OLGA KALTSA

FOOD SCIENCE AND TECHNOLOGY RESEARCHER, Msc, Phd

Personal Information

Name: Olga Kaltsa

Residence: Almyros Volou

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EDUCATION

September 2010 –October 2015: Doctoral degree, Agricultural University of Athens, Department of Food Science & Technology, Doctoral Thesis title: *"Macro and mini / nano-emulsions using various emulsifiers and stabilizers and production of new flavors from fruit and plant extracts"*. Supervising Professor: Gianniotis Stavros.

March-July 2012: PhD guest, Wageningen University and Research Center, Laboratory of Food Physics, The Netherlands (properties of nanoemulsions using whey or low molecular weight proteins and high-pressure emulsification).

September 2006- May 2008: Master's degree, Agricultural University of Athens, Department of Food Science & Technology, Computer Applications in Food Engineering.

September 2001 - December 2005: Bachelor's Degree in food science & Technology, Agricultural University of Athens, Department of Science & Technology, Grade: 7.23.

September 1999- September 2001: Aristotle University of Thessaloniki-Department of Agriculture.

TEACHING EXPERIENCE

October 2021- today: UNIVERSITY OF THESSALY, Department of Food Science & Technology, Academic fellow, Instructor in "Introduction to Food Science and Technology".

Οκτώβριος 2016- Ιούνιος 2019: University of Thessaly, Department of Food Science & Technology / Technological Institute of Thessaly, Department of Food Technology, Academic fellow, Instructor in "Sensory Evaluation of Food"και "Research and Development of New products", "Food Engineering", and "Thermal Processing of Food".

Research Projects

- "Creation of biofunctional mineral waters with the addition of extracts of fruits, vegetables and Greek herbs, olive leaves, cannabis and Moringa oleifera, as well as from innovative extracts such as humic and fulvic acids produced with "green" extraction methods (Biofunctional-Water)" for SAMARINA Natural Mineral Water (MIS: 5074556; project code: 6623) (1/02/2021 until 28/04/2023). Postdoctoral Research Fellow from the Research Committee, University of Thessaly (Dept. of Food Science & Nutrition). Coordinator & Scientific director: Dr. Stavros Lalas, Professor.

- "Use of pulsed electric field to extract valuable components from plant material" for Dr. Vassilis Athanasiadis – Curriculum Vitae | October 2021 3 Korres S.A. Company (MIS: 5030455; project code: 5956) (16/11/2020 until 27/06/2021). Postdoctoral Research Fellow from the Research Committee, University of Thessaly (Dept. of Food Science & Nutrition). Coordinator & Scientific director: Dr. Stavros Lalas, Professor.

- "Creation of biofunctional chocolate products by adding, entrapped in microemulsions, extracts of aromatic and medicinal plants produced by innovative technology (deeply fusible solvents)" funded by the Operational Programme Competitiveness, Entrepreneurship and Innovation 2014-2020, RESEARCH - CREATE - INNOVATE (MIS 5030461), October 2018-December 2021.

- Nonastru *(Novel formulations and nano-structures for enhancing the bioavailability of a bioactive compound. The case of emulsions production (ακρωνύμιο Nonastru), Unilever Knorr SA, Synergasia 2011,* May 2014-July 2015.

- AGROSTART Project : "Increasing SMEs awareness of innovation and technology". CERTH (Center for Research & Technology Hellas) Coordinator & Scientific director: Dr Konstantinos Kittas, May –December 2014.

- Nonastru *(Novel formulations and nano-structures for enhancing the bioavailability of a bioactive compound. The case of emulsions production (ακρωνύμιο Nonastru), Unilever Knorr SA, Synergasia 2011-Agricultural University of Athens.* Coordinator & Scientific director: Dr Ioanna Mandala, May 2014-July 2014.

- "Development of manuals for organic & functional food", Aristotle University of Thessaloniki-Research Committee (January-December 2007).

