



Zehra GÜLSÜNOĞLU

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EDUCATION

Istanbul Technical University, Food Engineering Department, Istanbul, Turkey

PhD in Food Engineering

2013-2019

- Advisor: Prof. Dr. Meral Kilic Akyilmaz
- Co-advisor: Assoc. Prof. Dr. Funda Karbancioglu Guler
- Dissertation: Valorization of industrial food wastes by production of phenolic antioxidants via fermentation with newly isolated *Aspergillus* spp.

University of Saskatchewan, Dept. of Food and Bioproduct Sciences, Saskatoon, Canada

Visiting scientist

2018

- Promoter: Assoc. Prof. Dr. Takuji Tanaka
- Research subject: Deoxynivalenol (DON) accumulation in Black Soldier Fly Larvae (*Hermetia illucens*) feeding with wheat grain infested by *Fusarium* spp.

Ghent University, Lab of Food Microbiology and Biotechnology, Kortrijk, Belgium

Visiting scientist

2015- 2016

- Promoter: Prof. Dr. Katleen Raes
- Research subject: Screening of molds to produce hydrolytic enzymes and optimization of fermentation parameters

Istanbul Technical University, Food Engineering Department, Istanbul, Turkey

M.Sc. in Food Engineering

2011-2013

- Advisor: Prof. Dr. Necla Aran
- Co-advisor: Assoc. Prof. Dr. Fatma Nese Kok
- Dissertation: The effect of coacervation technique on the viability of model microorganisms

Ankara University, Food Engineering Department, Ankara, Turkey

B.Sc. in Food Engineering

2005-2010

- Advisor: Prof. Dr. Sedat Velioglu
- Graduation Project: High viscosity gum production using different combinations

WORK EXPERIENCE IN TEACHING

Istanbul Aydın University, Istanbul, Turkey

Asst. Prof. Dr.

October 2020-present

Okan University, Istanbul, Turkey

Adjunct Professor

Jan 2020-May 2020

Istanbul Sabahattin Zaim University, Istanbul, Turkey

Adjunct Professor

Jan 2020-May 2020

Istanbul Technical University, Istanbul, Turkey

Research and Teaching Assistant

Jan 2013- Sept 2019

PROJECTS

- Utilization of food wastes for production of antioxidants by molds, Scientific research project supported by Istanbul Technical University (BAP), (Researcher, 2015-2019).
- The effect of coacervation technique on the viability of model microorganisms, Scientific research project supported by Istanbul Technical University (BAP), (Researcher, 2012-2013).

PUBLICATIONS

- **Peer-reviewed journal articles:**

Gulsunoglu Z., Purves, R., Karbancioglu-Guler F., Kilic-Akyilmaz M. (2020) Enhancement of phenolic antioxidants in industrial apple waste by fermentation with *Aspergillus* spp. Biocatalysis and Agricultural Biotechnology, 101562.

Gulsunoglu Z., Aravind S., Bai Y., Wang L., Kutcher H.R., Tanaka T. (2019) Deoxynivalenol (DON) accumulation in Black Soldier Fly Larvae (*Hermetia illucens*) feeding with wheat grain infested by *Fusarium* spp. Fermentation, 5(83), 2-10.

Gulsunoglu Z., Karbancioglu-Guler F, Raes K, Kilic-Akyilmaz M. (2019) Soluble and insoluble-bound phenolics and antioxidant activity of various industrial plant wastes. *International Journal of Food Properties* 22 (1): 1501-1510.

Gulsunoglu Z., Karbancioglu-Guler F, Kilic-Akyilmaz M, Raes K. (2019). Production of multiple hydrolytic enzymes by black *Aspergilli* isolated from date and grape. *Journal of Agricultural Sciences*, 25 (4), 459-466.

