

**Dr. Figen TOKATLI**

Izmir Institute of Technology  
Department of Food Engineering  
Urla, Izmir, TURKEY, TR35430

**Ph.D.**, Chemical Engineering, Illinois Institute of Technology (IIT), Chicago, Illinois, USA

**M.S.**, Food Engineering, Middle East Technical University (METU), Ankara, Turkey.

**B.S.**, Food Engineering, Middle East Technical University (METU), Ankara, Turkey.

<b>Professor</b> Department of Food Engineering Izmir Institute of Technology, Izmir, Turkey	2014-
<b>Associate Professor</b> Department of Food Engineering Izmir Institute of Technology, Izmir, Turkey	2008-2014
<b>Assistant Professor</b> Department of Food Engineering Izmir Institute of Technology, Izmir, Turkey	2000-2008

<https://orcid.org/0000-0003-2643-5523>

[https://www.researchgate.net/profile/Figen\\_Tokatli](https://www.researchgate.net/profile/Figen_Tokatli)

**RESEARCH INTERESTS**

Statistical process monitoring and quality control techniques for the improvement of productivity and quality; Multivariate data analysis; Design of experiments in process improvement and media optimisation; Olive oil; Wine characterization.

**JOURNAL ARTICLES**

1. Uncu O., Ozen B., Tokatli F, 2019. Mid-infrared spectroscopic detection of sunflower oil adulteration with safflower oil. *Grasas Aceites*, 70(1): 290. DOI:10.3989/gya.0579181.
2. Jolayemi OS, Tokatli F, Buratti S, Alamprese C, 2017. Discriminative capacities of infrared spectroscopy and e-nose on Turkish olive oils. *European Food Research and Technology*. 243(11): 2035-2042. DOI 10.1007/s00217-017-2909-z
3. Sen I, Ozturk B, Tokatli F, Ozen B, 2016. Combination of visible and mid-infrared spectra for the prediction of chemical parameters of wines. *Talanta*, 161, 130-137. DOI: 10.1016/j.talanta.2016.08.057
4. Jolayemi, OS, Tokatli, F, Ozen, B, 2016. Effects of malaxation temperature and harvest time on the chemical characteristics of olive oils. *Food Chemistry*, 211, 776-783. DOI: 10.1016/j.foodchem.2016.05.134
5. Sen I, Tokatli F, 2016. Differentiation of wines with the use of combined data of UV-visible spectra and color characteristics. *Journal of Food Composition and Analysis*, 45: 101-107.
6. Sen I, Tokatli F, 2014. Authenticity of wines made with economically important grape varieties grown in Anatolia by their phenolic profiles. *Food Control*, 46: 446-454.
7. Aktas AB, Ozen B, Tokatli F, 2014. Comparison of chemical parameters of a naturally debittered olive (*Olea europaea* L.) type with regular olive varieties. *Food Chemistry*, 161: 104-111.

