

Ksenia Morozova, PhD

Teaching

- 2020 – 2021 Food Chemistry (6 CFU). 36 h of lectures, 48 h of laboratory activities.
2019 – 2020 Food Chemistry (6 CFU). 48 h of laboratory activities.
Reaction kinetics in food processing (8 CFU). 30 h of laboratory activities.
2018 – 2019 Reaction kinetics in food processing (8 CFU). 30 h of laboratory activities.
Supervision of Bachelor, Master and PhD students of the Free University of Bozen-Bolzano during the experimental part of the thesis in Food Technology (2014-2021).

Employment

**15/01/2017 –
present time**

Researcher

Free University of Bozen-Bolzano

Responsibilities:

- Management of the Food E-Sense laboratory
- Development of electrochemical methods for food analysis
- Application of Nuclear Magnetic Resonance (NMR) for food authenticity
- Measurement of volatile compounds of food samples by electronic noses (PEN3 and Proton Transfer Reaction Mass Spectrometry, PTR-MS)
- Analysis and characterization of food products by HPLC-DAD-MS (Q Exective Orbitrap) system
- Management of projects with industry partners and research institutions
- Supervision of Master, PhD students and postdoctoral researchers in the projects

Projects:

- Electronic tongue system for analysis of antioxidants in food
- Antioxidant capacity of extracts by flow injection coulometry
- Characterization of antioxidant compounds by HPLC-DAD-HRMS
- Stability studies of vitamins
- Shelf-life studies of food products in modified atmosphere

**09/2014 –
15/01/2017**

Postdoc Researcher

Free University of Bozen-Bolzano

Projects:

- Development of electrochemical sensor based on flow injection chronoamperometry for analysis of spiciness in chilli peppers.
- Determination of capsaicin by HPLC with dual electrochemical detection
- Determination of Bitterness of Extra Virgin Olive Oils by Amperometric Detection
- Oleuropein oxidation studied by HPLC-DAD-MS and HPLC coupled with CoulArray
- Stability study of vitamin A formulations by calorimetry
- Monitoring of grapes withering by microcalorimetry and Proton Transfer Reaction Mass Spectrometry (PTR-MS)
- Glyphosate effect on wine fermentation studied by microcalorimetry and high performance liquid chromatography
- Collaboration with TIS Innovation Park for performing experimental work dealing with the antioxidant activity of grape seed powders.

Responsibilities:

- Leading research projects
- Analysis by HPLC-DAD-MS (Q Exective Orbitrap) system
- Management of projects with other research institutions (University of Verona, Fondazione Edmund Mach)
- Food analysis with various analytical systems: SEM, TAM, NIR, FTIR, CPA etc.

- Participation in general management of reagents and materials

**10/2010 –
03/2014**

Research Assistant

Staatliche Lehr- und Versuchsanstalt für Wein und Obstbau, Weinsberg, Germany

- Planning and organization of laboratory and production experiments
- Laboratory analysis (HPLC, GC, AAS, ICP)
- Sensory evaluation of products (A not A tests, triangle tests, descriptive analysis, TDS)
- Advanced statistical analysis of analytical and sensory data with FIZZ and XLSTAT (ANOVA, MANOVA, PCR)
- Scientific publishing
- Communication of research results in oral (PPT presentations) and written form
- Consulting of industry partners, optimization of production processes

Education

2010 - 2014

PhD Project funded by DAAD

University Hohenheim, Faculty of Food Chemistry, Germany

State Institute for Viticulture, Oenology and Fruit Technology Weinsberg, Germany

2007 – 2009

M.Sc. «International Master Vintage: Vine, Wine and Terroir Management»

honored with Erasmus Mundus scholarship

Ecole supérieure d'Agriculture, France

University of Bologna, Italy

2002 – 2007

B.Sc. in Food Technology, with honours

Moscow State University of Food Production, Russian Federation

Languages

Native

Russian

Fluent

English (CAE, C1), German (C1), Italian (C1), French (TFI 810/900)

