

## ASSOC. PROF. DR. ALİ OĞUZ BÜYÜKKİLECI

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### Degrees

PhD 2007	MIDDLE EAST TECHNICAL UNIVERSITY Biotechnology Thesis title: Investigation of sugar metabolism in <i>Rhizopus oryzae</i> (2007) Supervisor: Prof. Dr. Haluk Hamamcı
Master of Science 2000	İZMİR INSTITUTE OF TECHNOLOGY Biotechnology Thesis title: L(+)-Lactic acid production from whey by <i>Lactobacillus casei</i> NRRL B441 (2000) Tez Danışmanı: Prof. Dr. Şebnem Harsa
Beachelor of Science 1997	MIDDLE EAST TECHNICAL UNIVERSITY Department of Food Engineering

### Work Experience

Associate Professor 2019-	IzTech, Department of Food Engineering
Assistant Professor 2011-2019	IzTech, Department of Food Engineering
Post-doctoral Fellow 2009-2010	Jacobs University Bremen, Life Sciences and Chemistry
Research Assistant 2007-2011	IzTech, Department of Food Engineering
Research Assistant 2001-2007	Middle East Technical University, Biotechnology Program
Research Assistant 1997-2001	IzTech, Biotechnology Program

## Administrative

Vice Chairperson 2018-	İzmir Institute of Technology, Department of Food Engineering
Vice Dean 2019-	İzmir Institute of Technology, Graduate School of Engineering and Sciences

## Courses Taught

### Undergraduate

FE312 Introduction to industrial microbiology  
FE307 Nutritional biochemistry  
FE403 Food product and process design  
FE318 Introduction to food biotechnology

### Graduate

FE538 Bioprocess engineering principles

## Thesis Supervised

### PhD

- 1 NÜKET POLAT, Encapsulation of therapeutic agents within xylan nanoparticles dispersed in chitosan scaffold for colon specific and dose regulated delivery
- 2 SÜREK ECE, (2017). Prebiotic oligosaccharide production from hazelnut wastes,

### Master of Science

- 1 KARANFİL GÜLPERİ, In vitro digestibility and fermentation of polymeric carbohydrates
- 2 TEMELLİ NURAN, Organosolv treatment for prebiotic oligosaccharide production from agro-food waste
- 3 AHMAD BILAL, (2017). Extraction of phytochemicals from *Scolymus hispanicus* and determination of potential health effects
- 4 POLAT NÜKET, (2017). Xylan degradation mechanism of human intestinal bacteria
- 5 DOĞRU KEVSER, (2016). Pretreatment methods for valorization of hazelnut pruning wastes
- 6 KURU GULTEN, (2013). Investigations on the effects of carbon sources and pH on exo-polygalacturonase production by *Aspergillus sojae*
- 7 GENÇ BERNA, (2013). Utilization of orange peel extract for fungal enzyme production
- 8 BAYRAK EMRAH, (2013). Utilization of wine waste for fermentative processes

## Projects

- 1 Synthesis of novel extractants and utilization in recovery of lactic acid from the production media by reactive extraction and extractive fermentation  
2019-2022. Researcher. Funded by TUBITAK (1001). PI: Mustafa Esen Martı
- 2 Organosolv Pretreatment for the enzymatic production of xylooligosaccharides.  
2018-2019. Project leader. Funded by TUBITAK (1002).
- 3 Production of xylooligosaccharides with prebiotic potential from hazelnut wastes using autohydrolysis and enzymatic hydrolysis.  
2014-2017. Project leader. Funded by TUBITAK (1001). Involved in COST Action FP1306.
- 4 Pectin production from dried fig wastes, by-products and scraps: Optimization of pectin extraction and characterization of molecular, functional and health effects  
Researcher  
2018-2020. Researcher. Funded by TUBITAK (1001). PI: Ahmet Yemenicioğlu
- 5 Identification of phytochemicals with potential health effects and testing the effects in *in vitro* models  
2016-2019. Researcher. Funded by Ministry of Agriculture and Forestry. PI: Şükrü Güleç
- 6 Derecemization of benzoin by biotransformation and L-phenylacetylcarbinol synthesis  
2006-2007. Funded by TUBİTAK (1001). PI: Haluk Hamamcı

