

Invitation to IOES Scientific Seminar Series

The Institute of Ocean and Earth Sciences (IOES) is happy to invite you to attend a IOES Scientific Seminar by **Dr. G.Gnana kumar**, Visiting Senior Lecturer, IOES, University of Malaya and Madurai Kamaraj University, India on **“Design and Development of Electrochemically Active Catalysts for the Applications of High Performance Biofuel cells?”**

Date : 17 May 2016 (Tuesday)

Time : 3.00 – 4.00 pm

Venue : Auditorium, Institute of Graduate Studies Building, University of Malaya

“Design and Development of Electrochemically Active Catalysts for the Applications of High Performance Biofuel cells?”

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Abstract

The urgency of clean and sustainable energy has been focused on the world resurgence to explore the advanced energy generation systems and the aforementioned significant concerns conscript the energy generation devices should be of environmental benign, energy efficient and highly durable. It necessitates the development of alternative energy devices, in which the biofuel cells (BFC) are considered as the convoluted clean energy device to efficiently tackle the aforementioned significant limitations by offering the high volumetric power density with low/zero emission profile. Although BFCs are capable in delivering the green power, the obtained power output is not influential enough to compete with the existing conventional energy generation devices, which urges the improvement of overall fuel cell efficiency. Apart from the number of research aspects explored on BFCs, the liberation and acceptance of electrons comprising the oxidation and reduction reactions, respectively, effectively governed the overall efficiency of fuel cells. Hence, our research group extensively developed the variety of robust and electrochemically active catalysts to the meet the targets constructed for the high performance and durable BFCs. The number of electrochemical techniques adopted in our research efforts clearly illustrated the exact mechanisms involved in the liberation of electrons from the microorganisms and power generation of BFCs. Hence, this lecture is aimed to adumbrate the feasible opportunities in tackling the bottle necks of existing BFCs and fascinate the futuristic dimensions of high performance BFCs.

References:

1. M.V. Kannan, G. Gnana kumar, *Biosensors and Bioelectronics* 2016, 77, 1208.
2. G. Gnana kumar, S. Hashmi, C. Karthikeyan, A.Nejad, M.Vatankhah, Florian J. Stadler, *Macromolecular Rapid Communications* 2014, 35, 1861.
3. G. Gnana kumar, C. Kirubakaran, S. Udhaya, K. Ramachandran, C. Karthikeyan, R. Renganathan, *ACS Sustainable Chemistry and Engineering* 2014, 2, 2283.
4. G. Gnana kumar, Z.Awan, K.Nahm, S.Xavier, *Biosensors and Bioelectronics* 2014, 53, 528.
5. G. Gnana kumar, V. Sarathi, K.Nahm, *Biosensors and Bioelectronics* 2013, 43, 461–475.

Hope to see you all at this exciting seminar! All are welcome!
For registration and further details, please contact us at:
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