



## Prof. Dr. Sevcan Ünlütürk

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Department of Food Engineering  
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### Research Interests

Dr. Ünlütürk's research has been on UV light treatment of liquid and solid foods, CFD modeling of UV systems, rheological behavior of food materials, the biocrystallization method and image processing technique for evaluation of the food quality. Recent research efforts have focused on development of innovative solutions for various nutritious food products with consumer desired quality attributes.

More information about Dr. Ünlütürk's research, teaching or projects can be found at

<https://unluturkresearchgroup.iyte.edu.tr/>



[https://www.linkedin.com/feed/?trk=people-guest\\_profile-result-card\\_result-card\\_full-click](https://www.linkedin.com/feed/?trk=people-guest_profile-result-card_result-card_full-click)



<https://scholar.google.com.tr/citations?hl=tr&user=dB7EUzEAAAAJ>



[https://www.researchgate.net/profile/Sevcan\\_Unluturk](https://www.researchgate.net/profile/Sevcan_Unluturk)



<https://publons.com/researcher/1301726/sevcan-unluturk/>

### EDUCATION

<b>Doctor of Philosophy in Chemical Engineering</b> Illinois Institute of Technology (IIT), Chicago, IL/USA	1996 - 2002
<b>Master of Science in Chemical Engineering</b> Illinois Institute of Technology (IIT), Chicago, IL/USA	1993 - 1995
<b>Bachelor of Science in Food Engineering</b> Ege University, Izmir/Turkey	1987 - 1992

### WORK EXPERIENCE

<b>Professor</b> , Izmir Institute of Technology Food Engineering Department, Urla, İzmir, Turkey	2017 - present
<b>Associate Professor</b> , Izmir Institute of Technology Food Engineering Department, Urla, İzmir, Turkey	2012 - 2017
<b>Assistant Professor</b> , Izmir Institute of Technology Food Engineering Department, Urla, İzmir, Turkey	2003 - 2012
<b>Research Assistant</b> , Izmir Institute of Technology Food Engineering Department, Urla, İzmir, Turkey	2003 - 2003
<b>Teaching Assistant</b> , Illinois Institute of Technology Chemical Engineering Department, Chicago, IL/USA	1999 - 2002
<b>Intern</b> , City of Chicago, Department of Water Bureau of Water Quality, Water Purification Laboratory, Chicago, IL/USA	2001 - 2001

## PUBLICATIONS IN INTERNATIONAL PEER REVIEWED JOURNALS

1. Yildiz, S., Pokhrel, P.R., Unluturk S., Barbosa-Cánovas G.V. (2021). Shelf life extension of strawberry juice by equivalent ultrasound, high pressure, and pulsed electric fields processes. *Food Research International*.140, 110040. DOI: 10.1016/j.foodres.2020.110040
2. Baykuş G., Akgün M.P., Unluturk S. (2021). Effects of Ultraviolet-light Emitting Diodes (UV-LEDs) on Microbial Inactivation and Quality Attributes of Mixed Beverage. *Innovative Food Science and Emerging Technologies*, 67, 102572. DOI: 10.1016/j.ifset.2020.102572
3. Yildiz S., Pokhrel, P.R., Unluturk S., Barbosa-Cánovas G.V. (2021). Changes in Quality Attributes of Strawberry Juice after Equivalent High Pressure, Ultrasound, Pulsed Electric Fields Processes. *Food Engineering Reviews*, DOI: 10.1007/s12393-20-09250-z
4. Demir, H., Yıldız, M.K., Becerikli, İ., Unluturk, S. and Kaya, Z. (2020). Impact of Pasteurization Process on the Quality and Marination Properties of Onion Juice. *Turkish Journal of Agriculture - Food Science and Technology*, 8(3), 531-537. DOI: 10.24925/turjaf.v8i3.531-537.2715
5. Kaya Z., Unluturk S., Martin-Belloso O., Soliva-Fortuny R. (2020). Effectiveness of pulsed light treatments assisted by mild heat on *Saccharomyces cerevisiae* inactivation in verjuice and evaluation of its quality during storage. *Innovative Food Science and Emerging Technologies*, 66, 102517. DOI: 10.1016/j.ifset.2020.102517
6. Yildiz S., Pokhrel P.R., Unluturk S., Barbosa-Cánovas, G.V. (2019). Identification of Equivalent Processing Conditions for Pasteurization of Strawberry Juice by High Pressure, Ultrasound, and Pulsed Electric Fields Processing. *Innovative Food Science and Emerging Technologies*. 57, 102195. DOI: 10.1016/j.ifset.2019.102195
7. Urgu M., Türk A., Ünlütürk S., Kaymak-Ertekin F., and Koca N. (2019). Milk Fat Substitution by Microparticulated Protein in Reduced-fat Cheese Emulsion: The Effects on Stability, Microstructure, Rheological and Sensory Properties. *Korean J Food Sci Anim Resour* 39(1):23~34. DOI: 10.5851/kosfa.2018.e60
8. Kaya Z and Unluturk S. (2019). Pasteurization of Verjuice by UV-C Irradiation and Mild Heat Treatment, *Journal of Food Process Engineering*, 42:e13131. DOI: 10.1111/jfpe.13131
9. Demir, H., Yıldız, M. K., Becerikli İ, Ünlütürk S., Kaya Z. (2018). Assessing the impact of non-thermal and thermal treatment on the shelf-life of onion juice. *Czech Journal of Food Science*, 36, 2018 (6): 0–7. DOI: 10.17221/163/2018-CJFS
10. Urgu, M., Unluturk S. and Koca, N. (2018). Effects of Fat Reduction on the Stability, Microstructure, Rheological and Color Characteristics of White-Brined Cheese Emulsion with Different Emulsifying Salt Amounts. *Korean Journal for Food Science of Animal Resources*,38(5) 866-877. DOI: 10.5851/kosfa.2018.e8

