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Izmir Institute of Technology
Department of Food Engineering
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EDUCATION

2020: Visiting researcher, University of Milan, Italy

2016-Ongoing: Ph.D. in Izmir Institute of Technology, Department of Food Engineering, Turkey

2013-2016: M.Sc. in Middle East Technical University, Department of Food Engineering, Turkey

2008-2013: B.Sc. in Hacettepe University, Department of Food Engineering, Turkey.

RESEARCH INTERESTS

- Extraction and characterization of functional hydrocolloids from plant wastes
- Active and intelligent food packaging
- Encapsulation of bioactive agents
- Nanoemulsions

ACADEMIC BACKGROUND

Research Assistant: Izmir Institute of Technology, Department of Food Engineering, January 2016 to Present.

Ph.D. Thesis: Production of Pectin from Wastes and Low-Grade Products of Sun-Dried Fig Processing: Optimization of Pectin Extraction and Characterization of Its Major Properties

M.Sc. Thesis: Design and Characterization of Capsaicin Loaded Nanoemulsions

PUBLICATIONS

Peer-reviewed Journals

Çavdaroğlu, E., Farris, S., & Yemenicioğlu, A. (2020). Development of pectin–eugenol emulsion coatings for inhibition of *Listeria* on webbed-rind melons: a comparative study with fig and citrus pectins. *International Journal of Food Science & Technology*, 55(4), 1448-1457.

- Akbaş, E., Söyler, B., Öztop, M.H. (2018). Physicochemical and Antimicrobial Properties of Oleoresin Capsicum Nanoemulsions Formulated with Lecithin and Sucrose Monopalmitate Applied biochemistry and biotechnology, 1-18,
- Akbaş, E., Söyler, B., Öztop, M.H. (2018). Formation of capsaicin loaded nanoemulsions with high pressure homogenization and ultrasonication. LWT - Food Science and Technology, 96, 266-273.
- Akbaş, E., Kilercioglu, M., Onder, O. N., Koker, A., Soyler, B., & Oztop, M. H. (2017). Wheatgrass juice to wheat grass powder: Encapsulation, physical and chemical characterization. Journal of Functional Foods, 28, 19–27.
- Akbaş, E., Söyler, B., Öztop, M.H. (2017). Capsaicin Emulsions: Formulation and Characterization. Journal of Dispersion Science and Technology, 38 (8), 1079-1086,

CONFERENCE PRESENTATIONS

- Akbaş, E., Söyler, B., Öztop, M.H.(2017). Ultrasound assisted production and physical characterisation of oleoresin capsicum nanoemulsions with lecithin and sucrose monopalmitate. 31st EFFoST International Conference, November 13-16, Sitges, Spain. (Poster)
- Akbaş, E., Söyler, B., Öztop, M.H.(2016). Effect of Homogenization Type on the Formation of Capsaicin Loaded Nanoemulsions. 2nd Congress on Food Structure Design Innovation in Food Structure Properties and Relations, October 26-28, Antalya, Turkey. (Oral presentation)
- Akbaş, E., Söyler, B., Öztop, M.H.(2016). Effect of Surfactant Type on Antimicrobial Activity of Capsaicin Loaded Nanoemulsions. 4th International ISEKI_Food Conference, July 6-8, Vienna, Austria. (Oral presentation)
- Kilercioglu, M., Öztop, M.H., Akbaş, E. (2016). Enkapsüle Edilmiş Buğday Çimi Suyunun Fiziksel ve Kimyasal Karakterizasyonu (Triticum aestivum L.). Türkiye 12. Gıda Kongresi, Ekim 5-7, Edirne, Türkiye. (Poster).
- Poçan, P., Akbaş, E., Beylikçi, S.C., Öztop H.M. (2016). Biyopolimer Eklenmiş Kapsaisin Yüklü Nanoemülsiyonların Tasarlanması. Türkiye 12. Gıda Kongresi, Ekim 5-7, Edirne, Türkiye. (Poster).

PROJECTS INVOLVED

1. Production of pectin from wastes, byproducts and low grade products from sun-dried fig processing: optimization of pectin extraction and characterization of its molecular, functional and health benefits, 2018-2021, TUBITAK-BİDEB -1001, Researcher
Project Coordinator: Prof. Dr. Ahmet Yemenicioğlu

2. Isolation of protein from defatted cake of *Nigella sativa* seeds and characterization of bioactive, functional and edible film-forming properties, 2019-2020,
TUBITAK-BIDEB -2209/A, Co-Advisor
Project Coordinator: Prof. Dr. Ahmet Yemenicioğlu
3. Development of Innovative Food Systems to Protect the Impact of Wheat Grass, 2015-2016,
Ministry of Science, Industry and Technology - Teknogirisim Capital Support
Project Coordinator: Elif (Akbas) Çavdaroğlu
4. Capsaicin Loaded Nanoemulsion Design and Characterization, 2015-2016,
TUBITAK-BIDEB -1002, Scholar
Project Coordinator: Assoc Prof. Mecit Halil Öztop
5. A New Approach to Celiac Disease: Tracking of the Gluten by Mass Sensitive Biosensors, 2012-2013,
TUBITAK-BIDEB -2209, Scholar
Project Coordinator: Prof. Dr. Mehmet Mutlu

TEACHING EXPERIENCE

Teaching Assistant, IYTE

- Fluid Mechanics, 2016, 2017, 2018, 2020
- Heat Transfer 2017, 2018, 2020
- Food Engineering Principles (Transport Phenomena) 2018, 2019
- Mass Transfer 2019, 2021
- Material and Energy Balances, 2020
- Introduction to Statistics for Engineers, 2021

HONORS / AWARDS

- The 8th University Students Research Project Competitions, Regional Winner, 2020
- Graduated with honor degree at Hacettepe University, 2013
- Rankind 3rd in graduation among 70 students at Hacettepe University, 2013

WORK EXPERIENCE

02/2014 –08/2014

PepsiCo-FritoLay /Turkey

Department: R&D

Position: R&D Engineer

- Support product development projects
- Handle and coordinate R&D systems, specifications and documentations
- Support trials and sample production
- Prepare reports for R&D activities

07/2012 –08/2012

Alanya Integrated Meat Plant

Department: Quality Control Laboratory

Position: Intern Food Engineer

06/2012 –07/2012

AROMSA Food Aroma and Additives Company

Department: Sauces Quality Control Laboratory

Position: Intern Food Engineer

06/2012 –06/2012

Ulker Hero Food Company

Department: Quality Control Laboratory

Position: Intern Food Engineer

06/2011 –07/2011

Directorate of Ankara Food Control Laboratory

Department: Mineral Laboratory, Residual Analysis Laboratory, Mycotoxin Laboratory

Position: Intern Food Engineer

SKILLS

Laboratory: Texture analyzer, Freeze Drying, Microbiology techniques, HPLC, DLS, FTIR

Languages: English (Advanced), Italian (Beginner), Turkish (Native)

Software: MS Office applications, Minitab, Origin