8. Sen I, Tokatli F, 2014. Characterization and Classification of Turkish Wines Based on Elemental Composition. *American Journal of Enology and Viticulture*, 65 (1): 134-142.
9. Aktas AB, Ozen B, Tokatli F, Sen I, 2014. Phenolic profiles of a naturally debittering olive in comparison to regular olive varieties. *Journal of Science of Food and Agriculture*, 94: 691-698.
10. Alkan D, Tokatli F, Ozen B, 2012. Phenolic characterization and geographical classification of commercial extra virgin olive oils produced in Turkey. *Journal of American Oil Chemists' Society*, 89:261-268.
11. Kadiroglu P, Korel F, Tokatli F, 2011. Classification of Turkish extra virgin olive oils by a SAW detector Electronic Nose. *Journal of American Oil Chemists' Society*, 88:639-645.
12. Karaosmanoglu H, Soyer F, Ozen B, Tokatli F. 2010. Antimicrobial and antioxidant activities of Turkish extra virgin olive oils. *Journal of Agricultural and Food Chemistry*, 58: 8238-8245.
13. Gurdeniz G, Ozen B, Tokatli F, 2010. Comparison of fatty acid profiles and mid-infrared spectral data for classification of olive oils. *European Journal of Lipid Science and Technology*, 112: 218-226.
14. Tokatli F, Tari C, Unluturk MS, Baysal N, 2009. Modeling of polygalacturonase enzyme activity and biomass production by *Aspergillus sojae* ATCC 20235. *Journal of Industrial Microbiology and Biotechnology*, 36:1139-1148.
15. Ocakoglu D, Tokatli F, Ozen B, Korel F, 2009. Distribution of simple phenols, phenolic acids and flavonoids in Turkish monovarietal extra virgin olive oils for two harvest years. *Food Chemistry*, 113:401-410.
16. Gurdeniz G, Ozen B, Tokatli F, 2008. Classification of Turkish olive oils with respect to cultivar, geographic origin and harvest year using fatty acid profile and mid-IR spectroscopy. *European Food Research and Technology*, 227:1275-1281.
17. Gurdeniz G, Tokatli F, Ozen B, 2007. Differentiation of mixtures of monovarietal olive oils by mid-infrared spectroscopy and chemometrics. *European Journal of Lipid Science and Technology*, 109:1194-1202.
18. Tari C, Gogus N, Tokatli F, 2007. Optimization of biomass, pellet size and polygalacturonase production by *Aspergillus sojae* ATCC 20235 using response surface methodology. *Enzyme and Microbial Technology*, 40: 1108-1116.
19. Altıok D, Tokatlı F, Harsa S, 2006. Kinetic modelling of lactic acid production from whey by *Lactobacillus casei* (NRRL B-41). *Journal of Chemical Technology and Biotechnology*, 81: 1190-1197.
20. Gogus N, Tari C, Oncu S, Unluturk S, Tokatli F, 2006. Relationship between morphology, rheology and polygalacturonase production by *Aspergillus sojae* ATCC 20235 in submerged cultures. *Biochemical Engineering Journal*, 32: 171-178.
21. Atikler U, Demir H, Tokatli F, Tihminlioglu F, Balkose D, Ulku S, 2006. Optimisation of the effect of colemanite as a new synergistic agent in an intumescent system. *Polymer Degradation and Stability*, 91: 1563-1570.
22. Tokatlı (Kösebalaban) F, Cinar A and Schlessner J, 2005. HACCP with Multivariate Process Monitoring and Fault Diagnosis Techniques: Application to a Food Pasteurisation Process. *Food Control*. 16: 411- 422.
23. Tari C, Genckal H, Tokatli F, 2006. Optimisation of a growth medium using a statistical approach for the production of an alkaline protease from a newly isolated *Bacillus* sp. L21. *Process Biochemistry*, 41: 659-665.
24. Demirbükler D, Arcan I, Tokatli F and Yemencioğlu A, 2005. The effects of hot rehydration in the presence of hydrogen peroxide on microbial quality, texture, colour and antioxidant activity of cold stored intermediate moisture sun-dried figs. *Journal of Food Science*, 70 (3). 153 – 159.
25. Tokatlı (Kösebalaban) F, Cinar A, 2004. Fault Detection and Diagnosis in a Food Pasteurisation Process with Hidden Markov Models. *Canadian Journal of Chemical Engineering*. (82) 1252-1262
26. Kösebalaban F and Cinar A, 2001. Integration of multivariate SPM and FDD by Parity Space Technique for a Food Pasteurisation Process. *Computers and Chemical Engineering*. (25) 473-491.
27. Kösebalaban F and Ozilgen M, 1992. Kinetics of Wine Spoilage by Acetic Acid Bacteria. *Journal of Chemical Technology and Biotechnology*. (55) 1. 59-63.

