

PARASKEVOPOULOU DESPINA

dparask@meteo.noa.gr

Nationality: Greek

EDUCATION

- 2011 – 2014 *PhD in Environmental Chemistry. University of Crete, Department of Chemistry. [Greece]*
- Thesis title: Correlation of chemical properties with optical and climatic parameters of particulate matter in the area of Athens.
- 2006 - 2008 *MSc in Polymer Chemistry & Technology. Aristotle University of Thessaloniki, Department of Chemistry. [Greece]*
- Dissertation title: Migration of styrene from plastic packaging based on polystyrene into food simulant
- 1999 - 2006 *Bachelor in Chemistry. Aristotle University of Thessaloniki, Department of Chemistry. [Greece]*
- Dissertation title: Oxidative stability of olive oil–lemon juice salad dressings stabilized with polysaccharides

PhD DESCRIPTION

The objective of my PhD was to define the chemical composition of particulate matter in the urban environment of Athens and to study the correlation between the chemical composition of aerosol and their chemical and optical properties, as well as their interaction with sun radiation. In summary, the objective of this study was the quantitative and qualitative characterization of the aerosol climatic role over the great Athens area, which is significantly burdened due to vicinity with major sources of local and transported particulate matter pollution. For this purpose, sampling of fine and coarse particulate matter was taking place using filter samplers on a 24 hour basis. After performing mass definition, the collected samples were analyzed for their chemical composition in major anions, cations, organic carbon, elemental carbon, water soluble organic carbon and trace elements. During sampling, the optical properties of particulate matter were recorded and meteorological data were controlled, in order to study the influence of meteorology on the concentration of aerosol. Finally, 4-days back trajectories were applied for the determination of the origin of the studied air masses.

RESEARCH EXPERIENCE

Publications

- 2015 1. D. Paraskevopoulou, Liakakou, E., Gerasopoulos, E., Mihalopoulos, N.: Sources of atmospheric aerosol from long-term measurements (5 years) of chemical composition in Athens, Greece, Science of The Total Environment, Volumes 527–528, 15 September 2015, Pages 165-178, ISSN 0048-9697, <http://dx.doi.org/10.1016/j.scitotenv.2015.04.022>.
- 2014 2. D. Paraskevopoulou, Liakakou, E., Gerasopoulos, E., Theodosi, C., Mihalopoulos, N., 2014. Long term characterization of organic and elemental carbon in the PM2.5 fraction: the case of

- Athens, Greece. *Atmos. Chem. Phys.*, 14, 13313–13325, 2014, doi:10.5194/acp-14-13313-2014.
- 2014 3. D. Paraskevopoulou, E. Liakakou, C. Theodosi, P. Zampas, E. Gerasopoulos, and N. Mihalopoulos “Chemical mass closure of atmospheric aerosol collected over Athens, Greece”, COMECAP2014, Abstracts and e-contributions, Vol. 3, p.56–60, ISBN: 978-960-524-430-9
- 2012 4. D. Paraskevopoulou, E. Gerasopoulos, E. Liakakou, M. Gratsea, P. Zampas, C. Theodosi, and N. Mihalopoulos “Optical properties of aerosols over Athens, Greece, and their relation with chemical composition”, *Springer Atmospheric Sciences, Advances in Meteorology, Climatology and Atmospheric Physics*, Vol. 2, p.1159–1164, doi: 10.1007/978-3-642-29172-2.
- 2011 5. D. Paraskevopoulou, D. S Achilias and A. Paraskevopoulou, Migration of styrene from plastic packaging based on polystyrene into food simulants, *Polymer International*, (first published online), Vol. 61, p.141–148, doi 10.1002/pi.3161.
- 2007 6. D. Paraskevopoulou, D. Boskou, A. Paraskevopoulou, Oxidative stability of olive oil–lemon juice salad dressings stabilized with polysaccharides, *Food Chemistry*, Vol. 101, p.1197–1204.

Publications in Progress

1. D. Paraskevopoulou, E. Liakakou, E. Gerasopoulos and N. Mihalopoulos “Correlation of chemical properties with optical and climatic parameters of particulate matter in the area of Athens.”, In preparation.