11. Taze B.H. and Unluturk S. (2018). Effect of postharvest UV-C treatment on the microbial quality of ‘Şalak’ apricot. *Scientia Horticulturae* 233, 370–377. DOI: 10.1016/j.scienta.2018.02.012.
12. Uncu O., Jolayemi S.O. and Unluturk S. (2017). Evaluation of Rheological, Textural and Thermal Properties of Quinoa (*Chenopodium Quinoa* Willd) Based Breakfast Puree. *International Journal of Food Processing Technology*, 2017, 4, 22-30. DOI:10.15379/2408-9826.2017.04.02.01
13. Akgun M.P. and Unluturk S. (2017). Effects of ultraviolet light emitting diodes (LEDs) on microbial and enzyme inactivation of apple juice. *International Journal of Food Microbiology*. 260, 65-74. DOI: 10.1016/j.ijfoodmicro.2017.08.007
14. Kaya Z. and Unluturk S. (2016). Processing of Clear and Turbid Grape Juice by a Continuous Flow UV System. *Innovative Food Science and Emerging Technologies*, 33, 282-288, DOI: 10.1016/j.ifset.2015.12.006. (February 2016)
15. Pelvan M. and Unluturk, S. (2015). Application of Flow Cytometry and Fluorescence Techniques in Somatic Cell Analysis of Raw Milk. *International Journal of Food Processing Technology*, 2 (1), 11-16. DOI: 10.15379/2408-9826.2015.02.01.2
16. Unluturk S. and Atilgan M.R. (2015). Microbial Safety and Shelf Life of UV-C Treated Freshly Squeezed White Grape Juice. *Journal of Food Science*. 80 (8), M1831- M1841. DOI: 10.1111/1750-3841.12952. (15 July 2015).
17. Kaya Z., Yildiz S. and Unluturk S. (2015). Effect of UV-C Irradiation and Heat Treatment on the Shelf Life Stability of a Lemon - Melon Juice Blend: Multivariate Statistical Approach. *Innovative Food Science and Emerging Technologies*, 29, 230-239, DOI: 10.1016/j.ifset.2015.03.005. (May 2015).
18. Hakguder Taze, B., Unluturk, S., Buzrul, S. and Alpas, H. (2015). The impact of UV-C irradiation on spoilage microorganisms and colour of orange juice. *Journal of Food Science and Technology-Myshore*. 52(2), 1000-1007. (February 2015). DOI: 10.1007/s13197-013-1095-7
19. Gogus N., Taze B.H., Demir H., Tari C., Unluturk S. and Lahore M.F. (2014). Evaluation of orange peel-an industrial waste-for the production of *Aspergillus sojae* polygalacturonase considering both morphology and rheology effect. *Turkish Journal of Biology*, 38, 537-548. DOI:10.3906/biy-1308-47
20. Unluturk S. and Atilgan M.R. (2014) UV-C Irradiation of Freshly Squeezed Grape Juice and Modeling Inactivation Kinetics. *Journal of Food Process Engineering*. 37(4), 438-449. DOI:10.1111/jfpe.12099
21. Unluturk S, Unluturk M. S., Pazir F. and Kuscu, A. (2014). Discrimination of Bio-Crystallogram Images Using Neural Networks. *Neural Computing and Applications (NCA)*, 24(5), 1221-1228. DOI: 10.1007/s00521-013-1346-6

