



## Seminars in Biotechnology BTEC 592 & BTEC 692

### **“Proteomics and Molecular Studies on Host-Microbe-Diet Interactions”**

**Thursday, March 23, 2023**

**13.30**

**Microsoft Teams**

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Hasan Ufuk Çelebioğlu obtained his Bachelor Degree (2010) from Department of Molecular Biology and Genetics, and his MSc from Biology (2012) at Middle East Technical University, Ankara. Then, he finished his PhD in 2017 at Enzyme and Protein Chemistry, Department of Biotechnology and Biomedicine, Technical University of Denmark. Since then, he has been working at Department of Biotechnology, Bartın University, and in 2021 he became Associate Professor. His works focus on Microbial Biotechnology, especially including molecular interactions of probiotic bacteria with diet ingredients such as oligosaccharides and phenolic compounds. Furthermore, he is also working on *in vitro* effects of combinations of different functional foods (i.e. probiotics and phenolic compounds) on human cancer cell lines. He has been involved in 8 research projects as PI or researcher, and he is co-author of more than 25 peer-reviewed journal articles.

The role of human diet in human health is getting more attention day by day. Recently, research is focusing on functional foods such as probiotics and prebiotics in order to promote human health and prevent diseases. Probiotics are microorganisms that exert positive health benefits to the host when administered in sufficient amount and prebiotics are indigestible food ingredients that are selectively fermented by gastrointestinal microbiota, resulting in positive health effects. One of these functional food ingredients is phenolic compounds derived from plant sources and have become a very interesting subject in human nutrition and health research because they confer health benefits. Other one is indigestible carbohydrates and oligosaccharides, some of which have been known as defined or emerging prebiotics.

The subject of this seminar speech is to discuss interplay between beneficial microorganisms, host, and diet ingredients as diet ingredients potentially impact on microorganisms, thus may confer more health benefits. Researches have shown that diet ingredients such as phenolic compounds and emerging prebiotic oligosaccharides positively affect both physiological properties and molecular mechanisms of microorganisms (gene expressions, protein expressions, etc.). Thus, it is very important to focus on these interactions for potential healthier life.