

► Kanakaki Chrysoula

Post-Doctoral Researcher at University of Athens

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Education

B.Sc. in Chemistry (2004-2010), University of Athens, Grade: 7.72/10

M.Sc. in Chemical Analysis & Quality Control (2010-2012), University of Athens, Grade 9.29/10

Ph.D. in Engineering Sciences & Technical Chemistry (2013-2018), Vienna University of Technology (TU Wien)

Post-Doctoral Research in Analytical Chemistry (2019-today), University of Athens

Employment History

- **2009-2010:** Trainee, Pesticide Residues Laboratory, *General Chemical State Laboratory of Greece*
- **2010-2011:** Chemist, *EBLOKO.GR SA*
- **2012-2015:** Project Assistant, *Institute of Chemical Technologies and Analytics* (TU Wien)
- **2015-2018:** Engineer & Project Leader (since 2017), Materials Technology, Pharma & Chromatography, *OFI Technologie & Innovation GmbH*

Research Topics

Undergraduate Thesis: "Determination of organophosphorus, organochlorine and pyrethroid pesticide residues in olive oil by gas chromatography with electron capture, nitrogen-phosphorus and flame photometric detectors", Pesticide Residues Laboratory, General Chemical State Laboratory of Greece (2010).

Master Thesis: "Determination of fluorinated benzoic acids used as tracers in petrochemical exploration studies", Institute of Chemical Technologies and Analytics, Faculty of Technical Chemistry, Vienna University of Technology, Austria (2011-2012).

Ph.D. Thesis: "Fast and potentially on-line gas chromatographic approaches for the analysis of volatile emissions from lithium-ion batteries", Institute of Chemical Technologies and Analytics, Faculty of Technical Chemistry, Vienna University of Technology, Austria (2013-2018).

Post-Doctoral Research: Next generation high-throughput target and non-target HRMS screening methodologies for the advanced and comprehensive monitoring of Intentionally & Non-Intentionally Added Substances in Food Contact Materials.

Research Interests

General research interests: Analytical Chemistry; Target, suspect and non-target screening approaches; Method Development & Method Validation; Gas Chromatography (GC) with different detectors (MS, FID, BID, ECD, FPD, NPD and AED); Vacuum Outlet (or Low-Pressure) GC; Comprehensive two-dimensional GC (GC x GC); High Resolution Mass Spectrometry (HRMS); Tandem Mass Spectrometry (MS/MS); Reversed Phase Liquid Chromatography (RP-LC) and Hydrophilic interaction chromatography (HILIC); Sample preparation & introduction techniques (e.g. LLE, SPE, SPME, SBSE, DHS, QuEChERS); Risk assessment; GLP & GMP; Food Chemistry; Environmental Chemistry

Projects:

2012–2014: **SiLithium**, Project No. 835790, Austrian Research Promotion Agency (FFG): Increasing the safety and efficiency of Si-Li ion cells for electromobility

2015-2018: **CoinSenses**, Project No. 4395880, Austrian Research Promotion Agency (FFG): Innovative VOC screening for toxicological and/or organoleptic relevant trace components in packaging materials.

Publications in journals

1. Steiner-Reischütz N., Pyerin M., **Kanakaki C.**, Neubert D., Washüttl M., Krainz M. "Evaluating the Impact of Sterilization on Gel Formulations" *Pharmaceutical Technology*, **2018**, 42, 40 - 46.
2. Rosenberg E., **Kanakaki C.**, Amon A., Gocheva I., Trifonova A. "Understanding the degradation processes of the electrolyte of lithium ion batteries by chromatographic analysis" *Bulgarian Chemical Communications*, **2017**, 49, Special Issue G, 242-253.
3. **Kanakaki C.**, Rosenberg E. "Fluorinated Benzoic Acids as Conservative Tracers for the Petrochemical Industry" *Chrom + Food Forum*, **2017**, 7, 30 - 32.
4. Yilmazcan Ö., **Kanakaki C.**, Izgi B., Rosenberg E. "Fast Gas Chromatographic-Mass Spectrometric Determination of Octinoxate and Oxybenzone UV Filters in Swimming Pool Waters after Solid Phase Microextraction" *Journal of Separation Science*, **2015**, 38, 2286-2297.
5. Rosenberg E., **Kanakaki C.** "The Vacuum Outlet GC-MS Technique: A Versatile Technique for Fast GC Separations" *Chrom + Food Forum*, **2015**, 2, 37 - 39.
6. Rosenberg E., **Kanakaki C.** "Lithium-Ionen-Batterien: Energiebündel nicht ohne Risiko" *Chrom + Food Forum*, **2015**, 1, 49 - 51.