## CONFERENCE PROCEEDINGS

1. Jolayemi O. Samuel, Tokatli Figen, Ozen Banu, 2016. Mid-Infrared and UV-Visible spectroscopy in Food Analysis: Classification of olive oils. 3rd International Conference on New Trends in Chemometrics and Applications. 25-28 May 2016, Antalya, PP-62, 137-138. *2nd Best Poster Award*
2. Jolayemi O. Samuel, Tokatli Figen, Zengin Meltem. 2014, Changes in phenolic profile of olive oils with malaxation conditions and olive harvest, 2nd International Congress on Food Technology, 5-7 November 2014, Kusadasi, Turkey, intfood492, p. 280.
3. Jolayemi, O. Samuel, Tokatli F, Zengin M, 2014, Effect of process conditions on the quality of olive oil from Edremit/Ayvalik and Memecik olive varieties, NAFI2014 International Food Congress-Novel Approaches in Food Industry, 26-29 May, 2014, Kusadasi, Aydin, Abstract Book, p. 283.
4. Sen Ilknur, Tokatli Figen. 2012, Classification of Wines of Grapes Grown in Turkey by Using UV-visible Spectroscopy (Türkiye’de Yetiştirilen Şaraplardan Üretilen Şarapların Ultraviole-Görünür Bölge (UV-vis) Spektroskopisi ile Sınıflandırılması), (in Turkish), Turkish 11th Food Conference, 10-12 October, 2012, Hatay, Abstract Book, p.113.
5. Aktaş Ayşe Burcu, Sen Ilknur, Ozen Banu, Tokatli Figen, 2012, Some Chemical Properties of Naturally-Debittered Hurma Olive of Karaburun Peninsula (Karaburun Yarımadası’nda Yetişen Hurma Zeytininin Bazı Kimyasal Özellikleri), Turkish 11th Food Conference, 10-12 October, 2012, Hatay, Abstract Book, p.168.
6. Sen Ilknur, Ozturk Burcu, Tokatli Figen, Ozen Banu, 2012, Prediction of Malvidin Compounds in Red Wines: Multivariate analysis of FTIR data, 35 th World Congress of Vine and Wine, 18-22 June, Izmir, Turkey, Abstract Book, p. 113.
7. Sen Ilknur, Tokatli Figen, 2011, Elemental analysis of Turkish wines, 2nd International ISEKI-Food Conference, 31 August-2 September 2011, Milan, Italy, Abstract book, p. 252.
8. Tokatli F, Yildirim G, Ozen B, 2010, Monitoring the quality parameters of extra virgin olive oils from different geographical regions during storage, International Conference of Food Science and Technology, 22-24 March 2010, Chester, UK, Abstract book, p. 78.
9. Karaosmanoğlu H, Soyer F, Ocakoglu D, Tokatli F, Ozen B, 2009, Comparison and Correlation of Antimicrobial Activities of Turkish Olive Oils with Their Phenolic Contents, The SAFE Consortium International Congress on Food Safety, Second International Congress: Novel Technologies and Food Quality, Safety and Health, 27-29 April, 2009, Girona, Catalunya, Spain, Abstract Book p. 134.
10. Tokatli F, Ozen B, Yildirim G, 2008, Determination of Olive Oil Oxidation with Fourier Transform Infrared Spectroscopy, Turkish 10th Food Conference, 21-23 May, 2008, Erzurum, p:635-638.
11. Gurdeniz G, Tokatli F, Ozen B, 2008, Use of Fourier Transform Infrared Spectroscopy in the identification of adulterated extra virgin olive oils, Turkish 10th Food Conference, 21-23 May, 2008, Erzurum, p:33-36.
12. Ocakoglu D, Gurdeniz G, Ozen B, Korel F, Tokatli F, 2007, Discrimination of Olive Oils Based on Combined Information of MIR Spectra and Chromatographic profiles, 5th Euro Fed Lipid Congress, 16-19 September, 2007, Gothenburg, p. 48.
13. Gurdeniz G, Tokatli F, Ozen B, 2007, Detection of Adulteration of Olive Oil with Fourier Transform Infrared Spectroscopy and Chemometrics, 5th Euro Fed Lipid Congress, 16-19 September, 2007, Gothenburg, OLIV-007, p. 233.
14. Korel F, Kadiroglu P, Tokatli F, 2007, Detection of Adulteration of Extra Virgin olive Oil with Edible Oils by Electronic Nose, 5th Euro Fed Lipid Congress, 16-19 September, 2007, Gothenburg, p. 119.
15. Gözde G, Ocakoğlu D, Kadiroğlu P, Korel F, Tokatlı F, Özen B, 2006, Some characteristics of Turkish extra virgin olive oils from various olive varieties grown in two different regions, 4th Euro Fed Lipid Congress, 1-4 October, 2006, Madrid, OLIV-065, p: 479.
16. Pınar Kadiroğlu, Derya Ocakoğlu, Gözde Gürdeniz, Banu Özen, Figen Tokatlı, Figen Korel, 2006, Aroma fingerprints of Turkish extra virgin olive oils using surface acoustic wave sensing electronic nose, 4th Euro Fed Lipid Congress, 1-4 October, 2006, Madrid, OLIV-067, p.481.