22. Baysal A. H., Molva C. and Unluturk S. (2013). UV–C light inactivation and modeling kinetics of *Alicyclobacillus acidoterrestris* spores in white grape and apple juices. *International Journal of Food Microbiology*, 166, 494-498. DOI:10.1016/j.ijfoodmicro.2013.08.015
23. Unluturk, S., Pelvan, M. and Unluturk, M.S. (2013). The discrimination of Raw and UHT milk samples contaminated with Penicillin G and Ampicillin Using Image Processing Neural Network and Biocrystallization Methods. *Journal of Food Composition and Analysis*, 32, 12-19. DOI: 10.1016/j.jfca.2013.06.007
24. Unluturk M. S., Unluturk S., Pazir F. and Abdollahi F. (2011). Capillary Dynamolysis Image Discrimination Using Neural Networks, *Journal of Information Technology & Software Engineering*,1(1), DOI: 10.4172/2165-7866.1000101
25. Unluturk S., Unluturk M.S., Pazir F. and Kuscü, A. (2011) Process Neural Network (procNN) Method, Case Study I: Discrimination of Sweet Red Peppers Prepared by Different Methods. *EURASIP Journal on Advances in Signal Processing*, Volume 2011:290950, DOI:10.1155/2011/290950
26. Unluturk, S. Rebuttal: Response to Regarding Letter to Editor. (2010). On the modeling of inactivation kinetics by UV irradiation, Letter to editor, *International Journal of Food Microbiology*,143 (3), 258. DOI:10.1016/j.ijfoodmicro.2010.08.031
27. Unluturk, S., Atılgan, M.R., Baysal, A.H., Unluturk, M.S. (2010). Modeling inactivation kinetics of liquid egg white exposed to UV-C irradiation. *International Journal of Food Microbiology*, 142(3), 341-347. DOI:10.1016/j.ijfoodmicro.2010.07.01310.
28. Yıldız Ö. and Unluturk S. (2009). Differential Scanning Calorimetry (DSC) as a tool to detect antibiotic residues in UHT whole milk. *International Journal of Food Science and Technology*, 44(12), 2577-2582 (2009). DOI: 10.1111/j.1365-2621.2009.02087.x
29. Atılgan, M. R. and Unluturk S. (2008). Rheological Properties of Liquid Egg Products (LEPs) as a Function of Temperature”, *International Journal of Food Properties*.11:2. 296-309. DOI: 10.1080/10942910701329658
30. Unluturk, S., M. R. Atılgan, A. H. Baysal and C. Tari, (2008). Use of UV-C radiation as a non-thermal process for Liquid Egg Products (LEP), *Journal Food Engineering*, 85, 561-568. DOI: 10.1016/j.jfoodeng.2007.08.017
31. Oncü, S., C. Tari and S. Unluturk, (2007). Effect of various process parameters on morphology, rheology and polygalacturonase production by *Aspergillus sojae* in a batch bioreactor”, *Biotechnology Progress*, 23(4), 836-845. DOI: 10.1021/bp070079c
32. Göğüş, N., C. Tari, S. Oncü, S. Unluturk and F. Tokatlı, (2006). Relationship between morphology, rheology and pectinase production by *Aspergillus sojae* ATCC 20225 in submerged cultures, *Biochemical Engineering Journal*, 32, 171-178. DOI: 10.1016/j.bej.2006.09.023

