

UniCat Colloquium

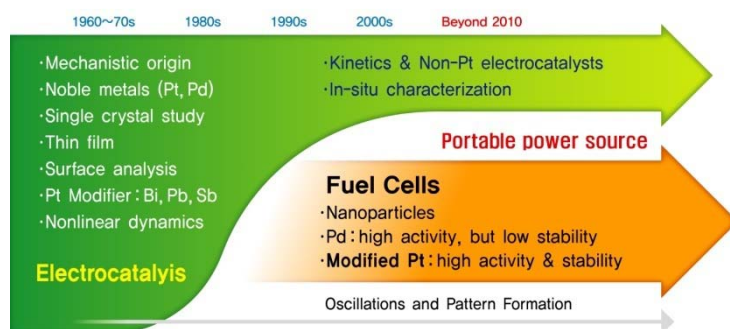
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Lecturer: **Prof. Jaeyoung Lee**, Ertl Center for Electrochemistry and Catalysis and School of Environmental Science and Engineering, Gwangju, South Korea

Title: **Understanding Underlying Processes in Formic Acid Fuel Cells**

Abstract: A basic understanding of electrode structure and the characteristics of its components can be powerfully utilized in fuel cell applications such as direct formic acid fuel cell (DFAFC) system integration and HCOOH concentration controlled systems. There have been, thus, tremendous efforts made to elucidate theoretical aspects of electrochemical processes involving new anode catalysts and put them into practical effect on formic acid fuel cells.

Formic Acid in Electrochemistry



Herein, we highlight recent studies for better understanding of the underlying processes in DFAFC: (i) a systematic approach for developing cost-effective and stable anode catalysts and electrode structures that incorporate mass transport characteristics of HCOOH; (ii) a clear evaluation of the HCOOH crossover rate based on its physicochemical

properties; and (iii) a theoretical assessment process of individual electrodes and related components during DFAFC operation using EIS and a reversible hydrogen reference electrode. Indeed, from an industrial point of view, the most cost effective and competitive variants of fuel cell applications will establish themselves in the market. To this end, formic acid fuel cells are definitely one of the most promising candidates with ethanol.

Date: **Wednesday, 2 November 2011**

Time: **5:15 pm - around 6:45 pm**

Location: **TU Berlin; Institute of Chemistry
Straße des 17. Juni 115; 10623 Berlin
Building C; Lecture Hall C 243**

Organiser: **Prof. Peter Strasser (TUB)**

Coffee and tea will be served thirty minutes prior to the lecture start.
Guests are cordially invited to attend!

Prof. Dr. Matthias Driess, Chair of the Cluster of Excellence UniCat