Academic and Related Achievements

H-index 8

PublicationsPublications in peer-reviewed journals

1. Imperiale, S., Morozova, K., Ferrentino, G., Alam, M. R., & Scampicchio, M. (2021). Fast Detection of 5-Hydroxymethylfurfural in Dulce de Leche by SPE-LC–MS. *Food Analytical Methods*, 1-9. (DOI: 10.1007/s12161-021-02093-2)
2. Ramezani, M., Ferrentino, G., Morozova, K., & Scampicchio, M. (2021). Multiple Light Scattering Measurements for Online Monitoring of Milk Fermentation. *Foods*, 10(7), 1582. (DOI: 10.3390/foods10071582)
3. Klettenhammer, S., Ferrentino, G., Zendeabad, H. S., Morozova, K., & Scampicchio, M. (2021). Microencapsulation of linseed oil enriched with carrot pomace extracts using Particles from Gas Saturated Solutions (PGSS) process. *Journal of Food Engineering*, 110746. (DOI: 10.1016/j.jfoodeng.2021.110746)
4. Haque, M. A., Morozova, K., Ferrentino, G., & Scampicchio, M. (2021). Electrochemical methods to evaluate the antioxidant activity and capacity of foods: A review. *Electroanalysis*, 33(6), 1419-1435. (DOI: 10.1002/elan.202060600)
5. Banasaz, S., Morozova, K., Ferrentino, G., & Scampicchio, M. (2021). The Effect of Microfluidization Pressure and Tocopherol Content on the Retention of Vitamin A in Oil-In-Water Emulsions. *Foods*, 10(3), 504. (DOI: 10.3390/foods10030504)
6. Asaduzzaman, M., Haque, M. A., Banasaz, S., Morozova, K., Ferrentino, G., & Scampicchio, M. (2021). Transient changes of volatile organic compounds (VOCs) during dulce de leche preparation by a direct injection mass spectrometer based on proton transfer reaction (PTR-MS). *International Journal of Food Science & Technology*. (DOI: 10.1111/ijfs.15138)
7. Angeli, L., Imperiale, S., Ding, Y., Scampicchio, M., & Morozova, K. (2021). A Novel Stoichio-Kinetic Model for the DPPH• Assay: The Importance of the Side Reaction and Application to Complex Mixtures. *Antioxidants*, 10(7), 1019. (DOI: 10.3390/antiox10071019)
8. Montalvo, J. E. O., Morozova, K., Ferrentino, G., Sucre, M. O. R., Buenfil, I. M. R., & Scampicchio, M. (2021). Effects of local environmental factors on the spiciness of habanero chili peppers (*Capsicum chinense* Jacq.) by coulometric electronic tongue. *European Food Research and Technology*, 247(1), 101-110. (DOI: 10.1007/s00217-020-03610-z)
9. Mosibo, O. K., Ferrentino, G., Alam, M. R., Morozova, K., & Scampicchio, M. (2020). Extrusion cooking of protein-based products: potentials and challenges. *Critical Reviews in Food Science and Nutrition*, 1-35. (DOI: 10.1080/10408398.2020.1854674)
10. Klettenhammer, S., Ferrentino, G., Morozova, K., & Scampicchio, M. (2020). Novel Technologies Based on Supercritical Fluids for the Encapsulation of Food Grade Bioactive Compounds. *Foods*, 9(10), 1395. (DOI: 10.3390/foods9101395)
11. Haque, M. A., Morozova, K., Lawrence, N., Ferrentino, G., & Scampicchio, M. (2021). Radical Scavenging Activity of Antioxidants by Cyclic Voltammetry. *Electroanalysis*, 33(1), 23-28. (DOI: 10.1002/elan.202060245)
12. Ferrentino, G., Haman, N., Morozova, K., Tonon, G., & Scampicchio, M. (2020). Phenolic compounds extracted from spruce (*Picea abies*) by supercritical carbon dioxide as antimicrobial agents against gram-positive bacteria assessed by isothermal calorimetry. *Journal of Thermal Analysis and Calorimetry*, 1-11. (DOI: 10.1007/s10973-020-10100-7)
13. Ferrentino, G., Giampiccolo, S., Morozova, K., Haman, N., Spilimbergo, S., & Scampicchio, M. (2020). Supercritical fluid extraction of oils from apple seeds: Process optimization, chemical characterization and comparison with a conventional solvent extraction. *Innovative Food Science & Emerging Technologies*, 64, 102428. (DOI: 10.1016/j.ifset.2020.102428)
14. Ding, Y., Morozova, K., Scampicchio, M., & Ferrentino, G. (2020). Non-Extractable Polyphenols from Food By-Products: Current Knowledge on Recovery, Characterisation, and Potential Applications. *Processes*, 8(8), 925. (DOI: 10.3390/pr8080925)
15. Banasaz, S., Morozova, K., Ferrentino, G., & Scampicchio, M. (2020). Encapsulation of lipid-soluble bioactives by nanoemulsions. *Molecules*, 25(17), 3966. (DOI: 10.3390/molecules25173966)
16. Ramezani, M., Ferrentino, G., Morozova, K., Kamrul, S. H., & Scampicchio, M. (2020). Clarification of apple juices with vegetable proteins monitored by multiple light scattering. *Journal of food science*, 85(2), 316-323. (DOI: 10.1111/1750-3841.14984)