33. Koutchma, T., B. Parisi and S. Kucuk Unluturk, (2006). Evaluation of UV Dose in flow through reactors for fresh apple juice and cider, *Chemical Engineering Communication*, 193, 715-728. DOI: 10.1080/00986440500266842
34. Kucuk Unluturk, S., H. Arastoopour and T. Koutchma, (2004). Modeling of UV Dose Distribution In a Laminar Flow Apple Cider Processing, *Jornal Food Engineering*, 65(1), 125-136. DOI: 10.1016/j.jfoodeng.2004.01.005
35. Kucuk Unluturk, S. and H. Arastoopour, (2003). Steady State Simulations Of Liquid-Particle Food Flow in a Vertical Pipe, *Industrial and Engineering Chemistry Research*, 42(16), 3845-3850. DOI: 10.1021/ie0301076

#### **PUBLICATIONS IN NATIONAL PEER REVIEWED JOURNALS**

1. Yıldız Ö., Ünlütürk S., ve Tari C. (2009). Uzun ömürlü (UHT) sütlerdeki antibiyotik kalıntılarının tespitinde üç farklı ticari test kitinin karşılaştırılması (Comparison of three different commercial test kits for detection of Antibiotic residues in UHT milk). *Akademik Gıda*, 7(4), 19-23.
2. Ünlütürk S., Baysal A.H. ve Atılğan M.R. (2010). UV-C uygulamasının sıvı yumurta beyazının mikrobiyolojik kalitesi üzerine etkisi” (Effect of UV-C application on the microbiological quality of liquid egg white). *Gıda*, 35 (5): 363-369.

#### **PATENT**

Polygalacturonase enzyme from *Aspergillus sojae* DH56 and its production from a formulated low cost (orange peel waste) media. Inventors: Canan Tari; Ali Oguz Buyukkileci; Sevcan Unluturk; Marcelo Fernandez Lahore; Doreen Heerd. Turkish Patent: TPE No: TR201205330B patent no: 2012/05330

#### **BOOK CHAPTERS**

- Unluturk S. (2017) “*Impact of irradiation on the microbial ecology of foods in Quantitative Microbiology in Food Processing*”, Ed. Anderson de Souza Sant'Ana, John Wiley & Sons Ltd, West Sussex, United Kingdom. p 176- 193, ISBN: 978-1-118-75642-3
- Unluturk S. (2012). “*Ultraviyole (Mor Ötesi) Işınlama (6. Bölüm). Gıda Mühendisliğinde Isıl Olmayan Güncel Teknikler ve Uygulamalar*”. Ed. Baysal T ve İçier F., Nobel Akademik Yayıncılık, Ankara, ISBN: 978-605-133-330-4, p219-246
- Taze, B.H., Akgun, M.P., Yildiz, S., Kaya, Z., Unluturk, S., (2021). UV Processing and Storage of Liquid and Solid Foods: Quality, Microbial, Enzymatic, Nutritional, Organoleptic, Composition and Properties Effects. In: Knoerzer, K., Muthukumarappan, K. (Eds.), *Innovative Food Processing Technologies: A Comprehensive Review*, vol. 2. Elsevier, pp. 277–305. ISBN: 9780128157824, <https://doi.org/B978-0-08-100596-5.22938-7>.
- Atılğan, M.R., Yildiz, S., Kaya, Z., Unluturk, S., (2021). Kinetic and Process Modeling of UV-C Irradiation of Foods. In: Knoerzer, K., Muthukumarappan, K. (Eds.), *Innovative Food Processing Technologies: A Comprehensive Review*, vol. 2. Elsevier, pp. 227–255. <https://doi.org/B978-0-08-100596-5.22972-7>.