Conference presentations

- Poster 1. L. Fourtziou, D. Paraskevopoulou, E. Liakakou, J. Sciare, J.P. Putaud and N. Mihalopoulos. “Inorganic particulate matter and its gaseous precursors during wintertime in Athens: Indication for HONO emission from biomass burning”, *European Aerosol Conference 2015*, 6-11/9/2015, Milan, Italy.
- Oral 2. D. Paraskevopoulou, E. Liakakou, E. Gerasopoulos and N. Mihalopoulos. “Long-term aerosol optical properties over Athens, Greece, and their dependence on chemical composition”, *European Aerosol Conference 2015*, 6-11/9/2015, Milan, Italy.
- Poster 3. D. Paraskevopoulou, E. Liakakou, E. Gerasopoulos and N. Mihalopoulos. “Long-term measurements of aerosol optical parameters in Athens, Greece.” *European Geosciences Union General Assembly 2015*, 12-17/4/2015, Vienna, Austria
- Poster 4. D. Paraskevopoulou, E. Liakakou, C. Theodosi, E. Gerasopoulos and N. Mihalopoulos. “Sources of atmospheric aerosol from long term observations in Athens, Greece.” *13th IGAC Science Conference on Atmospheric Chemistry*, 22-26/9/2014, Natal, Brazil.
- Oral 5. D. Paraskevopoulou, E. Liakakou, C. Theodosi, P. Zampas, E. Gerasopoulos and N. Mihalopoulos. “Chemical mass closure of atmospheric aerosol collected over Athens, Greece”, *12th International Conference on Meteorology, Climatology and Atmospheric Physics. COMECAP 2014*, 28-31/05/2014, Heraklion, Greece.
- Poster 6. D. Paraskevopoulou, E. Liakakou, C. Theodosi, E. Gerasopoulos and N. Mihalopoulos. “Long-term measurement of aerosol chemical composition in Athens, Greece.” *European Geosciences Union General Assembly 2014*, 27/4-2/5/2014, Vienna, Austria.
- Poster 7. Tsiflikiotou M., Papanastasiou D., Zampas P., Paraskevopoulou D., Diapouli E., Kostenidou E., Kaltsonoudis C., Bougiatioti A., Theodosi C., Kouvarakis G., Liakakou E., Vassilatou V., Siakavaras D., Biskos G., Eleftheriadis K., Gerasopoulos E., Mihalopoulos N., and Pandis S. “Spatial distribution of summertime particulate matter and its composition in Greece”, *European Geosciences Union General Assembly 2014*, 27/4-2/5/2014, Vienna, Austria.
- Poster 8. Liakakou E., Stavroulas J., Roukounakis N., Paraskevopoulou D., Psiloglou V., Gerasopoulos E.,