Other Working Experience

- **October 2016- February 2017:** Δημόσιο ΙΕΚ Βόλου, Εκπαιδεύτρια (Τμήμα Διαιτολογίας - Διατροφής) στα μαθήματα Πρακτική Εφαρμογή στην Ειδικότητα και Τεχνικές Παρασκευής Διατροφής.

- **April - August 2016 & 2017: Geotexniki Magnisias**, Agriculture Consultant.

- **August 2009- December 2010:** Greek Ministry of Agriculture, Geoinformatics officer, GIS LPIS project.

- **September 2008- June 2009:** Greek Ministry of Agriculture, ELGA, agricultural insurance officer.

- **July 2008- September 2009:** Coca-Cola HCB, Quality Control, SAP Project.

- **July - September 2007:** Puratos, Athens, Greece, RnD Department, Intern.

- **July-September 2004:** Sarantopoulos Flour Mills, Athens, Greece, Quality Control.

Languages: English (C1 ΚΠΓ, Cambridge First Certificate grade B).

Papers in peer reviewed Journals:

1. **O. Kaltsa**, S. Grigorakis, A. Lakka, E. Bozinou, S. Lalas, and D.P. Makris. (2020). *Green valorization of olive leaves for the production of polyphenol-enriched extracts using an environmentally benign deep eutectic solvent.* Agriengineering (Manuscript ID: agriengineering-761662).

2. **O. Kaltsa,** A. Lakka, S. Grigorakis, I. Karageorgou, G. Batra, E. Bozinou, S. Lalas, and D.P Makris. (2020). *A Green Extraction Process for Polyphenols from Elderberry (Sambucus nigra) Flowers Using Deep Eutectic Solvent and Ultrasound-Assisted Pretreatment.* Molecules 25(4), 921. doi:10.3390/molecules25040921.

3. A. Lakka, S. Grigorakis, **O. Kaltsa**, I. Karageorgou, G. Batra, E. Bozinou, S. Lalas, and D.P. Makris. (2020). *The Effect of Ultrasonication Pretreatment on the Production of Polyphenol-Enriched Extracts from Moringa oleifera L.(Drumstick Tree) Using a Novel Bio-Based Deep Eutectic Solvent.* Applied Sciences 10 (1), 220. doi: 10.3390/app10010220.

4. A. Lakka, S. Grigorakis, I. Karageorgou, G. Batra, **O. Kaltsa**, E. Bozinou, S. Lalas, and D.P. Makris. 2019. *Saffron processing wastes as a bioresource of high-value added compounds: Development of a green extraction process for polyphenol recovery using a natural deep eutectic solvent.* Antioxidants 8(12), 586. doi: 10.3390/antiox8120586.

5. A. Lakka, I. Karageorgou, **O. Kaltsa**, G. Batra, E. Bozinou, S. Lalas and D.P. Makris. (2019). *Polyphenol extraction from Humulus lupulus (hop) using neoteric glyceril/alanine eutectic solvent: optimization, kinetics and the effect of ultrasound assisted pretreatment.* Agriengineering, 1(3),403-417. doi:10.3390/agriengineering1030030.

6. **O. Kaltsa** S.Yanniotis, M. Polissiou & I.Mandala. (2018). *Stability, physical properties and acceptance of salad dressings containing saffron (Crocus sativus) or pomegranate juice powder as affected by high shear (HS) and ultrasonication (US) process. LWT, 97, 404-413.* https://doi.org/10.1016/j.lwt.2018.07.015

7. **O. Kaltsa,** Neolea Spiliopoulou, Stavros Yanniotis, Ioanna Mandala. (2016). *Stability and physical properties of model macro- and nano/submicron emulsions containing fenugreek gum, Food Hydrocolloids, 61, 625-632.* https://doi.org/10.1016/j.foodhyd.2016.06.025

8. **Kaltsa, O.,**Yanniotis, S., and Mandala, I. (2016). Stability properties of differentfenugreek galactomannans in method. *Food Hydrocolloids*, 52, 487–496. https://doi.org/10.1016/j.foodhyd.2015.07.024

9. **Kaltsa, O.,** Paximada, P., Mandala, I., & Scholten, E. Physical characteristics of submicron emulsions upon partial displacement of whey protein by a small molecular weight surfactant and pectin addition. 2014. https://doi.org/10.1016/j.foodres.2014.10.005

10. Katsoulas, N., **Kaltsa, O.**, Rigakis, N. and Kitta, E. (2017). *Effect of screenhouse cover optical properties on sweet pepper fruit quality.* Acta Hortic. 1170, 1071-1076 DOI: 10.17660/ActaHortic.2017.1170.138.

