

## Res. Asst. BARIŞ ÖZEL

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: AAZ-7155-2020

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### Education Information

Doctorate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Gıda Mühendisliği (Dr), Turkey 2013 - Continues

Undergraduate, Middle East Technical University, Faculty of Engineering, Department of Food Engineering, Turkey 2008 - 2013

### Research Areas

Food Engineering, Food Science, Engineering and Technology

### Academic Titles / Tasks

Research Assistant, Middle East Technical University, Faculty of Engineering, Department of Food Engineering, 2014 - Continues

### Published journal articles indexed by SCI, SSCI, and AHCI

I. Effect of microwave-vacuum drying on the physicochemical properties of a functional tomato snack bar

Gul M. R., Ince A. E., ÖZEL B., Uslu A. K., Çetin M., Mentes D., ŞÜMNÜ S. G., ÖZTOP H. M.

Journal of the Science of Food and Agriculture, vol.104, no.1, pp.83-92, 2024 (SCI-Expanded)

II. Physicochemical and sensorial properties of tomato leathers at different drying conditions

Basdemir E., Ince A. E., Kizgin S., ÖZEL B., Ozarda O., ŞÜMNÜ S. G., ÖZTOP H. M.

Journal of Food Science, 2024 (SCI-Expanded)

III. Stability of acidified milk drinks: Comparison of high hydrostatic pressure (HHP) and thermal treatments

Tirpanci B., Ozel B., Oztop M. H., Alpas H.

International Dairy Journal, vol.137, 2023 (SCI-Expanded)

IV. Investigation of the effects of high hydrostatic pressure on the functional properties of pea protein isolate

Kalayci A., Ozel B., Oztop M. H., Alpas H.

- Journal of Food Process Engineering, vol.46, no.2, 2023 (SCI-Expanded)
- V. **Non-Conventional Time Domain (TD)-NMR Approaches for Food Quality: Case of Gelatin-Based Candies as a Model Food**  
Uguz S. S., Özel B., Grunin L., Ozvural E. B., Oztop M. H.  
Molecules, vol.27, no.19, 2022 (SCI-Expanded)
- VI. **Challenges in dried whey powder production: Quality problems**  
ÖZEL B., McClements D. J., Arikán C., Kaner O., ÖZTOP H. M.  
Food Research International, vol.160, 2022 (SCI-Expanded)
- VII. **Nuclear Magnetic Resonance (NMR) study of Palm Kernel Stearin: Effects of cooling rate on crystallization behaviour**  
OKUR İ., ÖZEL B., UCBAŞ D., Grunin L., Okur P. S., ALPAS H., İDE S., Oztop M. H.  
LWT-FOOD SCIENCE AND TECHNOLOGY, vol.155, 2022 (SCI-Expanded)
- VIII. **A quick look to the use of time domain nuclear magnetic resonance relaxometry and magnetic resonance imaging for food quality applications**  
ÖZEL B., ÖZTOP H. M.  
Current Opinion in Food Science, vol.41, pp.122-129, 2021 (SCI-Expanded)
- IX. **Water Dynamics in Whey-Protein-Based Composite Hydrogels by Means of NMR Relaxometry**  
ÖZEL B., Kruk D., Wojciechowski M., Osuch M., Oztop M. H.  
INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES, vol.22, no.18, 2021 (SCI-Expanded)
- X. **The effects of pectin and wax on the characteristics of oil-in-water (O/W) emulsions**  
Elik A., Koçak Yanık D., ÖZEL B., ÖZTOP H. M., Fahrettin G.  
Journal of Food Science, vol.86, no.7, pp.3148-3158, 2021 (SCI-Expanded)
- XI. **Physical characterization of high methoxyl pectin and sunflower oil wax emulsions: A low-field H-1 NMR relaxometry study**  
Akkaya S., ÖZEL B., Oztop M. H., YANIK D. K., GÖĞÜŞ F.  
JOURNAL OF FOOD SCIENCE, vol.86, no.1, pp.120-128, 2021 (SCI-Expanded)
- XII. **NMR Relaxometry and magnetic resonance imaging as tools to determine the emulsifying characteristics of quince seed powder in emulsions and hydrogels**  
Alacik Develioglu I., ÖZEL B., ŞAHİN S., Oztop M. H.  
INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, vol.164, pp.2051-2061, 2020 (SCI-Expanded)
- XIII. **Digestion of animal- and plant-based proteins encapsulated in kappa-carrageenan/protein beads under simulated gastrointestinal conditions**  
ÖZEL B., Zhang Z., He L., McClements D. J.  
FOOD RESEARCH INTERNATIONAL, vol.137, 2020 (SCI-Expanded)
- XIV. **In vitro digestion of polysaccharide including whey protein isolate hydrogels**  
Ozel B., Aydin O., Oztop M. H.  
CARBOHYDRATE POLYMERS, vol.229, 2020 (SCI-Expanded)
- XV. **Effect of high hydrostatic pressure in physicochemical properties and in vitro digestibility of cornstarch by nuclear magnetic resonance relaxometry**  
Okur İ., Özel B., Oztop M. H., Alpas H.  
JOURNAL OF FOOD PROCESS ENGINEERING, vol.42, no.6, 2019 (SCI-Expanded)
- XVI. **Physico-Chemical Changes of Composite Whey Protein Hydrogels in Simulated Gastric Fluid Conditions**  
Ozel B., AYDIN O., GRUNIN L., Oztop M. H.  
JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY, vol.66, no.36, pp.9542-9555, 2018 (SCI-Expanded)
- XVII. **High hydrostatic pressure induced changes on palm stearin emulsions**  
Sevdin S., Özel B., Yucel U., Oztop M. H., Alpas H.  
JOURNAL OF FOOD ENGINEERING, vol.229, pp.65-71, 2018 (SCI-Expanded)
- XVIII. **Polysaccharide blended whey protein isolate-(WPI) hydrogels: A physicochemical and controlled release study**  
Ozel B., Cikrikci S., Aydin O., Oztop M. H.