#### **INTERNATIONAL CONFERENCES (LAST 5 YEARS)**

- 1 Akgun M.P. and Unluturk S. UV-LED Treatment of Cloudy Apple Juice. *2<sup>nd</sup> FaBE Conference Proceedings, International Conference on Food and Biosystems Engineering*, FaBE2015 082, p 187-193, Mykonos Island, Greece, May 28-31, 2015
2. Unluturk M.S., Yildiz S., Kaya Z. and Unluturk S. Discrimination of Fresh, UV-C and Heat Treated Lemon-Melon Juice Blends during Storage by Probabilistic Neural Network (PNN). *2nd FaBE Conference Proceedings, International Conference on Food and Biosystems Engineering*, FaBE2015 116, p 57-64 Mykonos Island, Greece, May 28-31, 2015 (full text, sözlü sunum).
3. Yıldız S., Unluturk S and Kaya Z. Inactivation of E.coli K-12 in Strawberry Juice by Using UV-C Irradiation Assisted with Mild Heat Treatment, IFT15 Annual Meeting and Food Expo, 099-020, Chicago, IL July 11-14, 2015
4. Kaya Z., Dogru K., Yildiz S. Evcan E. and Unluturk S. The use of green tea for the enrichment of Turkish delight (Lokum). *EuroFoodChem XVIII.*, FUN-P-285, Madrid, Spain, October 13-16, 2015
5. Unluturk S. UV light. *Food Safety, Packaging and Technology Workshop*, University of Szeged, Hungary, June 26-30, 2015.
6. Kaya Z., Yıldız S. and Unluturk S. Inactivation of *S. cerevisiae* in Verjuice by Using UV-C Irradiation assisted with Mild Heat Treatment. *Fruit and Vegetable Processing*, 2nd Euro-Mediterranean Symposium, PI-41, p 94 and IO8, p 16, Avignon, France, 4-6 April 2016,
7. Taze B. H. and Unluturk S. Bactericidal Effectiveness of Mild Heat on Resident Flora of cv. Salak Apricot. *Fruit and Vegetable Processing*, 2nd Euro-Mediterranean Symposium, PQ-24, p 119 Avignon, France, 4-6 April 2016
8. Akgun M and Unluturk S. Effect of UV-LED irradiation on polyphenol oxidase (PPO) activity of apple juice. *Fruit and Vegetable Processing*, 2nd Euro-Mediterranean Symposium, PI-31, p 84 Avignon, France, 4-6 April 2016
9. Yildiz S., Pokhrel S., Unluturk S. and Barbosa-Cánovas G.V. Pulsed Electric Field (PEF) Processing for Microbial Safety of Strawberry Juice. *IUFOST 2016, 18<sup>th</sup> World Congress of Food Science and Technology*, Ballsbridge, Dublin, Ireland, 21-25 August 2016.
10. Yıldız S., Kaya Z., Hakgüder Taze B., Akgün M. and Unluturk S. Opportunities and Challenges of UV-C Irradiation for Microbial Safety and Quality of Fruit Juices. *International Conference on agriculture, Forest, Food Science and Technologies*, ICAFOF p 181, Cappadocia, Turkey, 15-17 May 2017.
11. Demir H., Yıldız K., Becerikli İ., Kaya Z. and Ünlütürk S. Onion Juice Pasteurization by UV-C Irradiation. *International Conference on agriculture, Forest, Food Science and Technologies*, ICAFOF p 177, Cappadocia, Turkey, 15-17 May 2017.
12. Demir H., Oral M.O. and Ünlütürk S. Onion Juice Pasteurization By Coiled-Type UV-C Reactor System. *International Conference on agriculture, Forest, Food Science and Technologies*, ICAFOF p 1133, Cappadocia, Turkey, 15-17 May 2017.
13. Kaya Z., Unluturk S., Martin-Belloso O. and Soliva-Fortuny R. Combined effect of pulse light processing and mild heating conditions on the inactivation of *S.cerevisiae* in Verjuice. *3rd FaBE Conference Proceedings, International Conference on Food and Biosystems Engineering*, FaBE2017\_143, Book of Abstract, p 470, Rhodes, Greece, 1-3 June 2017
14. Hakguder Taze B\*. and Unluturk S. Impact of combined treatment of mild heating, UV-C irradiation and CaCl<sub>2</sub> dipping on firmness and colour of salak apricot cultivar. *3rd FaBE Conference Proceedings, International Conference on Food and Biosystems Engineering*, FaBE2017\_054, Book of Abstract, p 199, Rhodes, Greece, 1-3 June 2017

