Curriculum Vitae: Maria-Areti Spanoudaki

PERSONAL:

Born: December 29th 1997, Iraklion, Crete, Greece

Marital Status: Single

Tel: +1 720 919 7432, +30 2810 5450 44, +30 6980 9648 24

Email: maria-areti.spanoudaki@noaa.gov, chemp1166@edu.chemistry.uoc.gr

EDUCATION:

2022- Today: PhD Candidate in Physical Chemistry, On-Going (4th Semester)

PhD Thesis (On-going): "Atmospheric Chemistry and Climate Change Impact of Hydrochlorofluorolefins (HCFO): Kinetic, Spectroscopic and Mechanistic Studies"

Postgraduate Course Program, Department of Chemistry, University of Crete, Greece

Co-Supervisors: Dr. Vassileios C. Papadimitriou and Prof. Maria Kanakidou

2019-2022: MSc Degree in Chemistry (9.50, Excellent), Direction: Physical Chemistry

Postgraduate Course Program, Department of Chemistry, University of Crete, Greece

M.Sc. Thesis: "Atmospheric Chemistry of a Series of Fluorinated Olefins, CHF=CFX (X: H, F): Kinetic, k(T, P), and Mechanistic Study of their reactions with OH radicals and Cl atoms."

Laboratory of Photochemistry and Chemical Kinetics (LAPKIN), Department of Chemistry, University of Crete, Greece

Co-Supervisors: Dr. Vassileios C. Papadimitriou, Prof. Demetrios Anglos

2015-2019: Diploma in Chemistry (8.24, *Very Good, Valedictorian-Highest in the Class-Year*) Department of Chemistry, University of Crete, Greece.

Thesis: "Study of Natural Terpene Resins with Surface Enhanced Raman Spectroscopy (SERS)" Laboratory of Applied Spectroscopy (IESL-ITE), Department of Chemistry, University of Crete, Greece

Supervisor: Prof. Demetrios Anglos

EXPERIENCE:

2024- Today: Visiting Research Scholar

National Oceanic and Atmospheric Administration/Chemical Science Laboratory (NOAA/CSL): Chemical Processes and Instrument Developement, (CPID) Cooperative Institute Research in Atmospheric Sciences (CIRES), University of Colorado

Address: NOAA–ESRL, Chemical Sciences Division, 325 Broadway, R/CSD5, Boulder, CO 80305 USA

INTERNSHIPS:

01/05/2022- 30/07/2022: Internship supported by the Erasmus+ program (3 months)

"Atmospheric Chemistry of Hydrochlorofluoroolefins"

Fotoair Group, Departamento de Química Física, Universidad de Castilla-La Mancha, Ciudad Real, Spain

Supervisor: Prof. Elena Jiménez

SCHOLARSHIPS:

2023: Awarded Scholarship for Distinguished Research Relevant to Environmental Sciences, Awarded via the Independent Power Transmission Operator, IPTO, University of Crete

2021: Awarded Scholarship for Best Performance on Auxiliary Teaching Staff during Laboratory of Physical Chemistry, undergraduate Course (Thermodynamics, Kinetics and Spectroscopy), Awarded via Special Account for Research Grants, SARG, University of Crete

LABORATORY EXPERIENCE AND EXPERIMENTAL TECHNIQUES:

Spectroscopic and Analytical Techniques: Pulsed Laser Photolysis/Resonance Fluorescence (*PLP/RF*), Pulsed Laser Photolysis/Laser Induced Fluorescence (*PLP/LIF*), Gas Phase UV-Vis Spectroscopy, Quadrupole Mass Spectrometry (*QMS*), Fourier Transformed-Infrared Spectroscopy (*FT-IR*), Raman Spectroscopy, Surface-Enhanced Raman Spectroscopy (*SERS*), Very Low Pressure Reactor Technique (VLPR), Vacuum Technology (Ultra-High, High and Low Vacuum Techniques), Laser Spectroscopy (Nd:YAG), Gas Handling (Flammable, Toxic, Corrosive Gases, etc.) and Gas Cylinders.

Training Experience in Undergraduate Laboratories:

UV-Vis Spectroscopy, Polarimetry, Atomic Emission Spectroscopy, Refractometry, Liquid and Gas Chromatography Paired with Mass Spectrometry, Electrochemistry, Infrared Absorption Spectroscopy and Scanning Electron Microscopy (SEM).

TEACHING EXPERIENCE:

Fall Semesters 2019-20, 2022-2023: Postgraduate Assistant in the Undergraduate Laboratories of **Physical Chemistry I** (Spectroscopy, Electrochemistry, Chemical Kinetics and Statistical Thermodynamics).

Spring Semesters 2019-20, 2020-2021 and 2022-2023: Postgraduate Assistant in the Undergraduate Laboratories of **Physical Chemistry II** (Thermodynamics and Kinetics).

VOLUNTARY TEACHING EXPERIENCE:

Fall Semester 2016-17: Undergraduate Assistant in the Undergraduate Laboratories of General Chemistry (Selected based on Perfomance)

Fall Semester 2018-19: Undergraduate Assistant in the Undergraduate Laboratories of Physical Chemistry I (Selected based on Perfomance)

RESEARCH INTERESTS:

Physical Chemistry of atmospheric processes linked with Air-Quality and Climate Change.

Photocatalytic efficiency of novel synthesized nano-composites, materials, photoinduced by natural UV- or Vis-light aiming to combat outdoor and indoor pollution

Application, design and development of modern spectroscopic techniques (Laser Spectroscopy, Absorption and Scattering Spectroscopy-UV-Vis, FT-IR, Raman), aimed to study

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Physicochemical Properties, Kinetics and Mechanisms for Reactions with Atmospheric interest.

