina Panopoulou (*2016*)
Evangelia Konstantaki (*2020*)	Maria E. Aggelaki (*2015*)
Angeliki Eleftheriou (*2019*)	Dimitra Goulousi (*2015*)
Antonia Intze (*2018*)	Zoe P. Foutouli (*2014*)
Evangelia Drougkaki (*2018*)	Georgia Peta (*2014*)

TEACHING EXPERIENCE:

Undergraduate Courses:

Physical Chemistry II (4th-semester course, 2009 – till now):
Thermodynamics and Chemical Kinetics (Teaching Chemical Kinetics)

Laboratory of Physical Chemistry I (3rd-semester course, 2013 – till now):
Spectroscopy, Statistical Mechanics and Chemical Kinetics

Laboratory of Physical Chemistry II (6th-semester course, 2013 – till now):
Thermodynamics, Electrochemistry and Transportation Properties

Graduate Courses:

Infrared Absorption and Raman Spectroscopy (2009 – till now):
Theoretical and Experimental Training on Infrared Spectroscopy

LABORATORY, RESEARCH EXPERIENCE AND SKILLS:

Fundamental and applied research focused on Atmospheric and Physical Chemistry laboratory studies, designing, developing, and employing modern techniques and methods coupled with state-of-the-art spectroscopy and spectrometry detection. Kinetic and mechanistic studies of fast, gas-phase reactions and heterogeneous processes linked with Atmospheric Chemistry, Climate, Human Health, and Air-Quality. Kinetic applications on industrial chemical processes, such as photocatalysis, synthesis of novel compounds, combustion, and chemical reactivity. Quantum mechanical molecular calculations aim to investigate the fate of atmospherically important compounds and their optical properties that impact Earth's Climate.

• **Development, Interfacing, Automation and Control of Modern Kinetic Techniques for the study of Fast Gas-Phase Reactions Coupled with State-of-the-art Spectroscopic Detection Techniques**

- Very-Low Pressure Reactor coupled with Quadrupole Mass Spectrometry and Laser Induced Fluorescence Detection Techniques, **VLPR/QMS-LIF**

- Pulsed Laser Photolysis coupled with Laser Induced Fluorescence, **PLP/LIF**
- Thermostated PhotoChemical Reactor (Relative Rate Methods) coupled with FT-IR Spectroscopy (**TPCR-RR/FT-IR**)

• **Knudsen Reactor Technique**. Application in the Study of Homogeneous and Heterogeneous Chemical Processes (Gas–Surface Interactions and Uptake)

• **Modern Spectroscopic and Analytical Detection Techniques**
- Quadrupole Mass Spectrometry (**QMS**)
- Chemical Ionisation Mass Spectrometry (**CIMS**)
- Selected Ion Flow Tube Mass Spectrometry (**SIFT/MS**)
- Laser Induced and Resonant Fluorescence (**LIF** and **RF**)
- CO_2 laser Photochemistry (Plasma Induced CVD, ablation and REMP-I/D)
- UltraViolet – Visible Spectroscopy (**UV-Vis**)
- Fourier Transformed InfraRed Spectroscopy (**FT-IR)** and Reflection-Absorption Spectroscopy (**FT-IR/RAS**)
- **Raman** Spectroscopy (Light Scattering)
- **Laser** Spectroscopy (Nd:YAG, Dye, Excimer and Diode Lasers and Coupling)
- Nuclear Magnetic Resonance (**NMR**)
- Coupled Gas Chromatography – Mass Spectrometry (**GC-MS**)
- Reverse-Phase Liquid Chromatography (**RPLC**)

• **Interface, Automation and Remote Controlling** of Electronic Devices

• **Vacuum Technology** (Ultra-High, High and Low vacuum techniques)

• Molecular Quantum-Chemical Calculations (**Ab-initio and DFT**) employing **Gaussian 94/98/03/09/16** program suites

• **Gas phase reaction kinetics** related to atmospheric processing: OH and NO_3 radicals and Cl atoms and O_3 chemical reactivity towards biogenic and anthropogenic volatile (*CFC and halons alternatives, terpenes, amines, VOCs)* and semi- or low-volatile (*silicon, furan-based – biomass burning products – and aromatic compounds*). Determination of (a.) absolute and relative rate coefficients for fast reactions, (b.) Molecular reaction dynamics and mechanisms and (c.) SOA formation potential and direct and indirect GWP and ODP for assessing VOCs' Climate impact.

• **Experimental Techniques Designing and Development Coupled with Modern Optical and Analytical Detection Methods** (e.g., Laser Spectroscopy, Infrared Spectroscopy, FT-IR and Reflection-Absorption Spectroscopy, RAS) and Spectrometric Techniques (Quadrupole Mass Spectrometry) aimed to study Physicochemical Properties and Kinetics and Mechanisms for key Reactions with Atmospheric and/or Technological Interest.

• **Photocatalysis efficiency and optimization** of novel synthesized nano-composites, and materials, e.g., doped metal oxides photoinduced by natural UV- or Vis-light aiming to combat outdoor and indoor pollution.

• **Heterogeneous interactions** of trace atmospheric gases with particles located in the regions (ice, salts, dust) of the troposphere, and the Stratosphere (Climate Intervention Project, e.g., $CaCO_3$ nanoparticles), and assessment of their atmospheric impact.