15. Kaya Z\*., Unluturk S., Martin-Belloso O, Soliva-Fortuny R. Extending Shelf Life of Verjuice by Combining Pulse Light and Mild Heat Treatments. 31<sup>st</sup> EFFoST International Conference , Food Science and Technology Challenges for the 21<sup>st</sup> Century-Research to Progress Society, P1.103, 13-16 November 2017
16. Yildiz S\*., Pokhrel P. R., Unluturk S. and Barbosa-Cánovas G.V., Efficiency of High Pressure and Pulsed Electric Field Processing on the Inactivation of E. coli 11775 in Strawberry Juice. 31<sup>st</sup> EFFoST International Conference , Food Science and Technology Challenges for the 21<sup>st</sup> Century-Research to Progress Society, P1.226, 13-16 November 2017
17. Müge Urgan, Aylin Türk, Sevcan Ünlütürk, Figen Kaymak-Ertekin and Nurcan Koca. Effects Of Microparticulated Protein On The Rheological Properties Of Reduced-Fat White-Brined Cheese Emulsion With Different Dry Matter Contents. 19th IUFoST World Food Science and Technology Congress, Mumbai, India, 23-27 October, 2018.
18. Bengi Hakguder Taze, Sevcan Unluturk. Effects of Mild Heat Treatment on the Physical and Microbial Quality of Şalak Apricot Cultivar. ICFBE 2018 : 20th International Conference on Food and Bioprocess Engineering World Academy of Science, Engineering and Technology, International Journal of Nutrition and Food Engineering Vol:12, No:12, Paris, France December 27 - 28, 2018
19. Müge Urgan, Aylin Türk, Sevcan Ünlütürk, Figen Ertekin, Nurcan Koca\*. Effects of microparticulated protein on stability and rheological properties of reduced-fat white-brined cheese emulsion. The International Symposium on Food Rheology and Texture, Istanbul/Turkey, 19-21 October, 2018
20. Kaya Z\* and Unluturk S. Quality Properties of Freeze-Dried Verjuice Powder as Affected by Maltodextrin Concentration. 4<sup>th</sup> International Conference on Food Chemistry and Technology, , FCT-2018 Abstract Book, p 73, Berlin, Germany, 4-6 November, 2018.
21. Akgün M.P\*. and Unluturk S. Effect of Sublethal Temperature and UV-LED on the Inactivation of E. coli K12 in Cloudy Apple Juice. 4<sup>th</sup> International Conference on Food Chemistry and Technology, FCT-2018 Abstract Book, p 72, Berlin, Germany, 4-6 November, 2018
22. Merve Ildız, Gülten Gündüz, Müge Urgan Öztürk, Duygu Kışla, Sevcan Ünlütürk, Nurcan Koca\* . The Effect of Continuous System Ultraviolet Light Application on the Quality of Yoghurt with Surface Cream. International Conference on Agronomy and Food Science and Technology (AgroFood), E-book P 493, 20-21, Istanbul, Turkey, June 2019
23. Gündüz G.T\*., Korkmaz A., Kışla D., Koca N., Öztürk M.U. and Ünlütürk S. The Efficacy Of Continuous System Ultraviolet Light Treatment On The Inhibition Of Molds Inoculated To Surfaces Of Yoghurt With Surface Cream. 1st International Conference on Advanced Production and Processing, Book of Abstracts, p 99, Novi Sad, Serbia, 10-11 October 2019
24. Sonkaya G., Öztürk M.U., Gündüz G.T., Kışla D., Ünlütürk S, Koca N\*. The effect of continuous system ultraviolet light application on the quality of kaymak (clotted cream)., 2nd International Eurasian Conference on Science, Engineering and Technology (EurasianSciEnTech 2020), Book of Abstracts, p 178, Gaziantep, Turkey, October 07-09, 2020

### **THESIS SUPERVISED**

1. Atılgan, M.R., “*Disinfection of liquid egg products by using UV light*”, İzmir Institute of Technology, 2007 – MS Thesis