Conference Presentations

1. **Kanakaki C.**, Osorio Piniella V., Steiner-Reischütz N., Pyerin M., Jaksa B., Leitner E., Innovative Screening Approaches for the Determination of Non-Intentionally Added Substances in Food Contact Materials, 32st International Symposium on Chromatography (ISC), 23-27 September, Cannes-Mandelieu, France, 2018 (poster presentation – Best Poster Award).
2. Rosenberg E., **Kanakaki C.**, Antoniadou M., Amon A., Kahr J., Qualitative and quantitative analysis of lithium ion battery electrolytes by different chromatographic methods, 11th Aegean Analytical Chemistry Days (AACD), 25-29 September, Crete, Greece, 2018 (oral presentation).
3. Rosenberg E., Antoniadou M., **Kanakaki C.**, Enhancing speed and throughput in gas chromatography, 24th International Symposium on Separation Sciences (ISSS), 17-20 June, Jasná, Slovakia, 2018 (oral presentation).
4. Antoniadou M., **Kanakaki C.**, Kahr J., Rosenberg E., Characterizing volatile organic degradation products from the electrolyte of lithium ion batteries by GC/MS and GC/MS-FTIR, 42nd International Symposium on Capillary Chromatography (ISCC), 30 May – 3 June, Riva del Garda, Italy, 2018 (oral & poster presentation).
5. **Kanakaki C.**, Steiner-Reischütz N., V. Osorio Piniella, Pyerin M., Innovative Screening for Non-Intentionally Added Substances in Food Contact Materials, 23rd International Symposium on Separation Science (ISSS), 19-22 September, Vienna, Austria, 2017 (oral presentation – Award for Best Oral Presentation from Young Scientist).
6. **Kanakaki C.**, Gocheva I., Trifonova A., Han J.-H., Rosenberg E., Fast and Potentially On-Line Gas Chromatographic Methods for the Monitoring of Volatile Emissions of Lithium Ion Batteries, 23rd International Symposium on Separation Science, 19-22 September, Vienna, Austria, 2017 (poster presentation).
7. **Kanakaki C.**, Steiner-Reischütz N., V. Osorio Piniella, Pyerin M., Innovative Screening for Non-Intentionally Added Substances in Food Contact Materials, 11th Balaton Symposium on High Performance Separation Methods, 6-8 September, Siófok, Hungary, 2017 (oral presentation).
8. **Kanakaki C.**, Steiner-Reischütz N., V. Osorio Piniella, Pyerin M., Innovative Screening for Non-Intentionally Added Substances in Food Contact Materials, 31st International Symposium on Chromatography, 28 August-1 September, Cork, Ireland, 2016 (poster presentation).
9. Rosenberg E., **Kanakaki C.**, Vacuum Outlet GC/MS: A Good Choice Only for Semi-Volatile Organic Compounds?, 40th International Symposium on Capillary Chromatography (ISCC), 30 May – 3 June, Riva