• **Spectroscopy and Optical Properties Determination** (UV/Vis and IR Absorption Cross-Sections) of key volatile and semi- and low-volatile organic compounds, abundant in the Atmosphere.

• **Thermochemistry, Intermediates Energetics and Mechanisms** of complex chemical

processes with Atmospheric interest, i.e., fluorinated olefins or transient species processing. Thermal stability of energetic molecules and detailed chemical and thermal mechanism investigation for the degradation of anthropogenic and biogenic compounds in the atmosphere.

- **Laser induced chemical vapour deposition synthesis (CVD)** and characterisation of novel organometallic materials (CO_2 laser photolysis of silicon containing compounds in the gas phase, and CO_2 laser ablation of solid silicon compounds) and polymers, i. e., tholins, with scientific and industrial interest.
- **Quantum-mechanical calculations** of polyatomic systems (Determination of geometries and thermochemical properties of polyatomic molecules and reaction thermochemistry and kinetics of bimolecular reactions) with environmental interest.

COMPUTATIONAL EXPERIENCE:

Operating Systems: WINDOWS, Mac OS, Linux (*RedHat 6.x, 7.x, 8.x, 9.x Fedora Core, SuSe*), AIX/UNIX, Open VMS

Common Software: Microsoft Office Suite Programs (*Word, Excel, Power Point, Front Page, etc*), Designing Suites (*AutoCad, Adobe Photoshop*), Chemical Suites (*ChemDraw, IsisDraw*)

Data Analysis and Specialized Software: Wavemetrics (*Igor 5.x, 6.x, 7.x*), OriginLab Suite (*all versions*), Gaussian 94/98/03/09/16, GaussView 6.0.16

Programming Languages: Fortran, C++, script languages (csh, tcsh and bash shell), Labview programming and automation

PEER REVIEWER IN SCIENTIFIC INTERNATIONAL JOURNALS:

- **Journal of Physical Chemistry A**
- **Physical Chemistry Chemical Physics**
- **Atmospheric Chemistry and Physics**
- **Chemical Physics Letters**
- **Environmental Science and Technology**
- **Atmospheric Environment**
- **Environmental Science and Pollution Research**
- **Atmosphere**
- **Journal of Geophysical Research**
- **International Journal of Chemical Kinetics**
- **Molecular Physics**
- **Journal of Atmospheric and Oceanic Technology**
- **Journal of Molecular Modelling**
- **Science of Advanced Materials**
- **Chemical Engineering Journal**
- **Colloids and Surfaces A: Physicochemical and Engineering Aspects**
- **Catalysts**
- **EGUsphere**

Co – editor IN SCIENTIFIC INTERNATIONAL JOURNALS:

- **Minerals**: Special Issue "Heterogeneous Processes of Mineral Dusts with Atmospheric Trace Gases"

SCIENTIFIC PUBLICATIONS:

1. Zogka, A. G., A. Lostier, V. C. Papadimitriou, F. Thevenet, P. Formenti, M. Rossi, M. N. Romanias, "Unraveling the Uptake of Glyoxal on a Diversity of Natural Dusts and Surrogates: Linking Dust Composition to Glyoxal Uptake and Estimation of Atmospheric Lifetimes", *accepted,* ACS Earth and Space Chemistry, **2024**
2. Al Ali, F., C. Cœur, N. Houzel, P. Genevray, F. Cazier, A. Cuisset, V. C. Papadimitriou, A. Tomas, M. N. Romanias, "Products and Yields for the NO_3 Radical Initiated Atmospheric Degradation of 2-Methylfuran (2-MF, CH_3-C_4H_3O)", *Atmos. Environ.*, **2024**, *319*, 120276
3. Angelaki, M. E., M. N. Romanias,* J. B. Burkholder, and V. C. Papadimitriou*, "Rate coefficients for the gas-phase OH + furan (C_4H_4O) reaction between 273 and 353 K", *Int. J. Chem. Kin.*, **2024,** *56*, 119–130
4. Van Hoomissen, D., V. C. Papadimitriou, and J. B. Burkholder, "Low Frequency (<500 cm-1) Contribution to Greenhouse Gas Radiative Efficiency", *Molecular Physics*, **2023**, *122* (7–8), DOI: 1080/00268976.2023.2273412
5. Karakousi, R., P. A. Tsami, M-A. I. Spanoudaki, S. J. Dalgarno, V. C. Papadimitriou,* and C. J. Milios,* "Blue-Emitting 2D- and 3D-Zinc Coordination Polymers Based on Schiff-Base Amino Acid Ligands.", *Chemistry*, **2023**, *5*, 1770-1780
6. Chattopadhyay, A., V. C. Papadimitriou and J. B. Burkholder, "OH reaction rate coefficients, infrared spectra, and climate metrics for (*E*)- and (*Z*)- 2-perfluoroheptene (2-C_7F_{14}) and 3-perfluoroheptene (3-C_7F_{14})", *Int. J. Chem. Kinet.* **2023**, *55*, 392–401
7. Michelat, L., A. Mellouki, A. R. Ravishankara, H. El Othmani, V. C. Papadimitriou, V. Daële, and M. R. McGillen, "Temperature-dependent structure-activity relationship of OH + haloalkene rate coefficients under atmospheric conditions and supporting measurements", *ACS Earth Space Chem.* **2022***, 6,* 3101−3114
8. Chattopadhyay, A., Y. Bedjanian, M. N. Romanias, A. D. Eleftheriou, V. S. Melissas, V. C. Papadimitriou,* and J. B. Burkholder,* "OH Radical and Chlorine Atom Kinetics of Substituted Aromatic Compounds: 4-chlorobenzotrifluoride (*p*-$ClC_6H_4CF_3$)", Invited Article in virtual special issue "Advances in Atmospheric Chemical and Physical Processes", *J. Phys. Chem. A*, **2022***, 126,* 5407–5419
9. Chattopadhyay, A., T. Gierczak, P. Marshall, V. C. Papadimitriou and J. B. Burkholder, "Kinetic fall-off behavior for the Cl + Furan-2,5-dione ($C_4H_2O_3$, maleic anhydride) reaction", *Phys. Chem. Chem. Phys.*, **2021**, *23*, 4901–4911
10. McGillen, M. R., V. C. Papadimitriou, S. Smith and J. B. Burkholder, "FC(O)C(O)F, $FC(O)CF_2C(O)F$, and $FC(O)CF_2CF_2C(O)F$: Ultraviolet and Infrared Absorption Spectra and 248 nm Photolysis Products", *J. Phys. Chem. A*, **2020**, *124*, 7123-7133
11. Chattopadhyay, A., V. C. Papadimitriou, P. Marshall and J.B. Burkholder, "Temperature-dependent rate coefficients for the gas-phase OH + furan-2,5-dione ($C_4H_2O_3$, maleic anhydride) reaction", *Int. J. Chem. Kinet.*, **2020**, *52*, 623-631
12. Bernard, F., D. K. Papanastasiou, R. W. Portmann, V. C. Papadimitriou, and J. B. Burkholder, "Atmospheric lifetimes and global warming potentials of 3 atmospherically persistent $N(C_xF_{2x+1})_3$, x = 2-4, perfluoroamines", *Chem. Phys. Lett.*, **2020**, *744*, 137089
13. Osseiran, N., M. N. Romanias,* V. Gaudion, M. E. Angelaki, V. C. Papadimitriou,* A. Tomas, P. Coddeville, F. Thevenet "Development and validation of a THermALly

regulated AtMOSpheric simulation chamber (THALAMOS). A versatile tool to simulate atmospheric processes.", *J. Environ. Sci.*, **2020**, *95*, 141 – 154.

14. Papadaki, D., G. H. Mhlongo, D. E. Motaung, S. S. Nkosi, K. Panagiotaki, E. Christaki, M. N. Assimakopoulos, V. C. Papadimitriou, F. Rosei, G. Kiriakidis and S. S. Ray, "Hierarchically Porous Cu-, Co-, and Mn-Doped Platelet-Like ZnO Nanostructures and Their Photocatalytic Performance for Indoor Air Quality Control", *ACS OMEGA*, **2019**, *4*, 16429 – 16440

15. Marshall, P., V. C. Papadimitriou, D. K. Papanastasiou, J. M. Roberts and J. B. Burkholder, "UV and Infrared absorption spectra and 248 nm photolysis of maleic anhydride", *J. Photochem. Photobio. A*, **2019,** *382***,** 111953

16. Baasandorj, M., V. C. Papadimitriou and J. B. Burkholder, "Rate Coefficients for the Gas-Phase Reaction of (E)- and (Z)-CF_3CF=$CFCF_3$ with the OH Radical and Cl-Atom", *J. Phys. Chem. A*, **2019,** *123***,** 5051–5060.

17. Bernard, F., D. K. Papanastasiou, V. C. Papadimitriou and J. B. Burkholder, "Infrared absorption spectra of $N(C_xF_{2x+1})_3$, x = 2-5 perfluoroamines", *J. Quant. Spectrosc. RA*, **2018**, *211*, 166–171

18. Bernard, F., D. K. Papanastasiou, V. C. Papadimitriou and J. B. Burkholder, "Infrared absorption spectra of linear (L_2-L_5) and cyclic (D_3-D_6) permethylsiloxanes", *J. Quant. Spectrosc. RA*, **2018**, *202*, 247–254

19. Bernard, F., D. K. Papanastasiou, V. C. Papadimitriou and J. B. Burkholder, "Temperature Dependent Rate Coefficients for the Gas-Phase Reaction of the OH Radical with Linear (L_2, L_3) and Cyclic (D_3, D_4) Permethylsiloxanes", *J. Phys. Chem. A*, **2017***, 122,* 4252-4264.

20. Papadimitriou, V. C., and J. B. Burkholder, "OH radical reaction rate coefficients, infrared spectrum, and global warming potential of (*E*)-$(CF_3)_2CFCH$=CHF (HFO-1438ezy(*E*))", *J. Phys. Chem. A*, **2016,** *120***,** 6618–6628.