- Mihalopoulos N. “Black carbon measurements during winter 2013-2014 in Athens and intercomparison between different techniques”, *European Geosciences Union General Assembly 2014*, 27/4-2/5/2014, Vienna, Austria.
- Oral 9. D. Paraskevopoulou, E. Liakakou, E. Gerasopoulos and N. Mihalopoulos. “Long-term variability of elemental and organic carbon in aerosols over Athens, Greece”, *European Aerosol Conference 2013*, 1-6/9/2013, Prague, Czech Republic.
- Poster 10. E. Liakakou, E. Gerasopoulos, D. Paraskevopoulou, P. Zarmas, C. Theodosi, N. Kalivitis, G. Maneas, N. Mihalopoulos, C. Zerefos. “Aerosol chemical composition at NEO (Eastern Mediterranean) during the ARGON 2012 summer campaign”, *European Aerosol Conference 2013*, 1-6/9/2013, Prague, Czech Republic.
- Poster 11. D. Paraskevopoulou, P. Zarmas, E. Liakakou, E. Gerasopoulos and N. Mihalopoulos. “Correlation of chemical properties with optical and climatic parameters of particulate matter in the area of Athens”, *Conference of Heracleitus II*, 4-5/12/2012, Iraklion, Greece.
- Oral 12. D. Paraskevopoulou, S. Kazadzis, N. Mihalopoulos, A. Arola, K. Eleftheriadis, C. Theodosi, A. Bougiatioti, E. Diapouli and E. Gerasopoulos “Evaluation of aerosol OC / BC estimations derived from AERONET data, using in-situ ground measurements.”, *European Aerosol Conference, 2012*, 2-7/9/2012, Granada, Spain.
- Oral 13. Paraskevopoulou D., Gerasopoulos E., Liakakou E., Gratsea M., Zarmas P., Theodosi C., Mihalopoulos N. “Optical properties of aerosols over Athens, Greece, and their relation with chemical composition”, *11th International Conference on Meteorology, Climatology and Atmospheric Physics. COMECAP 2012*, 30/05-01/06/2012, Athens, Greece.
- Poster 14. V. Amiridis, E. Marinou, S. Kazadzis, E. Gerasopoulos, R.E. Mamouri, P. Kokkalis, A. Papayannis, N. Kouremeti, E. Giannakaki, E. Liakakou, D. Paraskevopoulou, M. Gratsea, G. Kouvarakis, K. Allakhverdiev, F. Huseyinoglu, A. Secgin, D. Balis, A. Bais, N. Mihalopoulos, I.A. Daglis & C. Zerefos. “ACEMED experimental campaign over Greece for the evaluation of CALIPSO’s aerosol classification scheme”, *8th International Conference on Air Quality - Science and Application*, 19-23/3/2012, Athens, Greece.
- Poster 15. D. Paraskevopoulou, E. Liakakou, P. Zarmas, E. Gerasopoulos, and N. Mihalopoulos. “Four year monitoring of PM_{2.5} and PM₁₀ fractions of particulate matter and ionic composition in Athens, Greece”, *8th International Conference on Air Quality - Science and Application*, 19-23/3/2012, Athens, Greece.
- Poster 16. D. Paraskevopoulou, D. S Achilias and A. Paraskevopoulou, “Migration of styrene from plastic packaging material into food”, *3rd Environmental Conference of Macedonia*, 14-17/3/2008, Thessaloniki, Greece.
- Poster 17. A. Paraskevopoulou, V. Kiosseoglou, D. Paraskevopoulou, D. Boskou, “Traditional ‘greek-salad dressing’ (olive oil – lemon juice emulsion). Stabilization with food grade hydrocolloids”, *2nd International Conference on traditional Mediterranean Food: Past, Present and Future. MEDIET 2005*, 20-22/4/2005, Athens, Greece.
- Poster 18. A. Paraskevopoulou, D. Paraskevopoulou, D. Boskou, “Study of interfering action of polysaccharides on the oxidative stability of olive oil-lemon juice salad dressings. Impact of droplet size”, *8th Chemistry Conference of Greece-Cyprus: Chemistry, Quality of life and Education*, 10-13/12/2004, Thessaloniki, Greece.

Workshop presentations

- Oral 1. E. Gerasopoulos, D. Paraskevopoulou, E. Liakakou, N. Mihalopoulos “Five year measurements of organic and elemental carbon in Athens – Methodology for the calculation of particulate emissions from wood burning [winter 2012-2013]”, *Workshop on the Characterization of particulate matter over three cities in Greece*, organized by the program Thalys, 13 October 2013, Iraklion, Greece

- Oral 2. E. Gerasopoulos, E. Liakakou, D. Paraskevopoulou, P. Zampas, N. Kalivitis, G. Maneas, A. Voliotis, N. Mihalopoulos, C. Zerefos. “Merging of fine and coarse particulate matter at Navarino Environmental Observatory (NEO) and chemical composition”, ***Workshop on the Characterization of particulate matter over three cities in Greece***, organized by the program Thalis, 13 October 2013, Iraklion, Greece.

Grants-Fellowships

- 250.00euros 1. “Long-term variability of elemental and organic carbon in aerosols over Athens, Greece”, Registration fee waived, International Advisory Committee of European Aerosol Conference 2013, September **2013**.
- 200.00euros 2. “Evaluation of aerosol OC / BC estimations derived from AERONET data, using in-situ ground measurements”, International Advisory Committee of European Aerosol Conference, 2012, September **2012**.
- 350.00euros 3. “Four year monitoring of PM_{2.5} and PM₁₀ fractions of particulate matter and ionic composition in Athens, Greece”, Air Quality Conference Team, March **2012**.
- 36,000.00 euros 4. “Correlation of chemical properties with optical and climatic parameters of particulate matter in the area of Athens”, “Heracleitus II” Operational Program Education and Lifelong Learning, September **2010**.

