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Associate Professor Xiangqun Zeng publishes in Biosensors and Bioelectronics

Associate Professor and CBR member **Xiangqun Zeng**, of the **Department of Chemistry**, directs a research group that focuses on developing biosensors for the rapid detection of biomarkers and pollutants. Some of their recent results were published in the February 2010 issue of **Biosensors and Bioelectronics (Potentiometric Biosensor For Studying Hydroquinone Cytotoxicity In Vitro**, Volume 25, Pages 1356-1362). The paper begins:

"Human beings are exposed to thousands of naturally occurring and synthetic chemicals over a lifetime. Over 45,000 toxic chemicals were listed by the US **National Institute of Safety and Health** (NIOSH) in 1980. The traditional tools for in vitro **cytotoxicity** studies are microscopy (light and electron microscopy) and 96- or 386-well plates using either fluorescent markers or fixation procedures for cell viability [...]. **Potentiometric sensors** measure the potential of an electrode at equilibrium (i.e. in the absence of the appreciable currents) by measuring the electrochemical cell potential vs. a reference electrode potential [...]. Thus by measuring the electrochemical potential change of the sensor relative to the culture medium with a potentiometric sensor, the cytotoxicity of a chemical compound can be evaluated to support toxicological exposure assessment of a chemical. [...] In this report, we intend to extend the methodology to a broad range of compounds, such as **hydroquinone** ([1,4-dihydroxybenzene, $C_6H_4(OH)_2$, HQ]), a widely used chemical that exists in cosmetics, medicines, cigarette smoke, the environment, the workplace, and human diet."

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SUMMARY

Associate Professor Xiangqun Zeng has recent results published in the February 2010 issue of Biosensors and Bioelectronics.

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