

## **CISTalks**

Time: **2024-10-23T13:00-14:00**

Location: **BBBF-309, Yeditepe University**

Open to the public. All are invited.

# **Functional Nanomaterials for Advanced Sensing Applications**

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### **Abstract**

The rapid advancement of nanotechnology has opened new frontiers for the development of highly sensitive and versatile sensing platforms. In this talk, we will explore the design and development of functional nanomaterials tailored for advanced sensing applications, with a particular focus on new-generation nanoparticle/hydrogel (nano-gel) composites as implantable sensors. We will highlight the potential of these nano-gels for real-time monitoring in challenging environments, such as in-body diagnostic systems and continuous health monitoring.

Additionally, this presentation will delve into the innovative use of artificial intelligence tools, particularly ChatGPT, to enhance engineering education in the field of Nanotechnology. While AI-based tools are becoming increasingly prevalent in university education, their integration into hard sciences like nanotechnology requires further exploration. This presentation will discuss how ChatGPT can assist students in grasping complex nanotechnological concepts.

### **Biography**

Zeliha Cansu Canbek Özdil received her B.Sc. in Chemistry from Middle East Technical University and her M.Sc. from the University of Regensburg in "Complex Condensed Materials and Soft Matter" in 2009. She completed her Ph.D. in theoretical, physical, and analytical chemistry at the University of Versailles-St-Quentin in 2015.

After three years as an R&D assistant manager in the automotive industry, she transitioned to academia. Her postdoctoral research began at CNRS Bordeaux in 2018, focusing on meta-materials, and continued at Boğaziçi University's Computer Engineering Department in the field of nanonetworking from 2019 to 2021. In 2021, she joined Yeditepe University as an Assistant Professor in the Department of Material Science and Nanotechnology Engineering.

She co-leads the Chemistry for Advanced Nanomaterials and Polymeric Network (CANO) Laboratory at Yeditepe University. The group's research focuses on designing advanced functional nanomaterials for wearable and implantable sensor systems, photothermal therapy agents, and nano-scale sensing platforms.