



# BÖLÜM 10

## Deeper Insights into The Electrochemical Sensors

Ceren KARAMAN<sup>1</sup>  
Afşin GÜNGÖR<sup>2</sup>  
Mahmut AKSU<sup>3</sup>

### Abstract

Electroanalytical chemistry is a discipline of chemistry that encompasses methodologies for examining the electrical characteristics of solutions in an electrochemical cell and analyzing substances quantitatively and qualitatively using these properties. Electroanalytical methods are gaining popularity in electrochemical sensor applications nowadays. The electrochemical sensor illustrates how electrical signals are transmitted at interfaces during biochemical or chemical activities that occur at the molecular level. Electrochemical sensors are a class of chemical sensors in which the electrode serves as the transducer. These instruments are currently utilized in a variety of practical applications. Thanks to their repeatability, wide linear concentration range, low detection limit, and excellent stability, electrochemical sensors have lately been used in a variety of industrial areas. In addition, they are inexpensive, simple and useful systems that can measure using small amounts of analyte and sensor material, and can

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<sup>1</sup> Akdeniz University, Vocational Technical Sciences, Department of Electricity and Energy, Antalya, 07070, Turkey. [cerenkaraman@akdeniz.edu.tr](mailto:cerenkaraman@akdeniz.edu.tr) (C.K.)

<sup>2</sup> Akdeniz University, Faculty of Engineering, Department of Mechanical Engineering, Antalya, 07070, Turkey. [afsingungor@akdeniz.edu.tr](mailto:afsingungor@akdeniz.edu.tr) (A.G.)

significance that may be found here. Electrochemical sensor research is still largely motivated by the recent finding that these devices can achieve detection limits orders of magnitude lower than previously considered possible. The immense amount of effort in electrochemical sensor investigations reflects the field's significance, ability, and practical applicability in detecting and monitoring specific substances. There are a lot of high-quality electrochemical sensor researches going on right now. Unfortunately, there are many published papers in which important characteristics such as selectivity are either ignored or understudied. In many fields of chemical sensing, researchers must anticipate innovation, which is a fundamental driving factor for long-term success. Moreover, due to the fact that this area is so ancient and embedded, researchers have a critical role to play in connecting with previous work and building on the level of quality of the previous ones. In brief, the researchers should also focus on the engineering of the electrochemical sensors to be utilized in real samples with defined criteria on selectivity, sensitivity, detection limits, and robustness.

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