- del Garda, Italy, 2016 (oral presentation).
10. Rosenberg E., **Kanakaki C.**, Vacuum Outlet GC/MS: A Good Choice Only for Semi-Volatile Organic Compounds?, 14th International Symposium on Hyphenated Techniques in Chromatography (HTC), 27-29 January, Ghent, Belgium, 2016 (poster presentation).
 11. Rosenberg E., **Kanakaki C.**, Amon A., Trifonova A., Gocheva I., Lithium Ion Batteries: An Analytical Approach to Assess the Hazard Arising from the Degradation of Their Organic Electrolyte Under Conditions of Normal Use and Abuse, EuroAnalysis 2015, 6-10 September, Bordeaux, France, 2015 (oral presentation).
 12. Rosenberg E., **Kanakaki C.**, Yilmazcan Ö., A Closer Look to the Potential and Limitations of the Vacuum Outlet GC/MS Technique for the Analysis of Volatile Organic Compounds, EuroAnalysis 2015, 6-10 September, Bordeaux, France, 2015 (oral presentation).
 13. Rosenberg E., **Kanakaki C.**, Amon A., Trifonova A., Gocheva I., Characterization of the volatile degradation products of the organic electrolyte in Li-ion batteries under conditions of normal use and abuse, 21st International Symposium on Separation Science, 30 June - 03 July, Ljubljana, Slovenia, 2015 (oral presentation).
 14. **Kanakaki C.**, Yilmazcan Ö., Izgi B., Rosenberg E., Implementation of the Vacuum Outlet GC/MS Technique for the Analysis of UV Filters, 9th Aegean Analytical Chemistry Days (AACD), September 29 - October 3, Chios, Greece, 2014 (oral presentation).
 15. **Kanakaki C.**, Trifonova A., Han J.-H., Rosenberg E., The Vacuum Outlet GC/MS Technique for the Analysis of Highly Volatile Compounds: When Theory meets Practice, 13th International Symposium on Chromatography, September 14-18, Salzburg, Austria, 2014 (poster presentation).
 16. **Kanakaki C.**, Trifonova A., Han J.-H., Rosenberg E., Implementation of the Vacuum Outlet GC/MS Technique for the Analysis of Highly Volatile Compounds, 10. ASAC JunganalytikerInnen Forum 13th, June 13-14, Tulln, Austria, 2014 (oral presentation).
 17. **Kanakaki C.**, Rosenberg E., A detailed Investigation of the Relevance of Operating Parameters in the Vacuum Outlet GC/MS Technique, 38th International Symposium on Capillary Chromatography, May 18-23, Riva del Garda, Italy, 2014 (oral presentation).
 18. **Kanakaki C.**, Trifonova A., Han J.-H., Rosenberg E., Implementation of the Vacuum Outlet GC/MS Technique for the Analysis of Decomposition Products and Gases Emitted from Lithium-Ion Cells Under Extreme Conditions of Use, 13th International Symposium on Hyphenated Techniques in Chromatography and Separation Technology (HTC), January 29-31, Bruges, Belgium, 2013 (poster and oral presentation).
 19. **Kanakaki C.**, Trifonova A., Han J.-H., Rosenberg E., Gas Chromatographic/Mass Spectrometric Techniques Implemented for the Analysis of Decomposition Products and Gases Emitted from Lithium-Ion Cells Under Extreme Conditions of Use, 19th International Symposium on Separation Sciences, 25-28 September, Poréc, Croatia, 2013 (poster presentation).
 20. **Kanakaki C.**, Trifonova A., Han J.-H., Rosenberg E., Method Development for the Analysis of Gaseous Emissions from Lithium-Ion Cells Under Extreme Conditions, 9th International Students Conference "Modern Analytical Chemistry", 23-24 September, Prague, Czech Republic, 2013 (oral presentation).
 21. **Kanakaki C.**, Kadnar R., Rosenberg E., Implementation of Gas Chromatography/Mass Spectrometry and High Performance Liquid Chromatography/Mass Spectrometry for the Analysis of Fluorobenzoic Acid used as Organic Tracers in Petrochemical Exploration Studies, 8th International Conference on Instrumental Methods of Analysis Modern Trends and Applications (IMA), 15-19 September, Thessaloniki, Greece, 2013 (poster presentation).
 22. **Kanakaki C.**, Kadnar R., Rosenberg E., Determination of Fluorinated Benzoic Acid used as Organic Tracers for in Petrochemical Exploration Studies by Gas Chromatography/Mass Spectrometry, 9th Balaton Symposium on High Performance Separation Methods, 3-6 September, Siófok, Hungary, 2013 (poster presentation).
 23. **Kanakaki C.**, Kadnar R., Rosenberg E., Method Development for the Analysis of Fluorobenzoic Acid used as Organic Tracers for Reservoir Exploration Studies, 9. ASAC JunganalytikerInnen Forum, 21-22 June, Vienna, Austria, 2013 (oral presentation).
 24. **Kanakaki C.**, Kadnar R., Rosenberg E., Use of Fluorinated Benzoic Acids as Tracers in Petrochemical Exploration Studies, Topical Issues of Rational Use of Natural Resources, 25-27 April, St. Petersburg, Russia, 2012 (oral presentation).

Awards and Honors

1. Scholarship from the State Scholarships Foundation (IKY) for Post-Doctoral Research funded by the “Supporting Post-Doctoral Researchers” Act (2020-2021).
2. Award for Best Poster Presentation at the 32nd International Symposium on Chromatography (ISC), Cannes-Mandelieu, France, 2018.
3. Award for Best Oral Presentation from Young Scientist at the 23rd International Symposium on Separation Science (ISSS), Vienna, Austria, 2017.
4. Travel Grant by ASAC for the 13th International Symposium on Chromatography, Salzburg, Austria, 2014.
5. Travel Grant by Chromaleont for the 38th International Symposium on Capillary Chromatography, Riva del Garda, Italy, 2014.
6. Scholarship for MSc. studies, OMV Exploration & Production GmbH, 2012.
7. Erasmus Placement Scholarship, 2011.

Contact information

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