## Publications

- 1 Zeybek Nuket, Rastall Robert A., Buyukkileci Ali Oguz (2020). Utilization of xylan-type polysaccharides in co-culture fermentations of Bifidobacterium and Bacteroides species. Carbohydrate Polymers, 236, 116076.
- 2 Buyukkileci Ceylan, Batur Ayşem, Buyukkileci Ali Oguz, Hamamcı Haluk (2019). Temperature and Glycerol Formation: A Proposal to Explain the Causal Relationship Based on Glycolytic Enzyme Activities. American Journal of Enology and Viticulture, 70(2), 155-161., Doi: 10.5344/ajev.2018.18068
- 3 Sabancı Kevser, Buyukkileci Ali Oguz, (2018). Comparison of liquid hot water, very dilute acid and alkali treatments for enhancing enzymatic digestibility of hazelnut tree pruning residues. Bioresource Technology, 261, 158-165., Doi: 10.1016/j.biortech.2018.03.136
- 4 Sürek Ece, Buyukkileci Ali Oguz (2018). Kritik altı su ile fındık atıklarından antioksidan bileşiklerin ekstraksiyonu. Gıda, 43(2), Doi: 10.15237/gida.GD17104
- 5 Emrah Bayrak, Buyukkileci Ali Oguz (2018). Utilization of white grape pomace for lactic acid production. GIDA, 43(1), 129-138.
- 6 Yeğin Sırma, Buyukkileci Ali Oguz, Sargın Sayıt, Göksungur Mehmet Yekta (2017). Exploitation of Agricultural Wastes and By-Products for Production of *Aureobasidium pullulans* Y-2311-1 Xylanase: Screening, Bioprocess Optimization and Scale Up. Waste and Biomass Valorization, 8(3), 999-1010., Doi: 10.1007/s12649-016-9646-6

- 7 Sürek Ece, Buyukkileci Ali Oguz (2017). Production of xylooligosaccharides by autohydrolysis of hazelnut (*Corylus avellana* L.) shell. Carbohydrate Polymers, 174(null), 565-571., Doi: 10.1016/j.carbpol.2017.06.109
- 8 Buyukkileci Ali Oguz, Marcelo Fernandez Lahore, Canan Tari (2015). Utilization of orange peel a food industrial waste in the production of exo polygalacturonase by pellet forming *Aspergillus sojae*. Bioprocess and Biosystems Engineering, 38(4), 749-760., Doi: 10.1007/s00449-014-1315-1
- 9 Yeğin Sırma, Buyukkileci Ali Oguz (2015). Mikrobiyal Ksilanazlar ve Gıda Endüstrisinde Kullanım Alanları. Akademik Gıda, 13(4), 316-325.
- 10 Can Ucuncu, Canan Tari, Demir Hande, Buyukkileci Ali Oguz, Banu Ozen (2013). Dilute Acid Hydrolysis of Apple Orange Apricot and Peach Pomaces as Potential Candidates for Bioethanol Production. Journal of Biobased Materials and Bioenergy, 7(3), 376-389., Doi: 10.1166/jbmb.2013.1361 (Yayın No: 2263023)
- 11 Buyukkileci Ali Oguz, Tari Canan, Fernandez Lahore Marcelo (2011). Enhanced production of exo polygalacturonase from agro based products by *Aspergillus sojae*. Bioresources, 6(3), 3452-3468. (Yayın No: 835255)
- 12 Buyukkileci Ali Oguz, Yücel Ayşe Meral, Hamamcı Haluk (2006). Lactate and ethanol productions by *Rhizopus oryzae* ATCC 9363 and activities of related pyruvate branch point enzymes. Journal of Bioscience and Bioengineering, 102(5), 464-466., Doi: 10.1263/jbb.102.464 (Technical note)
- 13 Buyukkileci Ali Oguz, Harsa Hayriye Şebnem (2004). Batch production of L(+)-lactic acid from whey by *Lactobacillus casei* NRRL B 441. Journal of Chemical Technology Biotechnology, 79(9), 1036-1040., Doi: 10.1002/jctb.1094