21. Papadimitriou, V. C.,* C. S. Spitieri, M. Cazaunau, M. Lendar, V. Daële, A. Mellouki and P. Papagiannakopoulos, "Atmospheric chemistry of $(CF_3)_2C$=CH_2: OH, Cl and O_3 rate coefficients, IR Spectra, GWP and oxidation end-products analysis", *Phys. Chem. Chem. Phys.,* **2015**, *17*, 25607–25620

22. Romanias, M. N., P. Dagaut, Y. Bedjanian, A. Andrade-Eiroa, R. Shahla, E. Karafas, V. C. Papadimitriou and A. Spyros, "Investigation of the Photochemical Reactivity of Soot Particles Derived from Biofuels Towards NO_2. A Kinetic and Product Study." *J. Phys. Chem. A*, **2015**, *119*, 2006-2015

23. Papadimitriou, V. C., E. S. Karafas, T. Gierczak, and J. B. Burkholder, "Temperature and Pressure Dependence of the $CH_3CO + O_2 + M$ (M = He, N_2) Reaction Rate Coefficient", *J. Phys. Chem. A*, **2015**, *119*, 7481−7497

24. Romanias, M. N., V. C. Papadimitriou and P. Papagiannakopoulos, "The Interaction of Propionic and Butyric Acids with Ice and HNO_3-Doped Ice Surfaces at 195–212 K", *J. Phys. Chem. A*, **2014**, *118*, 11380–11387

25. Papadimitriou, V. C., M. R. McGillen, S. C. Smith, A. M. Jubb, R. Portmann, B. D. Hall, E. L. Fleming, C. H. Jackman and J. B. Burkholder, "1,2-dichlorohexafluoro-cyclobutane (1,2-c-$C_4F_6Cl_2$, R-316c) an Unforgettable Ozone Depleting Substance: Atmospheric Loss Processes, Lifetimes, and Ozone Depletion and Global Warming Potentials for the (*E*)- and (*Z*)- Isomers", *J. Phys. Chem. A*, **2013**, *117*, 11049−11065.

26. Papadimitriou, V. C., M. R. McGillen, E. L. Flemming, C. H. Jackman and J. B. Burkholder,"NF_3: UV absorption spectrum temperature dependence and the atmospheric and climate forcing implications", *Geophys. Res. Lett.*, **2013**, *40*, 440-445

27. Romanias, M. N., A.G. Zogka, V.C. Papadimitriou and P. Papagiannakopoulos, "Uptake Measurements of Acetic Acid on Ice and Nitric Acid-Doped Thin Ice Films over Upper Troposphere/Lower Stratosphere Temperatures", *J. Phys. Chem. A*, **2012,** *116*, 2198−2208

28. Papadimitriou, V. C., V. G. Stefanopoulos, M. N. Romanias, P. Papagiannakopoulos, K. Sampani, V. Tudose and G. Kiriakidis, "Determination of photo-catalytic activity of un-doped and Mn-doped TiO_2 anatase powders on acetaldehyde under UV and visible light", *Thin Solid Films*, **2011**, *520*, 1195 – 1201

29. Papadimitriou, V. C., Y. G. Lazarou, R. K. Talukdar and J. B. Burkholder, "Atmospheric Chemistry of $CF_3CF{=}CH_2$ and (Z)-$CF_3CF{=}CHF$: Cl and NO_3 Rate Coefficients, Cl Reaction Product Yields, and Thermochemical Calculations", *J. Phys. Chem. A*, **2011**, *115*, 167

30. Romanias, M. N., A. G. Zogka, V. G. Stefanopoulos, V. C. Papadimitriou, and P. Papagiannakopoulos, "Uptake Measurements of Formic Acid on Thin Ice Films and on Ice Doped with Nitric Acid between 195 and 211 K", *Chem. Phys. Chem.*, **2010**, *11*, 4042

31. Romanias, M. N., V. G. Stefanopoulos, D. K. Papanastasiou, V. C. Papadimitriou and P. Papagiannakopoulos, "Temperature-Dependent Rate Coefficients and Mechanism for the Gas-Phase Reaction of Chlorine Atoms with Acetone", *Int. J. Chem. Kinet.*, **2010,** *42*, 724

32. Baasandorj, M., G. Knight, V.C. Papadimitriou, R. K. Talukdar, A. R. Ravishankara and J. B. Burkholder, "Rate Coefficients for the Gas-Phase Reaction of the Hydroxyl Radical with CH_2=CHF and CH_2=CF_2", *J. Phys. Chem. A*, **2010**, *114*, 4619

33. Papanastasiou, D. K., V. C. Papadimitriou, D. W. Fahey and J. B. Burkholder, "UV Absorption Spectrum of the ClO Dimer (Cl_2O_2) between 200 and 420 nm", *J. Phys. Chem. A*, **2009,** *113*, 13711, (***Selected for Cover Art JPC Ai49, vol. 113, 10/12/2009***).