11. **O. Kaltsa,** I. Gatsi, S. Yanniotis, I. Mandala. "Influence of ultrasonication parameters on physical characteristics of olive oil model emulsions containing xanthan". Food Research International, 2014. https://link.springer.com/article/10.1007/s11947-014-1266-1

12. **O. Kaltsa,** C. Michon, S. Yanniotis, I. Mandala. "Ultrasonic energy input influence on the production of sub-micron o/w emulsions containing whey protein and common stabilizers". Ultrasonics Sonochemistry, 2013.https://doi.org/10.1016/j.ultsonch.2012.11.011

13. **O. Kaltsa,** T. Georgopoulos, S. Yianniotis, I. Mandala. (2013). "Effect of enzyme blends and dough strengthening emulsifier on extending the self-life of sandwich bread by applying Response Surface Methodology". International Journal of Engineering and Technology, 3(4), 149-160.

Conferences:

Presentations

1. Lakka A., Karageorgou I., **Kaltsa O.**, Batra G., Alibante A., Lalas S., and Makris D.P. Recovery of antioxidant polyphenols from agro-industrial wastes with use of a neoteric deep eutectic solvent. 8ο Πανελλήνιο Συνέδριο GLF: Σύγχρονες Τάσεις στον Τομέα των Λιπιδίων, ΕΘΝΙΚΟ ΙΔΡΥΜΑ ΕΡΕΥΝΩΝ, Αθήνα, 2019.

2. **Kaltsa, O.** O/W sub-micron emulsions prepared with whey protein-Tween 20 combinations and layerby-layer pectin. International COST Conference, Action FA 1001, 2012, Lunteren, The Netherlands.

3. **O.Kaltsa,** C. Michon, S. Yanniotis, I. Mandala.The effect of different stabilizers on theproduction of submicron o/w emulsions by using ultrasound techniques. International Conference on Engineering and Food, 11th ICEF, 2011, Athens, Greece.

Posters

1. **O. Kaltsa,** N. Spiliopoulou, S. Yanniotis, I. Mandala. The effect of olive oil and fenugreek gum content on the stability and oxidation of o/w macro- and submicron-nano emulsions", ISEKI Food Conference, 2014, Athens.

2. **O. Kaltsa**, S. Yanniotis, I. Mandala. Comparing different commercial fenugreek galactomannans for the production of emulsions with high intensity ultrasonication : Effect on physical stability and rheological properties. 6th International Symposium on Food Rheology and Structure, 2012, Zurich, Switzerland.

3. **O. Kaltsa**, S. Yanniotis, I. Mandala. Influence of ultrasonication parameters and NaCl on thestability of olive oil model emulsions containing xanthan. 6th International Symposium on Food Rheology and Structure, 2012, Zurich, Switzerland.

Awards and scholarships:

- Heraclitus II EPEAEK Scholarship 2010 for Doctoral studies.
- State Foundation Scholarship (IKY) 2010 for Doctoral studies (2nd CYCLE).
- State Foundation Scholarship (IKY) 2006-2008 for Postgraduate studies in the field of Food Engineering.
- Ecotrophelia Greece 1st place award 2018 (SEVT) for the product Chestnicks (TEI Thessaly) which was developed within the laboratory of the course Research & Development of New Products (as a teaching Academic Fellow)
- Ecotrophelia Greece 3rd place award 2011 (SEVT) for the product Magic-Key.