

Special Issue

Challenges in Electrochemical Nucleic Acid-Based Sensing

Message from the Guest Editors

Electrochemical biosensors hold great promise in point-of-care applications due to their simplicity, low cost, portability and potential for rapid analysis. Within this field, nucleic acids occupy a central role—both as targets of detection and as versatile biorecognition elements—owing to their inherent specificity, programmability and broad biological relevance. The ability to accurately detect nucleic acids has far-reaching implications, spanning human health diagnostics, infectious disease monitoring, food safety and environmental surveillance. Despite significant progress, numerous challenges remain in integrating electrochemical nucleic acid-based sensing platforms into clinically or environmentally deployable technologies (e.g. specificity, matrix effects). This Special Issue, titled “Challenges in Electrochemical Nucleic Acid-based Sensing”, aims to highlight recent advances, identify current limitations and explore emerging strategies to overcome the barriers that hinder implementation. For detailed information, please visit [here](#).

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Deadline for manuscript submissions

15 April 2026



Sensors

an Open Access Journal
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Impact Factor 3.5
CiteScore 8.2
Indexed in PubMed



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