34. Papadimitriou, V. C., R. W. Portmann, D. W. Fahey, J. Mühle, R. F. Weiss, and J. B. Burkholder, "An Experimental and Theoretical Study of the Atmospheric Chemistry and Global Warming Potential of SO_2F_2", *J. Phys. Chem. A*, **2008**, *112*, 12657–12666

35. Stefanopoulos, V. G., V. C. Papadimitriou, Y. G. Lazarou, and P.Papagiannakopoulos, "Absolute Rate Coefficient Determination and Reaction Mechanism Investigation for the Reaction of Cl Atoms with CH_2I_2 and the Oxidation Mechanism of CH_2I Radicals", *J. Phys. Chem. A*, **2008**, *112*, 1526–1535

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37. Papadimitriou, V. C., D. K. Papanastasiou, V. G. Stefanopoulos, A. M. Zaras, Y. G. Lazarou and P. Papagiannakopoulos "Determination of the Kinetics and Mechanistic Investigation for the Reactions of Cl Atoms with $CF_3CH_2CH_2OH$, $CF_3CF_2CH_2OH$, $CHF_2CF_2CH_2OH$, and $CF_3CHFCF_2CH_2OH$", *J. Phys. Chem. A*, **2007**, *111*, 11608–11617

38. Kovács, G., T. Szász-Vadász, V. C. Papadimitriou, S. Dóbé, T. Bérces and F. Márta, "Absolute rate constants for the reactions of OH radicals with CH_3CH_2OH, CF_2HCH_2OH and CF_3CH_2OH", *React. Kinet. Catal. Lett.* **2005**, *87*, 129–138

39. Papadimitriou, V. C., K. G. Kambanis, Y. G. Lazarou and P. Papagiannakopoulos, "Kinetic Study for the Reactions of Several Hydrofluoroethers with Chlorine Atoms", *J. Phys. Chem. A*, **2004**, *108*, 2666–2674

40. Papadimitriou, V. C., A. V. Prosmitis, Y. G. Lazarou, and P. Papagiannakopoulos, "Absolute Reaction Rates of Chlorine Atoms with CF_3CH_2OH, CHF_2CH_2OH, and CH_2FCH_2OH", *J. Phys. Chem. A,* **2003**, *107*, 3733–3740

41. Lazarou, Y. G., V. C. Papadimitriou, A. V. Prosmitis and P. Papagiannakopoulos, "Thermochemical Properties for Small Halogenated Molecules Calculated by the Infinite Basis Extrapolation Method", *J. Phys. Chem. A,* **2002**, *106*, 11502–11517

42. Prosmitis, A., V. Papadimitriou, J. Pola, and P. Papagiannakopoulos, "Kinetic Study for the Reactions of Chlorine Atoms with Hexamethyldisiloxane, 1,1,3,3-Tetramethyldisiloxane, and 1,3-Dimethyldisiloxane", *Chem. Phys. Lett.*, **2001**, *344*, 241–248

43. Lazarou, Y. G., A. V. Prosmitis, V. C. Papadimitriou, and P. Papagiannakopoulos, "Theoretical Calculation of Bond Dissociation Energies and Enthalpies of Formation for Halogenated Molecules", J. *Phys. Chem. A*, **2001**, *105*, 6729–6742

44. Kupcik, J., Z. Bastl, J. Subrt, J. Pola, V. Papadimitriou, A. Prosmitis, and P. Papagiannakopoulos, "IR Laser-induced Decomposition of Hexamethyldisiloxane for Chemical Vapour Deposition of Nano-structured Hydro(methyl)silicone Powders", *J. Anal. App. Pyrolysis,* **2001,** *57*, 109–118

PARTICIPATION IN BOOK CHAPTERS:

1. World Meteorological Organization (WMO). Scientific Assessment of Ozone Depletion: 2022, GAW Report No. 278, 509 pp., "ANNEX: Lead Authors: James B. Burkholder and Øivind Hodnebrog, Contributors : Brian C. McDonald, Vladimir Orkin, Vassilis C. Papadimitriou, Daniel Van Hoomissen, "Summary of Abundances, Lifetimes, ODPs, REs, GWPs, and GTP s"; WMO: Geneva**, (2022**)

2. Kanakidou, M., Myriokefalitakis, S., Papadimitriou, V.C., Nenes, A. **(2022)**. Aerosol Impacts on Atmospheric and Precipitation Chemistry. In: Dulac, F., Sauvage, S., Hamonou, E. (eds) Atmospheric Chemistry in the Mediterranean Region. Springer, Cham. pp. 427 – 456, https://doi.org/10.1007/978-3-030-82385-6_21

3. V. C. Papadimitriou Book Chapters Translation into Greek (13 and 14), **(2022)**: Andrew Barrow, John Holman, Andrew Parsons, Gwen Pilling and Gareth Price, "Chemistry^3: Introducing Inorganic, Organic and Physical Chemistry", 3rd Ed., Oxford University Press, **2017**

Other Published Material:

1. Vassileios C. Papadimitriou and James B. Burkholder, **AtmoChem**: Android and IOS mobile application, "Kinetic and Photochemistry data for atmospheric chemistry", **2023** (Powered by OpenIT, *Web Page: https://atmochem.org/*)

Statistics:

Publications: **48** (***44*** *in peer-reviewed journals,* ***3*** *in book chapters and* ***1*** *mobile application*)

h-index: **17,** ***i10-index:*** **23,** ***Citations:*** **1024**

Awards: **2** (**Reviewer's Awards Recognition:** *Int. J. Chem. Kin.*, **2021**; *ACS Publications*, **2022**)

PARTICIPATION IN INTERNATIONAL CONFERENCES AND MEETINGS:

1. **Earth's Radiation Budget Science Meeting**, 6-8 November **2023**, Boulder, Colorado, USA.
   Papadimitriou, V. C. and Burkholder, J. B.