17. Gözde Gürdeniz, Derya Ocakoğlu, Pınar Kadiroğlu, Figen Korel, Figen Tokatlı, Banu Özen, 2006, Properties of Commercial Extra Virgin Olive Oils produces in Aegean Region of Turkey, National Olive and Olive Oil Symposium and Exhibition, September 15-17, Izmir, p: 577-586.
18. Ozen Banu, Tokatli Figen, Korel Figen, 2005, Emerging Topics in Olive Oil Research: Determination of Geographical Origin and Adulteration, Olive oil and olive-pomace oil symposium and exhibition. November 10-12, 2005, Izmir, Turkey. P. 57-67.
19. Tokatlı Figen, Altıok Duygu, Harsa Şebnem, 2005, Kinetic modelling of lactic acid production from whey. 14th National Conference of Biotechnology, 31 August-2 September, 2005, Eskişehir, Turkey, p. 367-370.
20. Korel Figen, Ozen Banu, Tokatli Figen, 2005, Geographical Identity and Quality of Olive Oil, Agrindustrial Design: Olive Oil, Wine and Design. 27-29 April 2005. Izmir, Turkey, 160-167.
21. Balikli, Umut. Basak, Tokatli Figen, 2002, Statistical Monitoring in Food Processes: Principal Component Analysis and Partial Least Squares Regression. National Conference of Automatic Control. September Ankara, Turkey. P. 263-269.
22. Kosebalaban F, Cinar A. 2000, Application of Statistical Process Monitoring and Fault Diagnosis Methods to a Food Pasteurisation System. 4th National Conference of Chemical Engineering. September, 2000. Istanbul, Turkey. 562-567.
23. Kösebalaban, F and Cinar, A. 2000, Use of Multivariate Statistical Analysis in HACCP. International Conference on Agro and Food Physics. May, 2000. Istanbul, Turkey.
24. Kösebalaban, F, Çinar, A and Schlessler, J. 1998. Statistical Process Monitoring and Fault Diagnosis in a Continuous Food Pasteurisation Process. IAMFES Annual Meeting. 1999. Dearborn, MI, USA.
25. Kösebalaban, F. and Çinar, A. 1998. Fault Detection and Diagnosis in a Continuous Food Process by Statistical Monitoring and Parity Space Methods. November, 1998. Miami, FL, USA.

#### BOOKS/INBOOKS

Ozen B and Tokatli F, 2012. "Infrared Spectroscopy for the Detection of Adulteration in Foods", in Infrared and Raman Spectroscopy in Forensic Science. ed. J. M. Chalmers, H. G. M. Edwards, M. D. Hargreaves. Wiley, (10.1002/9781119962328.ch9d)

#### GRADUATE THESIS

*'Effect of Frying on the Quality Parameters of Edible Oils'*, MSc Thesis, 2014 – 2015.  
*'Effect of Harvest Time, Malaxation Temperature and Olive Variety on the Chemical Characteristics of Extra Virgin Olive Oils'* PhD Thesis, 2012 - 2016  
*'Characterization and Classification of Wines from Grape varieties Grown in Turkey'*, PhD Thesis 2014.  
*'Effect of CO<sub>2</sub> concentration and temperature on the growth rate and lipid content of *Isochrysis galbana*'*, Msc Thesis, 2013.  
*'Effect of storage time on quality characteristics of olive oil'*, Msc Thesis, 2009.  
*'Phenolic profiles of extra virgin olive oils obtained from different geographical regions'*, MSc Thesis, 2008.  
*'Kinetic modelling of lactic acid production from whey'*, MSc Thesis, 2004.  
*'Use of multivariate statistical techniques in HACCP programs'*, MSc Thesis, 2003.

#### PROJECTS

Nutritional and quality characteristics of Turkish olive oils – a research project of Izmir Institute of Technology (IYTE), 2015-2016.

Determination of phenolic profiles of olives with respect to harvest time - a research project of Izmir Institute of Technology (IYTE), 2014-2015.

Investigation of Growth and Lipid Production of *Isochrysis galbana* in different conditions - a research project of Izmir Institute of Technology (IYTE), 2012-2013.

Characterization of some chemical and Microbiological Features of Hurma Olives Grown in Karaburun Peninsula – a TUBITAK project (Tovag), 2011-2013 (Co-researcher).

Characterization of Turkish wines: Organic acid and sugar compositions - a research project of Izmir Institute of Technology (IYTE), 2010-2011.

Determination of mineral content of Turkish wines - a research project of Izmir Institute of Technology (IYTE), 2008-2009

Classification of Turkish olive oils from olive varieties of economic importance and determination of adulteration in olive oils – a TUBITAK project (The Scientific and Technological Research Council of Turkey), 2005 - 2007

Classification of Turkish olive oils from different geographical regions according to their phenolic profiles – a research project of Izmir Institute of Technology (IYTE), 2005-2007

Kinetic Modelling of Lactic Acid Production from Whey – a research project of Izmir Institute of Technology (IYTE), 2003-2004.

## COURSES

### Graduate courses:

FE 535 Statistical Process Monitoring and Quality Control

FE 536 Design of Experiments

### Undergraduate courses:

FE201 Material and Energy Balances

FE210 Introduction to Statistics for Engineers

FE414 Process Dynamics and Control