Research interests

- Physical, optical and chemical properties of aerosols, in-situ measurements, climatic role of aerosols
- Analytical chemistry, Particulate and gas phase chemical composition
- Air Quality, Atmospheric Chemistry
- Field measurements
- Migration of monomers from polymeric food packaging materials into food simulants.
- Oxidative stability of food emulsions.

Research Positions-Professional Experience

- 2011 - today *Institute for Environmental Research & Sustainable Development of the National Observatory of Athens, Greece*
 Atmospheric Physics and Chemistry Group, Atmospheric Chemistry Laboratory
 (<http://apcg.meteo.noa.gr/>)
- Research interests: Atmospheric chemistry, aerosol pollution and air quality
- 2011 - 2014 *Department of Chemistry, University of Crete, Greece*
 Environmental Chemical Processes Laboratory (<http://ecpl.chemistry.uoc.gr/en/index.htm>)
- Research interests: Atmospheric chemistry, aerosol pollution and air quality
- 2009-2010 *FAMAR, Health Care Services. Greece*
 Regulatory Affairs Assistant, Quality Assurance Department (<http://www.famar.gr>)
- Interests: Preparation of Regulatory files, Analytical method Validation protocols and reports, Health Organizations’ documents, in accordance with EU regulations.

Professional experience

- Sampling of fine and coarse fractions of particulate matter through aerosol samplers equipped with filters.
- Experience with installation and maintenance of the applied atmospheric aerosol samplers and of light scattering laser photometers recording aerosol masses.
- Application of gravimetric techniques for the determination of aerosol masses collected on filters.
- Performing chemical analyses on atmospheric aerosol samples based on new and existing methodologies, operating analytical instrumentation such as IC, HPLC, GC/FID, AAS, Sunset Laboratory OC/EC Analyzer, TOC-V_{SCH} Analyzer.
- Handling of instruments recording aerosol optical properties including, PSAP and Nephelometer.
- Experience with installation and maintenance of PSAP and Nephelometer.
- Participation in the provision of accredited services within the activities of the Atmospheric Chemistry Laboratory, including the techniques of HPLC, AAS, GC/FID and sampling of particulate matter using filter samplers.
- Experience with a variety of chemistry instruments and techniques specifically used in research including FTIR, UV-Vis, DLS and DSC.
- Running the HYSPLIT (HYbrid Single-Particle Lagrangian Integrated Trajectory) model for computing simple air parcel trajectories, using the program of IDL to plot the acquired trajectories.
- Developing and establishing validation protocols for analytical testing methodology used to control raw materials, production intermediates, and final products, in accordance with EU Regulation.
- Writing technical reports to document analytical methods and transferring documented analytical methods to the QC department.
- Familiar with compliance requirements within cGMP, safety and regulatory environments.

Professional training

- Seminar on Ion chromatography, High Pressure Ion Chromatography and Capillary Chromatography. Thermo Fischer Scientific/Dionex, 11/10/2013, Athens, Greece.
- Training on developing validation protocols and reports for analytical methods, on cGMP and on Quality Assurance, based on the requirements of EU Regulation. FAMAR Health Care Services, 2009-2010, Athens, Greece.

Other research experience and cooperation

- Participation in the *campaign* organized within the framework of the program *Thalis*, including installation of equipment and sampling, chemical analyses, recording of chemical and optical properties of particulate matter in the city of Athens during **winter 2013**.
- Participation in a *campaign* including sampling, chemical analyses and recording of chemical and optical properties of aerosol organized within the framework of the programs *Thalis* and *Xenios* in the area of Penteli (Athens) and Messinia, respectively, during **summer 2012**.
- Participation in the *campaign* organized within the framework of the program *Heracleitus II*, including installation of equipment and sampling, chemical analyses, recording of chemical and

- optical properties of aerosol in the city of Athens (Penteli & Thissio) during *winter 2012*.
- Participation in a *campaign* organized within the framework of the program *LIFE* including installation of equipment and sampling, chemical analyses and recording of chemical and optical properties of aerosol in the area of Penteli and Thissio (Athens) during *summer 2011*.

LANGUAGES

English excellent (Proficiency Cambridge)

French excellent (Sorbonne 2)

Spanish excellent (Superior)