   Lightning Talk Title: ERB: Laboratory Studies

2. **1st Aristotle Conference on Chemistry (ACC2023)**, "Advances and Challenges in Chemistry", 12 -15 November **2023**, Thessaloniki, Greece.
   Spanoudaki, M–A, I., J. B. Burkholder and V. C. Papadimitriou

   Presentation Title: "Atmospheric Physical Chemistry of Climate Forcing Compounds"

3. **XVI Young Science Symposium**, 22-24 June **2022**, Castilla-La Mancha, Cuidad Real, Spain
   M–A. I. Spanoudaki, V. C. Papadimitriou, E. Jiménez

   Presentation Title: "Atmospheric chemistry of Hydrochlorofluoroolefins (HCFO): Why is it important?"

4. **11th International Aerosol Conference (IAC 2022)**, September **2022**, Athens, Greece.
   M. N. Romanias, A. Zogka, V. C. Papadimitriou, F. Thevenet and M. Rossi

   Presentation Title: Heterogeneous Interaction of Glyoxal with natural dusts and mineral surrogates.

5. **AGU Fall Meeting**, 13-17 December **2021**, New Orleans, LA, USA.
   T. Kucinski, V. C. Papadimitriou, M. N. Romanias and J. B. Burkholder

   Presentation Title: Radiative Properties of Calcium Carbonate; a Proposed Climate Intervention Material.

6. **AGU Fall Meeting**, 13-17 December **2021**, New Orleans, LA, USA.
   A. Chattopadhyay, V. C. Papadimitriou and J. B. Burkholder

   Presentation Title: Atmospheric Chemistry of Perfluoroheptenes (C_7F_{14}): Isomer-specific OH Reactivity, Radiative Property, and Atmospheric Degradation Mechanism.

7. **4th International Conference on Atmospheric Dust**, October **2021**, Monopoli, Italy.
   M. N. Romanias, A. Zogka, V. C. Papadimitriou, F. Thevenet and M. Rossi

   Presentation Title: Glyoxal uptake on various mineral surrogates. A Knudsen flow reactor study.

8. **22nd EGU General Assembly**, May **2020**, held online.
   M. E. Angelaki, M. N. Romanias and V. C. Papadimitriou

   Presentation Title: Atmospheric Degradation and Climate and Air-Quality Impact of Furan-based Biomass Burning Emission Products: A Kinetic and Mechanistic study.

9. **AGU Fall Meeting**, 9-13 December **2019**, San Francisco, CA, USA.
   Chattopadhyay, A., Papadimitriou, V., Gierczak, T., Marshall, P., Burkholder, J. B.

   Presentation Title (A42F-05): Atmospheric chemistry of maleic anhydride ($C_4H_2O_3$): OH radical and Cl atom reaction rate coefficients and degradation mechanism.

10. **Le Studium Conferences**, 28 June **2019**, Orleans, France, "Climate, air quality, and health: Long-term goals and short-term actions (*Participant*)"

11. **ICCK, 11th International Conference on Chemical Kinetics**, **2019**, Orleans, France.
N. Osseiran, M. N. Romanias, V. Gaudion, M. E. Angelaki, V. C. Papadimitriou, A. Tomas, F. Thevenet and P. Coddeville

Presentation Title: Development and Validation of a Teflon Thermal Regulated Atmospheric Simulation Chamber (THALAMOS). A Versatile Tool for the Study of Atmospheric Relevant Processes

12. **AGU Fall Meeting**, 14-18 December **2015**, San Francisco, CA, USA.
Papadimitriou, V. C. and Burkholder, J. B.

Presentation Title (A43G-0398): $(CF_3)_2CFCH=CHF$ (HFO-1438ezy): OH Radical Rate Coefficient, Infrared Spectrum Measurements and Estimated Global Warming Potentials and Photochemical Ozone Creation Potential.

13. **Transparent Conductive Materials 2014 (TCM 2014)**, 12-17 October **2014**, Platanias-Chania, Crete, Greece.
Papadimitriou, V. C.

Invited Speaker: "Photocatalytic degradation of air pollutants over synthesized metal-doped TiO_2 nanopowders: Kinetics, mechanism and end-products analysis."

14. **AGU Fall Meeting**, 09-13 December **2013**, San Francisco, CA, USA.
Papadimitriou, V. C., McGillen, M. R., Smith, S. C., Jubb, A. M., Portmann, R. W., Hall, B. D., Fleming, E. L., Jackman, C. H. and Burkholder, J. B.

Presentation Title: 1,2-dichlorohexafluoro-cyclobutane (1,2-c-$C_4F_6Cl_2$, R-316c) a Potent Ozone Depleting Substance and Greenhouse Gas: Atmospheric Loss Processes, Lifetimes, and Ozone Depletion and Global Warming Potentials for the (E)- and (Z)- Stereoisomers, **Abstract** A23F-0366

15. **22nd International Symposium on Gas Kinetics,** 18th - 22nd June **20012,** Boulder**,** Colorado, USA., **Chairman of Heterogeneous Chemical Processes Session**
a. V. G. Stefanopoulos, V. C. Papadimitriou and P. Papagiannakopoulos

Presentation Title: Atmospheric Chemistry of Allyl Halides: Temperature and Pressure Dependent Rate Coefficients for the Gas Phase Reactions of OH Radicals and Cl Atoms with X-$CH_2CH=CH_2$ (X: Cl, Br, I)

b. M. N. Romanias, V. C. Papadimitriou and P. Papagiannakopoulos

Presentation Title: Kinetics and Mechanism Investigation for Carboxylic Acids (R-C(O)OH, R: --CH_2CH_3, -$CH_2CH_2CH_3$) Uptakes on Pure and HNO_3-Doped Ice Surfaces under UT/LS Temperature Conditions.

