

DPTO. QUÍMICA ANALÍTICA

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Sala de Grados (Sala Biblioteca), Edificio D



QUÍMICA ANALÍTICA
UCM

Signaling and measurement of small organic molecules in the context of health monitoring and well-being



UNIVERSITY of the
WESTERN CAPE

Prof. Priscilla Baker

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Analytical Systems and Processes for Priority and Emerging Contaminants

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About the Speaker

Biography

Baker is the 2025 winner of the L’Oreal-UNESCO For Women in Science International Award, Laureate for Africa and the Arab States. She is a senior professor in Chemistry and the current South African Research Chair Initiative (SARChI) chair in Analytical Systems and Processes for Priority and Emerging Contaminants (ASPPEC). She is the director of the Electrochemical Sensors node of the Nano-microfabrication Facility (NMMF) of the Department of Science and Innovation (DSI, South Africa), hosted at the University of the Western Cape (UWC). She is co-director of the first International Associated Laboratory (LIA) between France and South Africa. Baker is the co-director of the SensorLab research group (Chemistry department, UWC) since 2004. Baker was elected Regional Representative for South Africa and Africa (2017-2021), in service of the International Society of Electrochemistry (ISE, Switzerland). Baker has served as councillor for the South African Chemical Institute (SACI, 2006-2018) and chairperson of the Electrochemical division of SACI. In 2020 Baker was awarded a Fellow in Residence appointment on the Paris Seine Initiative for Excellence programme, hosted at the CY Cergy Paris University, France. In 2014 Baker was the winner of the deputy vicechancellor’s Young Researcher Award, (UWC). In the same year she was announced the winner of the Distinguished Woman Scientist Award in the category of Physical and Engineering Sciences, Department of Science and Technology, Ministry of South Africa.

Abstract

The primary focus of her research is the integrated application of analytical tools and technology to develop early warning systems for trace-level detection and quantification of critical contaminants in the environment and in the context of health. These systems are primarily electrochemically driven, but draw on a wide range of supporting analytical techniques and energy sources for feasible outcomes. In the presentation she will highlight some examples from her research to illustrate the challenges associated with the measurement and monitoring of small organic molecules with ubiquitous electrochemical signaling, in the context of health monitoring and well-being.