

Colloidal nanoparticles and unique interfaces-based SARS-CoV-2 detection methods and COVID-19 diagnosis

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Abstract

In March 2020, SARS-CoV-2 based infections were declared 'COVID-19 pandemic' by the World Health Organization (WHO). Pandemic raised the necessity to design and develop genuine and sensitive tests for precise specific SARS-CoV-2 infections detection. Nanotechnological methods offer new ways to fight COVID-19. Nanomaterials are ideal for unique sensor platforms due to their easy manufacturing, chemically versatile properties. These materials are the most current components in SARS-CoV-2 testing since they have distinct properties, such as their large surface-to-volume ratios. Extensive surface interactions of the nanomaterials and the sensor and the analyte, these materials allow rapid and reliable detections with high sensitivity. Nanobiosensors are a valuable alternative to conventional laboratory devices for clinical and environmental analysis. They can combine the unique electrical and optical properties of nanomaterials with biological or synthetic molecules that are used as receptors for the selective detection of all types of analytes. In this webinar, various nanomaterial-based particular biosensor arrays are given in selected platforms.

Biography

Dr. Ebru Saatçi, Female, Biochemist, graduated from Medical Biosciences, 9 Eylül University in 1994. She worked for Erciyes University between 1994-1996 in Biology Department and in Middle East Technical University between 1999-2006. She got PhD degree from Biochemistry in METU at 2005. She worked as a postdoctoral researcher in Chemistry Department, Kemicentrum, Lund University, Sweden between

2007-2008. Now she is Assistant Prof. in Biology Department, Erciyes University., Kayseri, Turkey. She has her expertise in enzyme and immunosensor development by using amperometric and impedimetric electrochemical methods. Mainly her research is focused on magnetic bead and SPE combination-based electrochemical biosensors. She has two patents and one patent application for immunosensors