16. **AGU Fall Meeting**, 14-18 December **2008**, San Francisco, CA, USA.
D. K. Papanastasiou, V. C. Papadimitriou and J. B. Burkholder
Presentation Title: Laboratory Study of the UV Absorption Spectrum of the ClO Dimer (Cl_2O_2), ***Eos Trans. AGU, 89*(53), Fall Meet. Suppl., Abstract** A21C-0190

17. **AGU Fall Meeting**, 10-14 December **2007**, San Francisco, CA, USA.
J. B. Burkholder, V. C. Papadimitriou, R. K. Talukdar, R. Portmann and A. R. Ravishankara

Presentation Title: $CF_3CF=CH_2$ and $CF_3CF=CHF$: Temperature Dependent OH Rate Coefficients and Global Warming Potentials, **Abstract** A43A-0875

18. **20th International Symposium on Gas Kinetics,** 20th - 25th July **2008,** Manchester**,** UK
Papadimitriou, V.C., Lazarou, Y. G., Talukdar, R. K. and Burkholder, J. B.

Presentation Title: Pressure Dependent Rate Coefficients for the Cl + $CF_3CF=CH_2$ and (Z)-$CF_3CF=CHF$ Reactions between 207 - 308 K

19. "***2nd Annual Meeting of Laboratory Activity of SCOUT Project***" **2006**, Jülich, Germany.
Stefanopoulos, V. G., V. C. Papadimitriou, Y. G. Lazarou, A. M. Zaras and P. Papagiannakopoulos

Presentation Title: Heterogeneous interactions of HNO_3, HO_2 and $CH_3C(O)CH_3$ with ice surfaces: An experimental and theoretical study

20. ***"18th Months Meeting of Laboratory Activity of SCOUT Project",*** Mainz, Germany, **2005**.
Papadimitriou V. C., Lazarou, Y.G., and P. Papagiannakopoulos

Presentation Title: a. Uptake experiments of HNO_3 on ice surfaces and b. Ab-initio calculations for HNO_3-$(H_2O)_n$ and HNO_3-$(H_2O)_n$ complexes, n=1-3".

21. "***1st Annual Meeting of Laboratory Activity of SCOUT Project***", Zürich, Switzerland, **2004**.
Papadimitriou V. C. and Papagiannakopoulos, P.

Presentation Talk Title: "Trace Gases Uptake to Ice"

22. "***18th International Symposium on Gas Kinetics***", University of Bristol, Bristol, UK, **2004**.
V. G. Stefanopoulos, V. C. Papadimitriou, Y. G. Lazarou and P. Papagiannakopoulos

Presentation Title: Absolute rate determination and mechanistic analysis for the reaction of Chlorine atoms with Di-Iodomethane

23. ***"International Quadrennial Ozone Symposium",*** Kos, Greece, June **2004**.
V. G. Stefanopoulos, V. C. Papadimitriou, Y. G. Lazarou and P. Papagiannakopoulos

Presentation Titles: a. Rate constant and reaction mechanism for the reaction of CH_2I_2 with Cl atoms and b. Kinetic and mechanistic investigation study for the reactions of Chlorine atoms with a series of Fluorinated Alcohols in the gas phase.

24. ***"EGS, AGU, EUG Joint Assembly: Atmospheric Sciences Session",*** Nice, France, **2003**.
V. G. Stefanopoulos, V. C. Papadimitriou, Y. G. Lazarou and P. Papagiannakopoulos

Presentation Titles: a. Tropospheric reactivity of fluorinated ethers and alcohols and b. Reaction rates and chemical mechanism for the reaction of Cl atoms with CH_2I_2

25. *"**17th International Symposium on Gas Kinetics***", University of Essen, Essen, Germany, August **2002**.
V. C. Papadimitriou, Y. G. Lazarou and P. Papagiannakopoulos

Presentation Title: Kinetics and theoretical studies for the reaction of Cl atoms with fluoroalcohols

26. ***"Third Nordic Symposium on Gas Kinetics and Atmospheric Chemistry",*** University of Copenhagen, Elsinor, Denmark, June **2002**.