Atil O., **Gulsunoglu Z.**, Kilic-Akyilmaz M. (2019). Stability of palace halva in relation to storage temperature and relative humidity. *Gida*, 44 (2), 260-273. <https://dx.doi.org/10.15237/gida.GD18050>

Dikmetas D., Konusur G., Mutlu-Ingok A., **Gulsunoglu Z.**, Karbancioglu-Guler F. (2019). Antimicrobial and antioxidant properties of hydrosol/essential oils obtained from orange (*Citrus sinensis*) peels. *Düzce University Journal of Science and Technology*, 7 (1), 274-283.

Kilic-Akyilmaz M., Kocaman E., **Gulsunoglu Z.**, Sagdic C., Mavazekhan S. M. (2018). Changes in physicochemical properties and gelation behavior of caseinomacropeptide isolate by treatment with transglutaminase. *International Dairy Journal*, 84: 85-91. <https://doi.org/10.1016/j.idairyj.2018.04.005>

Kilic-Akyilmaz M. and **Gulsunoglu Z.** (2015). "Additives and Preservatives" In book: Handbook of Vegetable Preservation and Processing, Second Edition, (Eds.) Hui Y. H. and Evranuz E. O., *CRC Press*, pp. 301-318.

Erguney E., **Gulsunoglu Z.**, Firatligil-Durmus E. and Kilic-Akyilmaz M. (2015). Improvement of physical properties of cherry laurel powder. *Academic Food Journal* 13(2): 108-114.

CONFERENCE PRESENTATIONS

Gulsunoglu Z., Karbancioglu-Guler F., Kilic-Akyilmaz M. (2020). Antioxidant activities of stirred yoghurt fortified with fermented apple peel and chestnut shell. *IFT Annual Meeting & Food Expo*, July 13-15, Webinar. (Poster presentation)

Gulsunoglu Z., Yigit H., Turan K., Karbancioglu-Guler F., Kilic-Akyilmaz M. (2020). Evaluation of antibacterial and antiviral activities of fermented chestnut shell. *IFT Annual Meeting & Food Expo*, July 13-15, Webinar. (Poster presentation)

Gulsunoglu Z., Karbancioglu-Guler F., Kilic-Akyilmaz M. (2019). Utilization of apple and pomegranate peels for production of pectinase by *Aspergillus* spp. *1st International and 11th National Food Engineering Congress*, November 7-9, Antalya, Turkey. (Oral presentation)

Kabataş B., Demirkurt B., **Gulsunoglu Z.**, Kilic-Akyilmaz M. (2019). The effect of different stabilizer combinations on the structural quality of ice cream. *2nd National Dairy Congress*, April 25-26, Izmir, Turkey. (Oral presentation)

Gulsunoglu Z., Aravind S., Bai Y., Wang L., Kutcher H.R., Tanaka T. (2019). Recovery of nutrients from *Fusarium*-damaged grain using solid-state fermentation and insect culture combinations. *69th Annual Conference of the Canadian Society of Microbiologists*, June 10-13, Quebec, Canada. (Poster presentation)

Demirkurt B., Kabatas B., Kilic Akyilmaz M., **Gulsunoglu Z.** (2018). Influence of stabilizers on physical properties of ice cream. *13th International conference of Food Physicists- ICFP*, October 23-25, Antalya, Turkey. (Poster presentation)

Gulsunoglu Z., Varol A., Ayhan N., Velioglu S. (2018). Synergistic interaction of xanthan, guar and locust bean gum investigated by viscosity. *The International Symposium of Food Rheology and Texture*, October 19-21, Istanbul, Turkey. (Proceeding paper)

Filonenko O., Kaya M., **Gulsunoglu Z.**, Kilic Akyilmaz M. (2018). Development of flavored milk with carob. *The International Symposium of Food Rheology and Texture*, October 19-21, Istanbul, Turkey. (Poster presentation)