2. Öncü, Ş., “*Investigation of the effects of dissolved oxygen concentration, aeration and agitation on the morphology and rheology in submerged fungal fermentation*”, İzmir Institute of Technology, 2007 – MS Thesis
3. Yıldız, Ö., “*Antibiyotikli sütlerin fiziksel ve kimyasal özelliklerinin belirlenmesi*”, İzmir Institute of Technology, 2008 – MS Thesis
4. Hakgüder B., “*Bazı Meyve Sularının UV ile dezenfeksiyonu*”, İzmir Institute of Technology, 2009 – MS Thesis
5. Pelvan M., “*Determination of Antibiotics in Raw and UHT milk samples by image forming method of biocrystallization*”, İzmir Institute of Technology, 2011 – MS Thesis
6. Kaya Z., “*Disinfection of White Grape Juice by Using Continuous Flow UV reactor*”, İzmir Institute of Technology, 2011 – MS Thesis
7. Atılğan M. R. “*Design of a continuous flow UV reactor for opaque liquid foods by using computational fluid dynamics (CFD)*”, İzmir Institute of Technology, 2013 – Ph.D. Thesis
8. Taze B.H. “*Investigation of the effects of different processing techniques on the overall quality and shelf life of the local apricot varieties of Iğdır.*” İzmir Institute of Technology, 2017 – Ph.D. Thesis
9. Yıldız S. “*Bioactive compound retention and shelf life extension of strawberry juice by selected non-thermal processing technologies*”, İzmir Institute of Technology, 2017– Ph.D. Thesis
10. Kaya Z. “*Development of different koruk (unripe grape) products by using several processing techniques*”. İzmir Institute of Technology, 2018– Ph.D. Thesis
11. Akgün M. “*Assessment of the efficiency of UV-C light emitting diodes (UV LEDs) for fruit juice pasteurization*”. İzmir Institute of Technology, 2019 – Ph.D. Thesis
12. Şirin P. “*The physical properties and glycemic response of low sugar jam*”. İzmir Institute of Technology, 2019 – MS Thesis

#### **PROJECTS (LAST 5 YEARS)**

1. PROTEIN (Project, Technology and Innovation) R & D Mentor Network Project, Scientific and Technical Research Council of Turkey, TUBITAK 1601, 4140007, Mentor), 2015
2. Investigation of in-vitro bioaccessibility of bioactive compounds of UV-C and combined mild heat treated strawberry juice (Scientific Research Project – 2015 IYTE 09, Principal investigator), 2015-2016
3. The usage of alternative processing techniques to increase the shelf life of Iğdır Şalak Apricots (Scientific and Technical Research Council of Turkey, TUBITAK-TOVAG1150876, co researcher), 2015- 2016
4. Improvement and determination of the production conditions of functional properties of fat and /or sugar-reduced, reduced calorie, low glycemic index sweet formulations (Scientific and Technical Research Council of Turkey, TUBITAK-TEYDEB, 1150065, mentor), 2015 - 2018
5. Investigation of the Application of Heat treatment and UV-C Irradiation Processes for Pasteurization and Extension of the Shelf Life of Onion juice (Scientific and Technical Research Council of Turkey, TUBITAK-TOVAG, 1150981, consultant), 2015 – 2016
6. Determination of Sterilization Efficiency of UV-LED Irradiation on Poppy Seeds. (Scientific Research Project – 2016IYTE47, Principal investigator), 2016 – 2017 17. Evaluation of the effectiveness of UV-C light emitting diodes (UV-LED) for fruit juice pasteurization. (Scientific and Technical Research Council of Turkey, 2211/C TÜBİTAK, supervisor)



7. The effects of the surface UV light application in continuous system on the mold growth and The quality of yogurt with cream and kaymak after process and during storage period. (Scientific and Technical Research Council of Turkey, TUBITAK-TOVAG, 115O981, co-researcher), 2017– 2020
8. Investigation of Microbial Inactivation Mechanisms of UV LED lamps emitting light at Different Wavelengths using *E. coli* K12 Bacteria. (Scientific and Technical Research Council of Turkey, TUBITAK-TOVAG, 117O696, Principal investigator), 2017– 2018
9. Investigation of the Usability of UV-Emitting Diodes (UV-LEDs) as an Alternative Technology in Newly Formulated Functional Beverage Pasteurization. (Scientific and Technical Research Council of Turkey, 2209/A TÜBİTAK, supervisor)
10. Investigation of the effect of various environmental conditions on wheat germination and bioactive compounds of wheat sprouts. (Scientific Research Project – 2019IYTE0005, Principal investigator), 2019-2020
11. Use of Radiochromic Films in UV Dose Determination. (Scientific Research Project – 2020IYTE0028, Principal investigator, 2020-2021)

**COURSES TAUGHT/DEVELOPED:**

FE 532 Food Engineering Principles  
FE 526 Physical Properties of Foods and Biological Materials  
FE 547 Novel Food Processing Technologies  
FE 202 Fluid Mechanics  
FE 304 Unit Operations in Food Processing  
FE 301 Heat Transfer  
FE 403 Food Process Design