V. C. Papadimitriou, Y. G. Lazarou and P. Papagiannakopoulos

Presentation Title: Impact of Alternative Fluorinated Alcohols and Ethers on the Environment

27. *"**Eurotrac2 Symposium 2002**",* Garmisch-Partenkirchen, Germany, March **2002**. V. C. Papadimitriou, Y. G. Lazarou and P. Papagiannakopoulos

    Presentation Title: "Impact of Alternative Fluorinated Alcohols and Ethers on the Environment - a Laboratory and Modelling Study"."***10th Scientific Conference of the International Association of Meteorology of Atmospheric Sciences (IAMAS) Commission for Atmospheric Chemistry and Global Pollution (CACGP) and 7th Scientific Conference of the International Global Atmospheric Chemistry Project (IGAC)***", Hersonnisos Heraklion, Greece, September **2002.**
    V. C. Papadimitriou, A. V. Prosmitis, Y. G. Lazarou and P. Papagiannakopoulos

    Presentation Title: The Contribution of Electronic Structure Calculations in the Modeling of Chemical Reactions in the Atmosphere

29. *"**The 8th European symposium on the physico-chemical behaviour of atmospheric pollutants**",* Torino, Italy, September **2001**.
    V. C. Papadimitriou, A. V. Prosmitis, Y. G. Lazarou and P. Papagiannakopoulos

    Presentation Titles s: a. Impact of Alternative Fluorinated Alcohols and Ethers on the Environment and b. Kinetic and Theoretical study for the Reactions of Cl Atoms with Fluoroalcohols

30. *"**First Nordic Symposium on Gas Kinetics**",* University of Copenhagen, Elsinor, Denmark, June **2000**.
    V. C. Papadimitriou, A. V. Prosmitis, Y. G. Lazarou and P. Papagiannakopoulos

    Presentation Title: Kinetic Studies for the Reactions of Chlorine Atoms with Hexamethyldisiloxane, 1,1,3,3-Tetramethyldisiloxane, and 1,3-Dimethyldisiloxane

31. "***16th International Symposium on Gas Kinetics***", University of Cambridge, Cambridge, UK, July **2000**.
    V. C. Papadimitriou, A. V. Prosmitis, Y. G. Lazarou and P. Papagiannakopoulos

    Presentation Title: Kinetics and mechanism for the reaction of D Atoms with Iodomethane and Chlorodomethane

32. "***Alternatives to Methylbromide for the Southern European Countries***", Agriculture Ministry of Greece & the European Commission DGXI, Heraklio, December **1999**.

33. "***Chemistry and Radiation Changes in the Ozone Layer***" University of Thessaloniki, Colibari, Chania, May **1999**.
    V. C. Papadimitriou (a), A. V. Prosmitis (b), Y. G. Lazarou and P. Papagiannakopoulos

    Presentation Titles: a. Kinetic Studies for the Reaction of CH_2ClI with D Atoms and b. Kinetic Studies for the Reaction of CH_3Br with D Atoms

EXTERNALLY FUNDED RESEARCH:

- European Union's Horizon 2020 research and innovation programme through the EUROCHAMP-2020 Infrastructure Activity under grant agreement No 730997, **2018 – 2022, (*2019*)**

  PI: Dr. Vassileios C. Papadimitriou, co-PIs: Dr. A. Mellouki and Prof. A. R. Ravishankara
  "Atmospheric Chemistry of $CHF_2CH=CF_2$: OH and NO_3 radicals, Cl-atoms and O_3 kinetics and Intermediate and end-oxidation products investigation"

- E. C. FP7 and Hellenic Ministry of Education co-Funding, ***2013-2015***

"Development of bioenergy and recycled wood products from forest residues and wood by-products",

- E. C. FP7 and Hellenic Ministry of Education co-Funding, ***2012-2015***
  "Impact of the atmospheric sea-deposition on the productivity of Mediterranean region",
- European Union FP7-Infrastructures, Grant agreement ID: 228335, **2009-2013**, (***2012***)
  "Atmospheric Chemistry of $(CF_3)_2=CH_2$: OH, Cl-atoms and O_3 kinetics"
- Cyprus Research Promotion Foundation, ***2009-2011***
  "The Role of N_2O_5 Heterogeneous Reactions with Marine Aerosols and Sahara Dust in Troposphere and Stratospheric Ozone"
- EU, DG Research, Sixth Framework Programme, Sustainable Development, Global Change and Ecosystems, ***2004-2009***
  "Stratospheric-Climate Links with Emphasis on the Upper Troposphere and Lower Stratosphere" (SCOUT-O3)
- Greek General Secretariat of Research and Technology, ***2005-2008***
  "Study of the Heterogeneous Reactions Role in Atmospheric Chemistry, based on Kinetic Data, Field Measurements and Modelling Calculations" (PENED2003)
- Cyprus Research Promotion Foundation, ***2005-2007***
  "Degradation of Anthropogenic and Biogenic Chemical Compounds in the Troposphere and Global Change"
- Greek General Secretariat of Research and Technology, ***2005-2006***
  "The Role of Heterogeneous Reactions in Atmospheric Chemistry and Climate" (PYTHAGORAS II)
- Greek General Secretariat of Research and Technology, ***2004-2006***
  "Degradation of Anthropogenic Chemical Substances in the Troposphere and Global Changes " (TROPOS)
- EU, DGXII, Fifth Framework Programme, Environment and Sustainable Development, ***2000-2003***
  "Impact of Alternative Fluorinated Alcohols and Ethers on the Environment- a Laboratory and Modelling Study"(IAFAEE)
- Greek General Secretariat of Research and Technology, ***1998-2001***

  "Development of Hydrogen Technologies in Greece"
- EU, DGXII, Fourth Framework Programme, Environment and Climate, ***1996-99***
  "Atmospheric processes for partially fluorinated ethers"

REFRENCES:

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