17. Filannino, P., Tlais, A. Z., Morozova, K., Cavoški, I., Scampicchio, M., Gobbetti, M., & Di Cagno, R. (2020). Lactic acid fermentation enriches the profile of biogenic fatty acid derivatives of avocado fruit (*Persea americana* Mill.). *Food chemistry*, 317, 126384. (DOI: 10.1016/j.foodchem.2020.126384)
18. Ferrentino, G., Morozova, K., Horn, C., & Scampicchio, M. (2020). Extraction of essential oils from medicinal plants and their utilization as food antioxidants. *Current pharmaceutical design*, 26(5), 519-541. (DOI: 10.2174/1381612826666200121092018)
19. Haman, N., Morozova, K., Tonon, G., Scampicchio, M., & Ferrentino, G. (2019). Antimicrobial effect of *Picea abies* extracts on *E. coli* growth. *Molecules*, 24(22), 4053. (DOI: 10.3390/molecules24224053)
20. Bodner, M., Morozova, K., Kruathongsri, P., Thakeow, P., & Scampicchio, M. (2019). Effect of harvesting altitude, fermentation time and roasting degree on the aroma released by coffee powder monitored by proton transfer reaction mass spectrometry. *European Food Research and Technology*, 245(7), 1499-1506. (DOI: 10.1007/s00217-019-03281-5)
21. Morozova, K., Bulbarelo, A., Schaefer, C., Funda, E., Porta, F., Scampicchio, M. Novel isothermal calorimetry approach to monitor micronutrients stability in powder forms (2020) *LWT*, 117, art. no. 108594. (DOI: 10.1016/j.lwt.2019.108594)
22. Morozova, K., Armani, M., & Scampicchio, M. (2019) Isothermal calorimetry for monitoring of grape juice fermentation with yeasts immobilized on nylon-6 nanofibrous membranes. *Journal of Thermal Analysis and Calorimetry*, 1-8. (DOI: 10.1007/s10973-019-08370-x)
23. Morozova, K., Rodríguez-Buenfil, I., López-Domínguez, C., Ramírez-Sucre, M., Ballabio, D., & Scampicchio, M. (2019) Capsaicinoids in Chili Habanero by Flow Injection with Coulometric Array Detection. *Electroanalysis*. (DOI: 10.1002/elan.201800705)
24. Armani, M., Morozova, K., & Scampicchio, M. (2018). Immobilization of *Saccharomyces cerevisiae* on nylon-6 nanofibrous membranes for grape juice fermentation. *LWT*. (DOI: 10.1016/j.lwt.2018.05.006)
25. Longo, E., Morozova, K., Yener, S., Boselli, E., Biasioli, F., & Scampicchio, M. (2019). Direct flow injection profiling of acyl glycerols from food products using isopropanol as solvent. *Journal of Mass Spectrometry*. (DOI: 10.1002/jms.4346)
26. Ferrentino, G., Morozova, K., Mosibo, O. K., Ramezani, M., & Scampicchio, M. (2018). Biorecovery of antioxidants from apple pomace by supercritical fluid extraction. *Journal of Cleaner Production*, 186, 253-261. (DOI: 10.1016/j.jclepro.2018.03.165)
27. Kongwong, P., Morozova, K., Ferrentino, G., Poonlarp, P., & Scampicchio, M. (2018). Rapid Determination of the Antioxidant Capacity of Lettuce by an E-Tongue Based on Flow Injection Coulometry. *Electroanalysis*, 30(2), 230-237. (DOI: 10.1002/elan.201700354)
28. Merkyte, V., Morozova, K., Boselli, E., & Scampicchio, M. (2018). Fast and Simultaneous Determination of Antioxidant Activity, Total Phenols and Bitterness of Red Wines by a Multichannel Amperometric Electronic Tongue. *Electroanalysis*, 30(2), 314-319. (DOI: 10.1002/elan.201700652)
29. Dejmokova, H., Morozova, K., & Scampicchio, M. (2018). Estimation of Scoville index of hot chili peppers using flow injection analysis with electrochemical detection. *Journal of Electroanalytical Chemistry*, 821, 82-86. (DOI: 10.1016/j.jelechem.2018.01.056)
30. Longo, E., Morozova, K., Loizzo, M.R., Tundis, R., Savini, S., Foligni, R., Mozzon, M., Martin-Vertedor, D., Scampicchio, M. and Boselli, E. (2017). High resolution mass approach to characterize refrigerated black truffles stored under different storage atmospheres. *Food research international*, 102, 526-535. (DOI: 10.1016/j.foodres.2017.09.025)
31. Hasan, S. K., Asaduzzaman, M., Merkyte, V., Morozova, K., & Scampicchio, M. (2018). Simultaneous Kinetic and Thermodynamic-Based Assay to Determine the Hydrogen Peroxide (H₂O₂) Scavenging Activity of Berry Extracts by Using Reaction Calorimetry. *Food analytical methods*, 11(2), 432-439. (DOI: 10.1007/s12161-017-1014-z)
32. Savini, S., Loizzo, M.R., Tundis, R., Mozzon, M., Foligni, R., Longo, E., Morozova, K., Scampicchio, M., Martin-Vertedor, D. and Boselli, E., (2017). Fresh refrigerated *Tuber melanosporum* truffle: effect of the storage conditions on the antioxidant profile, antioxidant activity and volatile profile. *European Food Research and Technology*, 1-9. (DOI: 10.1007/s00217-017-2927-x)