Photochemistry, Optical Properties and Kinetics of fast gas-phase reactions with OH, Cl, NO_3 and O_3 radicals, related to anthropogenic emissions like fluorinated hydrocarbons, halogenated compounds and precursor compounds for the secondary formation of Volatile Organic Compounds (VOCs)

LANGUAGES:

English: Certificate of Proficiency-University of Michigan (2012)
Cambridge ESOL Level 2 Certificate (2011)
German: Goethe-Zertifikat B2 (2012)
State Certificate of Language Proficiency Level B2 (2011)

Spanish (On-going)

COMPUTER SKILLS:

Operating Systems: Microsoft Windows (XP, 7, 10), Linux (Fedora Enterprise, Suse Enterprise) **Programms and Applications:** Microsoft Office Suite (Word, Excel, Powerpoint), Wavemetrics Igor (6.x-9.x), OriginLab (Microcal Origin 8 – 18), ChemDraw, Web Browsers (Google Chrome, Firefox Mozilla, Internet Explorer, Microsoft Edge), E-mail Softwares (Firefox Thunderbird, Microsoft Outlook, Outlook Express), Literature Search Engines and Databases of Literature and Spectroscopic

Programming Languages: Python, Fortran, NI LabView

SCIENTIFIC PUBLICATIONS:

1. Karakousi, R.; Tsami, P.A.; Spanoudaki, M.-A.I.; Dalgarno, S.J.; Papadimitriou, V.C.; Milios, C.J. Blue-Emitting 2D- and 3D-Zinc Coordination Polymers Based on Schiff-Base Amino Acid Ligands. *Chemistry* **2023**, *5*, 1770-1780. https://doi.org/10.3390/chemistry5030121

2. Maria-Areti I. Spanoudaki, Ioannis-Aristeidis Flouris, Vassileios C. Papadimitriou, Evaggelos K. Andreou, Gerasimos S. Armatas, Constantinos C. Stoumpos, Manolis N. Romanias, Robert Portmann, Yungian Zhu, Theresa Kucinski, James B. Bukholder, "Atmospheric Radiative Properties of CaCO₃: Calcite and Aragonite Polymorphs", in preparation

3. Maria-Areti I. Spanoudaki, Georgia Antonopoulou, James B. Burkholder and Vassileios C. Papadimitriou, "Kinetic Fall-off behavior for the Gas-Phase Cl Atom Reaction with the Simplest Hydrofluoroolifins $CH_2=CHF$, $CH_2=CF2$, and $CHF=CF_2$.", in preparation.

4. Maria-Areti I. Spanoudaki, Maria E. Angelaki, James B. Burkholder and Vassileios C. Papadimitriou, "Atmospheric Chemistry of (E)- and (Z)-CHF=CHF: OH Radicals and Cl Atoms kinetics, k(T, P), IR spectra and End-Products.", in preparation.

5. Maria N. Polychronaki, Maria-Areti I. Spanoudaki, Maria Pigiaki, Anna Karagiannaki, Antigonos Theodorakis, Constantinos Xanthopulos, Dimitrios Chatzigiannis, Demetrios Anglos, Nikolaos Stratigakis, Vassileios C. Papadimitriou, "Organic Dyes Molecular Spectroscopy: Cross-validated Absorption Spectra Determination of Cyanine, Carbo-cyanine and Dicarbo-cyanine", J. Chem. Educ., in Preparation.

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CONFERENCES:

1. 1st Aristotle Conference on Chemistry (ACC2023), 13-15 November **2023**, Aristotle University of Thessaloniki, Thessaloniki, Greece

Presentation: <u>M.A. I. Spanoudaki</u>, J.B. Burkholder, V. C. Papadimitriou "Atmospheric Physical Chemistry of Climate Forcing Compounds"

2. XVI Young Science Symposium, 22-24 June **2022**, Universidad de Castilla-La Mancha, Cuidad Real, Spain

Presentation: <u>M.A. I. Spanoudaki</u>, V. C. Papadimitriou, E. Jiménez "Atmospheric chemistry of Hydrochlorofluoroolefins (HCFO): Why is it important?"

3. Physical Chemistry Online Seminar Cycle, 10 June **2022**, Universidad de Castilla-La Mancha, Cuidad Real, Spain

Presentation: <u>M.A. I. Spanoudaki</u> "Atmospheric Chemistry of a Series of Fluorinated Olefins, CHF=CFX (X: H, F): Kinetic, k(T, P), and Mechanistic Study of their reactions with OH radicals and Cl atoms."

4. 21st Conference of Postgraduate Chemistry Students, University of Crete, Iraklion, Crete (15-17 May 2019)

5. 20th Conference of Postgraduate Chemistry Students, University of Crete, Iraklion, (25-27 June 2018)

PERSONAL INTERESTS:

Classical Ballet: Level 4 Certificate in Vocational Graded Examination in Dance: Advanced I (Ballet)- Royal Academy of Dance (2014)

Modern Dance

RECOMMENDATION LETTERS (On Request):

Prof. Demetrios Anglos, Department of Chemistry, University of Crete, Foundation for Research and Technology (Institute of Electronic Structure and Laser) e-mail: anglos@uoc.gr and anglos@iesl.forth.gr tel.: +30 2810 5450 72

Dr. Vassileios C. Papadimitriou ¹Laboratory Teaching Staff, Department of Chemistry, University of Crete, Greece e-mail:<u>bpapadim@uoc.gr</u>, tel.: +30 2810 5450 93 ²Research Scientist II, Chemical Processes and Instrument Development (CPID), National Oceanic and Atmospheric Administration (NOAA/CIRES), Boulder, CO, USA e-mail: <u>Vassilis.Papadimitriou@noaa.gov</u>