- FOOD HYDROCOLLOIDS, vol.71, pp.35-46, 2017 (SCI-Expanded)
- XIX. **NMR relaxometry as a tool to understand the effect of microwave heating on starch-water interactions and gelatinization behavior**  
 Ozel B., DAG D., KILERCIOGLU M., ŞÜMNÜ S. G., Oztop M. H.  
 LWT-FOOD SCIENCE AND TECHNOLOGY, vol.83, pp.10-17, 2017 (SCI-Expanded)
- XX. **Effect of different polysaccharides on swelling of composite whey protein hydrogels: A low field (LF) NMR relaxometry study**  
 Ozel B., UGUZ S. S., KILERCIOGLU M., GRUNIN L., Oztop M. H.  
 JOURNAL OF FOOD PROCESS ENGINEERING, vol.40, no.3, 2017 (SCI-Expanded)

### Articles Published in Other Journals

- I. **Characterization and Comparison of Turkish Table Olive Varieties With NMR Relaxometry and Magnetic Resonance Imaging**  
 Kilercioğlu M., ÖZEL B., ÖZTOP H. M.  
 GIDA / THE JOURNAL OF FOOD, vol.41, pp.61-67, 2016 (Peer-Reviewed Journal)
- II. **Yüksek Sıcaklığın Ve Nemli Ortamın Fındıktaki Su ve Yağ Dağılımına Olan Etkisinin Manyetik Rezonans Görüntüleme MRG ve NMR Relaksometre Teknikleri ile Belirlenmesi**  
 Kilercioğlu M., ÖZEL B., KARAÇAM Ç. H., PELİN P., ÖZTOP H. M.  
 GIDA / THE JOURNAL OF FOOD, vol.40, pp.141-148, 2015 (Peer-Reviewed Journal)

### Books & Book Chapters

- I. **Rheology of food hydrogels, and organogels**  
 Özel B., Öztop H. M.  
 in: Advances in Food Rheology and Its Applications, Ahmed Jasim,Basu Santanu, Editor, Woodhead Publishing Limited , Massachusetts, pp.661-688, 2022

### Refereed Congress / Symposium Publications in Proceedings

- I. **Solid State TD-NMR for Investigating the Quality of Whey Powder**  
 Uğuz Ş. S., Özel B., Grunin L., Kaner Ö., Arıkan Ç., Yıldırım H. A., Öztop H. M.  
 15th International Conference on the Applications of Magnetic Resonance in Food Science, Arhus, Denmark, 7 - 10 June 2022
- II. **Investigating the effect of monovalent and divalent ions on different food hydrocolloids by low field  $^1\text{H}$ nuclear magnetic resonance relaxometry**  
 Özel B., Öztop H. M.  
 2nd International Eurasian Conference on Biological and Chemical Sciences, Ankara, Turkey, 28 - 29 June 2019
- III.  **$^1\text{H}$  Relaxation Dispersion of Composite Whey Protein Isolate Hydrogels**  
 ÖZEL B., BORKOWSKA A., WOJCIECHOWSKI M., FLOREK WOJCIECHOWSKA M., KRUK D., ÖZTOP H. M.  
 11th Conference on Fast Field Cycling NMR Relaxometry, Pisa, Italy, 5 - 07 June 2019
- IV. **In Vitro Digestion of Polysaccharide Blended Whey Protein Hydrogels: A Time Domain NMR Relaxometry Study**  
 Özel B., Aydin Ö., Grunin L., Öztop H. M.  
 Food Factor Conference, Malaga, Spain, 8 - 09 November 2018, pp.1
- V. **Polisakkarit Eklenmiş Peynir Altı Suyu Proteini Hidrojellerinin Simülle Edilmiş Mide Öz Suyundaki Salım Davranışının ve Özelliklerinin İncelenmesi**  
 Özel B., Aydin Ö., Öztop H. M.