33. Ferrentino, G., Ramezani, M., Morozova, K., Hafner, D., Pedri, U., Pixner, K., & Scampicchio, M. (2017). Fining of red wine monitored by multiple light scattering. *Journal of Agricultural and Food Chemistry*. (DOI: 10.1021/acs.jafc.7b01463)
34. Longo, E., Morozova, K., Scampicchio, M. (2017) "Effect of light irradiation on the antioxidant stability of oleuropein." *Food Chemistry*. (DOI: 10.1016/j.foodchem.2017.05.099)
35. Hasan, S. K., Manzocco, L., Morozova, K., Nicoli, M. C., Scampicchio, M. (2017), "Effects of Ascorbic Acid and Light on Reactions in Fresh-Cut Apples by Microcalorimetry", *Thermochimica Acta* (DOI: 10.1016/j.tca.2017.01.008)
36. Morozova, K., Andreotti, K., Armani, M., Cavani, L., Cesco, S., Cortese, L., Gerbi, V., Mimmo, T., Russo Spena, P., Scampicchio, M. (2016), "Indirect effect of glyphosate on wine fermentation studied by microcalorimetry", *Journal of Thermal Analysis and Calorimetry* (DOI:10.1007/s10973-016-5891-y)
37. Morozova, K., Aprea, E., Cantini, C., Migliorini, M., Gasperi, F., Scampicchio, M. (2016). "Determination of Bitterness of Extra Virgin Olive Oils by Amperometric Detection", *Electroanalysis* (DOI: 10.1002/elan.201600067)
38. Morozova, K., Romano, A., Lonardi, F., Ferrarini, R., Biasioli, F., & Scampicchio, M. (2016). "Microcalorimetric monitoring of grape withering", *Thermochimica Acta*, 630, 31-36 (DOI:10.1016/j.tca.2016.01.011).
39. Morozova, K., Schmidt O., Schwack W. (2015) "Effect of headspace volume, ascorbic acid and sulphur dioxide on oxidative status and sensory profile of Riesling wine." *European Food Research and Technology*, 240.1: 205-221. (DOI: 10.1007/s00217-014-2321-x)
40. Morozova, K., Schmidt, O., Schwack, W. (2014). „Impact of headspace oxygen and copper and iron addition on oxygen consumption rate, sulphur dioxide loss, colour and sensory properties of Riesling wine." *European Food Research and Technology*, 238(4), 653-663 (DOI: 10.1007/s00217-013-2142-3).
41. Morozova, K., Just, M., Schmidt, O., Schwack, W. (2013), „Effect of Iron and Copper on Oxidation Processes in Model Solution and Wine", *Mitteilungen Klosterneuburg*, 63: 79-95
42. Morozova, K., Schmidt, O. (2012) "Comparison of Methods for O₂ and CO₂ Measurement in Wine" *Mitteilungen Klosterneuburg*, 62: 97-110

