

Charge transfer kinetics in dye-sensitised photoanodes and photocathodes: From solar electricity to photo-electrochemical water splitting

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Seminar Room B, Sousei Hall, Hokkaido University
(創成科学研究棟4階セミナー室B)

<http://www.cat.hokudai.ac.jp/access.html>

I develop new materials and technologies that facilitate solar energy conversion providing cheap, renewable and portable energy supply. Our focus is on organic materials, dyes and polymers, which convert photons to electricity (organic solar cells) or uses these materials absorbed on nanostructured surfaces to directly drive photo-electrochemical reactions, such as water splitting which produces hydrogen and oxygen. We recently demonstrated sustained solar-driven photo-electrochemical hydrogen generation without any additional bias or chemicals using only water and visible light. Much of our research is focused on fundamental understanding of the processes of light absorption, charge generation and transport, all of which determine the ultimate efficiency of the solar energy conversion. I expect that new linkages in Japan, with a world-class scientific community in this area, will lead to big improvement in the solar conversion efficiency as well as improvement of our knowledge of how our devices work.

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Attila Janos Mozer 博士は日豪若手研究者交流促進事業(ERLEP)により来日され日本国内の関連研究者を訪問しておられます。今回北海道大学触媒化学研究センターに来られたのを機にセミナーを開催することにいたしました。

《講演者略歴》 1996 – 2002 MSc Chemical Engineer, Department of Chemical Engineering, Budapest University of Technology and Economics, Budapest, Hungary/2002 – 2004 PhD, Department of Physical Chemistry, Johannes Kepler University Linz, Austria/2012 – MBA, Sydney Business School, University of Wollongong, Australia -- 2010–2011 Senior Fellow Intelligent Polymer research Institute, ARC Centre of Excellence for Electromaterials Science University of Wollongong, Wollongong, Australia/2011–current Australian Research Council ARF Fellow Intelligent Polymer Research Institute, ARC Centre of Excellence for Electromaterials Science, University of Wollongong, Wollongong, Australia