



Università di Roma “Tor Vergata”

Dipartimento di Scienze e Tecnologie Chimiche

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AVVISO DI SEMINARIO

Prof. Omotayo Arotiba

Electrochemistry Research Group

*Department of Applied Chemistry, University of Johannesburg, South
Africa*

il giorno venerdì 26/01/2018 alle ore 15 :00

Nell' Aula seminari del Dipartimento di Scienze e Tecnologie Chimiche

Terrà un seminario dal titolo:

**Electrochemistry in Sensors, Biosensors and Water Treatment – A
Research Group Overview**

Proponente; Dott.ssa Arduini

Abstract:

Electrochemistry (including photoelectrochemistry) is both a fundamental and applied science. It is a multi-disciplinary science which cuts across chemistry, biochemistry, material science, nanotechnology, engineering, environmental science, medicine, and so. Electrochemistry is a key science in the very important fields of analytical or diagnostic science (sensors and biosensors); energy (solar cells, fuel cells, batteries, water splitting, and hydrogen storage); water treatment (electrochemical advanced oxidation process, electrocoagulation, capacitive deionisation) and so on.

This talk titled "*Electrochemistry in Sensors, Biosensors and Water Treatment*", highlights the ongoing research in the Electrochemistry Group at the University of Johannesburg. Attention will be given to the roles and applications of different materials such as nano-carbons, dendrimers and metal oxide semiconductors (TiO_2 , ZnO , WO_3) in our research. We have used these materials to develop an array of sensor (for arsenic, selenium, mercury, lead etc) and biosensors (enzyme, DNA and antibody). Exploiting the photocatalytic properties of selected semiconductors, we have also developed electrochemical technologies for the treatment of polluted wastewater.