Book chapters

- Morozova, K., Scampicchio, M. (2020). 'Métodos electroquímicos para la detección de capsaicinoides en chile habanero'. Rodríguez Buenfil, I. M., Ramirez Sucre, M. O., & Ramirez Rivera, E. D. J. *Metabólica y Cultivo del Chile Habanero (Capsicum Chinense Jacq) de la Península de Yucatán*.
- Morozova, K., Scampicchio, M. (2019). 'Elektronische Nase und Zunge', in (ed.) *Angewandte instrumentelle Lebensmittelanalytik*, Behr's Verlag, pp. 687-701.

Journal papers in professional journals

- Morozova, K., Scampicchio, M. „Geschmack und Geruch messen“, *Südtiroler Landwirt*, 19, 2019.
- Lassak, F., Morozova, K., Schmidt, O. „Abfüllung zweipunktuell“, *Das Deutsche Weinmagazin*, 2, 2014 24-29
- Morozova, K., Schmidt, O. "Bestimmung gelöster Gase im Wein", *der Winzer*, 1, 2013
- Morozova, K., Schmidt, O. "Gelöste Gase im Wein", *Rebe & Wein*, 12, 2012
- Morozova, K., Schmidt, O. „Dosis facit venenum - Bedeutung von Sauerstoff in der Weinbereitung“, *Das Deutsche Weinmagazin*, 4, 2011 18-24

Presentations

Participation in scientific conferences:

- 24/04/2013 *Intervitis, Stuttgart: „Methodenvergleich zur O₂- und CO₂-Bestimmung im Wein“*
- 25-26/02/2014, 61. *Anwendertreffen Weinanalytik, Veitshöhheim: „Messung von Sauerstoff im Weinbetrieb“*, oral presentation
- 28-31/05/2015, *Mykonos, poster presentation at Food & Biosystems Engineering FABE 2015 scientific conference*,
- 14-17/07/2015, *Trento, poster presentation at In Vino Analytica Scientia Symposium IVAS 2015 scientific conference*
- 6-9/06/2017, *Budapest, oral presentation in JTAC conference*
- 3-7/06/2018 *ESEAC 2018, poster presentation*

- 27/05/2019 7th MS-J-Day, poster presentation
- 9/07/2020 8th MS-J-Day, plenary lecture
- 24/06/2021 9th MS-J-Day, oral presentation
- 27/07/2021 4th Webinar on Agriculture, Food & Aqua, keynote speaker