10. Gıda Mühendisliği Kongresi, Antalya, Turkey, 9 - 11 November 2017
- VI. **Effect of Different Heating Types on The Release Behavior Black Carrot Extract from Polysaccharide Added Whey Protein Hydrogels**  
ÖZTOP H. M., ÖZEL B., ÇIKRIKCI S., AYDIN Ö.  
Institute of Food Technology Annual Meeting, Las Vegas, United States Of America, 25 - 28 June 2017
- VII. **High Hydrostatic Pressure (HHP) Treated Palm Stearin Emulsions: Characterization of Lipid Crystal**  
SEVDİN S., ÖZEL B., ÖZTOP H. M., ALPAS H.  
6th International Conference on Nutrition and Food Sciences, Budapest, Hungary, 10 - 12 May 2017
- VIII. **Use of Magnetic Resonance Imaging (MRI) and Low Resolution NMR Relaxometry to Follow Physicochemical Changes in Foods, Detect Quality and Asses Stability of Colloidal Systems**  
ÖZTOP H. M., AKBAŞ E., ÇIKRIKCI S., GÜNER S., KIRTIL E., ÖZEL B.  
6th International Conference on Nutrition and Food Sciences, Budapest, Hungary, 10 - 12 May 2017
- IX. **NMR Relaxometry as a Tool to Characterize Solvent Uptake Behavior of Polysaccharide Added Whey Protein Hydrogels**  
ÖZEL B., ÖZTOP H. M.  
CA15209 1st Workshop on Nuclear Magnetic Resonance Relaxometry, Olsztyn, Poland, 13 - 17 February 2017
- X. **Mikroakislanlaştırma Ve Ultrasonikasyon Yöntemleriyle Homojenizasyonun Çiğ Sütün Stabilitesine Etkilerinin Nükleer Manyetik Rezonans Relaksometre (NMR) ve Manyetik Rezonans Görüntüleme (MRG) Teknikleri İle İncelenmesi**  
ÖZEL B., AYDIN Ö., ÖZTOP H. M.  
9. Gıda Mühendisliği Kongresi, İzmir, Turkey, 12 - 14 November 2015
- XI. **Investigating the Effects of Syrup Type and Compostions on Syrup Distribution in Kemalpasha Dessert by Magnetic Resonance Imaging (MRI) Technique**  
ÖZEL B., AYDIN Ö., ÖZTOP H. M.  
The 3rd International Symposium on "Traditional Foods from Adriatic to Caucasus, Saraybosna, Bosnia And Herzegovina, 1 - 04 October 2015
- XII. **Understanding the Effect of High Moisture and Heat on Water and Fat Distribution in Turkish Hazelnuts by Magnetic Resonance Imaging MRI Experiments**  
Öztop H. M., Karaçam Ç. H., Kılercioğlu M., Özel B., Poçan P.  
IFT Annual Meeting, Louisiana, United States Of America, 21 - 24 June 2014
- XIII. **Farklı Zeytin Tiplerinin NMR Relaksometre ve Manyetik Rezonans Görüntüleme (MRG) Teknikleri ile İncelenmesi**  
KİLERCİOĞLU M., ÖZEL B., ÖZTOP H. M.  
IV. Ulusal Zeytin Öğrenci Kongresi, Konya, Turkey, 28 - 30 May 2014
- XIV. **Characterization of Turkish Olive Varieties with NMR Relaxometry and Magnetic Resonance Imaging Experiments**  
KİLERCİOĞLU M., ÖZEL B., MERT B., ÖZTOP H. M.  
XII International Conference on the Applications of Magnetic Resonance in Food Science: Defining Food by Magnetic Resonance, Cesena, Italy, 20 - 23 May 2014

## Metrics

Publication: 37  
Citation (WoS): 264  
Citation (Scopus): 295  
H-Index (WoS): 8  
H-Index (Scopus): 9

## **Scholarships**

2019-2020 Academic Year PhD Thesis Research Scholarship, Fulbright Program, 2019 - 2020