



Prof Priscilla GL Baker
Senior Professor/ SARChI
SensorLab Research Group
Chemistry department
University of the Western Cape
South Africa
Tel: 021 959 3051
Email: pbaker@uwc.ac.za

‘Electrochemistry at nanostructured semi-conductive interfaces for real time analytical solutions’

Electrochemistry is the study of electrically stimulated semi-conductive interfaces to interrogate redox reactions, typically in solutions. In principle any compound that can be oxidised or reduced can therefore be analysed. Electrochemistry is a green technology that is fully portable and offers real time analytical data. In our research we focus strongly on the design and synthesis of novel semi-conductive nanomaterials and their application as sensor systems. Using a combined electro-analytical approach we develop the next generation of technological solutions to address analytical challenges in environmental impact assessment, developing diagnostic tools for point of care solutions, as well as energy generation and storage.

About the speaker: Professor Priscilla Baker is co-leader of SensorLab, an electrochemistry research group in the department that focuses on the fundamental and applied electrodynamics of materials and sensors. Her specialisation is in the application of frequency modulated electrochemical techniques, notably electrochemical impedance spectroscopy. Baker collaborates with researchers in US, Germany and France, partnerships that lead to numerous student exchange opportunities. She is also an active member of two research consortia funded by the Seventh Framework Programme (FP7) of the European Commission. She has participated in international teaching and training programmes at Wales University, Coimbra University and University of Cergy Pontoise. Baker has supervised 50+ Honours, MSc, and doctoral researchers as well as post-doctoral fellows. Baker was announced Winner of the Department of Science and Technology, Distinguished Woman Scientist award in the category Physical and Engineering Sciences (2014) and in the same year she was awarded the Deputy Vice Chancellor’s Young researcher Award, by the University of the Western Cape.