## Conference Presentations

- 1 Polat Nuket, Buyukkileci Ali Oguz (2018). Xylan degradation by colonic bacteria. COST Action FP1306, 4th Workshop Valorization of lignocellulosic biomass side streams for sustainable production of chemicals, materials fuels using low environmental impact technologies, Selanik, Greece (oral)
- 2 Yeğin Sırma, Buyukkileci Ali Oguz (2017). Microbial production of enzymes from lignocellulosic food waste. 3rd International Congress on Food and Biosystem Engineering, Rodos, Greece (oral)
- 3 Doğru Kevser, Buyukkileci Ali Oguz (2017). Different pretreatments for valorization of hazelnut pruning wastes. FABE 2017 3rd International Conference on Food and Biosystem Engineering, Rodos, Greece (oral)

- 4 Sürek Ece, Doğru Kevser, Büyukkileci Ali Oguz (2017). Valorization of walnut shells by liquid hot water treatment(autohydrolysis). International Conference on Agriculture, Forest, Food Sciences And Technologies, Nevşehir, Turkey (oral)
- 5 Ahmad Bilal, Büyukkileci Ali Oguz, Güleç Şükrü (2017). Extraction, characterization of phytochemicals from medicinal plants and determination of their anti-carcinogenic effects. International Students Science Conference, İzmir, Turkey (oral)
- 6 Sürek Ece, Yeğın Sırma, Büyukkileci Ali Oguz (2017). Enzymatic processing of hazelnut shell autohydrolysis liquor for production of prebiotic xylooligosaccharides. COST Action FP1306 3rd Workshop on Valorization of lignocellulosic biomass side streams for sustainable production of chemicals, materials fuels using low environmental impact technologies, Terromolinos, Spain (oral)
- 7 Büyukkileci Ali Oguz, Sürek Ece, Doğru Kevser, Yeğın Sırma (2016). Valorization of hazelnut wastes by production of prebiotic oligosaccharide and bioethanol. Food Factor I - Barcelona Conference, Spain (oral)
- 8 Sürek Ece, Büyukkileci Ali Oguz (2015). Autohydrolysis of hazelnut shell for xylooligosaccharide production. EurofoodChem XVIII, Madrid Spain (oral)
- 9 Büyukkileci Ali Oguz, Tarı Canan, Fernandez-Llahore Marcelo, Demir Hande, Göğüş Nihan (2010). Optimization of Exo-Polygalacturonase Production from Orange Peel by *Aspergillus sojae*. IBS 2010, Rimini Italy (poster)
- 10 Büyukkileci Ali Oguz, Yücel Ayşe Meral, Hamamcı Haluk (2007). Physiology of *Rhizopus oryzae* at limiting glucose concentrations. Physiology of Yeast and Filamentous Fungi 3, Helsinki, Finland (poster)
- 11 Büyukkileci Ali Oguz, Hamamcı Haluk, Yücel Ayşe Meral (2004). Investigation of pyruvate branch point of *Rhizopus oryzae* by comparison of in vitro enzyme activities. Physiology of Yeast and Filamentous Fungi 2, Anglet, France (poster)
- 12 Büyukkileci Ali Oguz, Harsa Hayriye Şebnem (2000). Batch production of lactic acid from whey by free *Lactobacillus casei* NRRL B-441. FOOD2000-Blacksea and Central Asian Symposium on Food Technology, Ankara, Turkey (oral)