



## Electrochemistry and Electroanalytical Approaches

Cite this: *Analyst*, 2025, **150**, 219Damien W. M. Arrigan, <sup>a</sup> Karolien De Wael, <sup>b</sup> Jeffrey E. Dick, <sup>c</sup>  
Thiago Paixão <sup>d</sup> and Yi-Lun Ying <sup>e</sup>

DOI: 10.1039/d4an90096k

rsc.li/analyst

*Analyst's* 150<sup>th</sup> volume (2025) and 150<sup>th</sup> anniversary (2026) together mark the enduring presence of the journal at the forefront of chemical and biological measurement sciences. Electrochemistry is perhaps one of the oldest forms of measurement science, and striking innovations endure even to this day. Electrochemical methods and strategies for measurements across a wide range of topics from fundamental investigations to matters of direct societal concern continue to be a leading component of the journal's contribution to the analytical and bioanalytical sciences. *Analyst's* past includes seminal papers such as Barker's and Jenkins' square wave polarography (<https://doi.org/10.1039/AN9527700685>), Bates' espousing on the establishment of pH standards (<https://doi.org/10.1039/AN9527700653>) and Heyrovský's account of the principles of polarography (<https://doi.org/10.1039/AN947720229B>), whilst its present includes the latest advances in wearable electroanalytical devices and advanced methods of electrochemical analysis. The journal continues to present important advances in electrochemistry that underpin electroanalytical approaches and their applications.

The present collection of papers on Electrochemistry and Electroanalytical

Approaches aims to illustrate the excellence in analytical science research of an electrochemical nature that *Analyst* publishes. This collection contains a mix of previously published papers and specifically invited contributions that illustrate the strengths and diversity of electrochemical tactics in modern measurement sciences. Paper types included in this collection encompass reviews (5), communication (1) and regular articles (49). The broad themes discussed within these papers are the challenging topics of improved methods for electrode preparation, ion-sensitive systems including pH and reference electrodes, and analysis of metals in diverse applications by stripping voltammetry and associated methods. The detection and determination of substances of biological interest continues to provide fruitful ground for new electrochemical solutions and investigations, including analysis of drugs and their metabolites, neurochemicals and chiral analyses, as well as detection of macromolecular biomarkers such as proteins and miRNA. The direct analyses of cells and exosomes offer challenges that are addressed within these articles, while surface modification and materials to tune electrode responses provide

ongoing opportunities for innovations. It is worth noting that many of these papers deal with fundamental issues relating to electroanalytical responses and provide excellent complementarity to those investigations driven by potential applications. As well as a broad collection of topics, contributions are included here from across the world, including Europe, the Americas, and the Asia/Pacific region, showing the diversity of geography in making fundamental and applied advances in electroanalytical chemistry.

Altogether, these papers show that electrochemistry and electroanalytical approaches are ubiquitous in their scope for new ideas and inventions. These approaches continue to offer viable solutions to problems outside the research laboratory with scope to make real impacts in the world. From reading these papers, we hope that readers will learn the science and begin to realize the remarkable footprint electrochemistry has had on measurement science. We also hope that this exciting collection encourages readers to send their manuscripts on these and related topics to *Analyst*.

The guest editors

<sup>a</sup>Curtin University, Australia<sup>b</sup>University of Antwerp, Belgium<sup>c</sup>Purdue University, USA<sup>d</sup>University of São Paulo, Brazil<sup>e</sup>Nanjing University, China