Gulsunoglu Z., Karbancioglu-Guler F., Kilic-Akyilmaz M. (2018). Hydrolytic enzyme production by *Aspergillus aculeatus* on pre-treated pomegranate peel-supplemented medium. *Nutricion*, June 13-15, Ohrid, Macedonia. (Oral presentation)

Gulsunoglu Z., Catalkaya G., Kilic-Akyilmaz M., Capanoglu E. (2018). Effect of *in-vitro* gastrointestinal digestion on phenolic contents and antioxidant capacities of carob fruit, molasses (pekmez) and leather (pestil). *Nutricon*, June 13-15, Ohrid, Macedonia. (Poster presentation)

Catalkaya G., **Gulsunoglu Z.**, Guldiken B., Capanoglu E. (2018). Investigation of changes in antioxidant activity of Hardaliye during *in-vitro* gastrointestinal digestion. *Nutricon*, June 13-15, Ohrid, Macedonia. (Poster presentation)

Demiral M., **Gulsunoglu Z.**, Kocer E., Kilic-Akyilmaz M. (2018). Effect of inulin on physical properties of dried and reconstituted yoghurt. *International conference on Raw Materials to Processed Foods*, April 11-13, Antalya, Turkey. (Oral presentation)

Dastjerd A.K., **Gulsunoglu Z.**, Kilic-Akyilmaz M. (2017). pH effect on particle size and zeta potential of isolated caseinomacropptide from sweet whey. *10th NIZO Dairy Conference Innovations in Dairy Ingredients*, October 1-3, Papendal, The Netherlands (Poster presentation)

Gulsunoglu Z., Karbancioglu-Guler F., Kilic-Akyilmaz M., Raes K. (2017). Chemical Composition of Plant-Origin Food Waste. *IFT Annual Meeting & Food Expo*, June 25-28, Las Vegas, USA. (Poster presentation)

Gulsunoglu Z. and Kilic-Akyilmaz M. (2017). Effect of microbial and chemical acidification on milk gelling. *1st National Dairy Congress*, May 25-26, Ankara, Turkey. (Poster presentation)

Gulsunoglu Z., Karbancioglu-Guler F., Kilic-Akyilmaz M., Raes K. (2016). Screening of *Aspergillus* spp. to Produce Hydrolytic Enzymes. *3rd Congress of Baltic Microbiologists (CMB2016)*, October 18-21, Vilnius, Lithuania. (Poster presentation)

Ozer A., **Gulsunoglu Z.**, Kilic-Akyilmaz M. (2015). Stability of palace halva in relation to storage temperature and relative humidity. *Innovations in Food Packaging, Shelf Life and Food Safety*, September 15-17, Munich, Germany. (Poster presentation)

Erguney E., **Gulsunoglu Z.**, Firatligil-Durmus E. and Kilic-Akyilmaz M. (2014). Improvement of physical properties of cherry laurel powder. *Annual Conference & Exhibition, Functional Foods, Nutraceuticals, Natural Health Products and Dietary Supplements*, October 14-17, Istanbul, Turkey. (Poster presentation)

Gulsunoglu Z., Kok F. N. and Aran N. (2014). The Effect of Complex Coacervation Technique on The Viability of *Lactobacillus acidophilus* LA5 and *Saccharomyces cerevisiae* CEN PK 1137D. *3rd International Conference on Food Digestion*, March 11-13, Wageningen, The Netherlands. (Poster presentation)

Gulsunoglu Z., Kok F. N. and Aran N. (2014). The Effect of Freeze Drying on Viability of Encapsulated *Lactobacillus acidophilus* LA5 and The Effect of genipin concentration on the swelling ratio of freeze-dried microcapsules. *19th International Drying Symposium*, 24-27 August, Lyon, France. (Proceeding paper).

Keskin-Yaman O. and **Gulsunoglu Z.** (2012). Quality Management Systems in Dairy Industry. *International Conference on Industrial Engineering and Operations Management (IEOM)*, 3-6 July, Istanbul, Turkey. (Proceeding paper).