Materials for Green Energy
先端綠能材料研發與應用國際研討會

強調綠能與環保的時代，替代能源的綠能開發及節能技術的發展成為重要課題，特別是純淨無污染的綠色能源已逐漸受到重視。在許多綠色能源技術中，氫能相關的技術—燃料電池，其具有高效率、低污染、無噪音等優異的性能，被公認為二十一世紀重要的新能源技術。而太陽能領域已進入第三代太陽能電池的世紀，研發高效率染料敏化太陽能電池(DSSC)一直是學術界努力的目標。發展高功率鋰電池以應用於電動車輛，也是目前環保及節能領域重要的一環。燃料電池、太陽能電池及鋰電池材料研發技術已是世界各國開發新能源的重點方向。因此本研討會特邀請日本國家物質材料研究機構(National Institute for Materials Science, NIMS)燃料電池中心的研究團隊 Dr. Nishimura Chikashi, Dr. Kiyoshi Kobayashi,鋰電池專家 Dr. Kazunori Takada 與染料敏化太陽能電池專家 Dr. Liyuan Han，以及東北大學多元物質科學研究所(Institute of Multidisciplinary Research for Advanced Materials, IMRAM) Dr. Satoshi Kameoka 來台進行專題演講，希望透過日本知名專家，針對先端綠能材料的演講注入新觀念並帶動國內外產學研界的交流。

舉辦日期：2010年11月8日（星期一）
舉辦地點：國立台北科技大學 第六教學大樓 國際會議廳
主辦單位：國立台北科技大學奈米光電磁材料技術研發中心
協辦單位：國立台北科技大學創新育成中心-綠色能源產業專業育成網絡計畫、台灣永光化學股份有限公司、
指導單位：教育部技職司、經濟部中小企業部
語言：全程英語演講
報名費用：免費（含會議手冊資料、午餐、茶點）
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截止日期：99年11月05日。
聯絡方式：黃永翰 先生 電話：02-27712171 轉2781 or 0911228347
活動網址：http://www.ntut.edu.tw/~wwwemo/FCt4.html
### 先端綠能材料研發與應用國際研討會議程表

<table>
<thead>
<tr>
<th>時間</th>
<th>活動內容</th>
<th>演講者</th>
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<tbody>
<tr>
<td>8:30 ~ 9:00</td>
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<td>9:00 ~ 9:10</td>
<td>開幕式</td>
<td>王錫福 院長</td>
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<tr>
<td>9:10 ~ 9:30</td>
<td>來賓致詞</td>
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<tr>
<td>9:30 ~ 10:20</td>
<td>Novel metallic membrane materials for hydrogen production</td>
<td>Dr. Nishimura Chikashi (National Institute for Materials Science, NIMS)</td>
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<td>10:20 ~ 10:40</td>
<td>茶敘</td>
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<tr>
<td>10:40 ~ 11:30</td>
<td>Development of safe and high-performance Li-ion batteries by a unique design of interfaces.</td>
<td>Dr. Kazunori Takada (National Institute for Materials Science, NIMS)</td>
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<td>11:30 ~ 13:00</td>
<td>午餐</td>
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<tr>
<td>13:00 ~ 13:50</td>
<td>Solid Electrochemical Properties of Lanthanum Silicate Oxyapatite</td>
<td>Dr. Kiyoshi Kobayashi (National Institute for Materials Science, NIMS)</td>
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<tr>
<td>13:50 ~ 14:40</td>
<td>Self-assembled nanoarchitecture for novel porous metal-oxide composite catalysis materials</td>
<td>Dr. Satoshi Kameoka (Institute of Multidisciplinary Research for Advanced Materials, IMRAM)</td>
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<td>14:40 ~ 15:00</td>
<td>茶敘</td>
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<tr>
<td>15:00 ~ 15:50</td>
<td>Highly Efficient Dye-sensitized Solar Cells</td>
<td>Dr. Liyuan Han (National Institute for Materials Science, NIMS)</td>
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<td>15:50</td>
<td>散會</td>
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舉辦日期：2010 年 11 月 8 日 (星期一)  
舉辦地點：國立台北科技大學 第六教學大樓 國際會議廳
At our center, materials are analyzed and controlled from the micro- to nanometer scale and also are elucidated in terms of structure and properties as well as interactions thereto, in order to help guide the development of superior fuel cell materials. Furthermore, in order to propagate these, we seek to develop materials — with high corrosion-resistance levels, ion conduction, catalytic functions and mechanical strengths — that can be used over the long-term in actual fuel-cell and Hydrogen-production systems, through study of effects on ion conduction and catalytic performance, by structural details and surface as well as interface structures by nanostructural control that enables full performance of potential functions.

1982.3 Graduated from WASEDA University
1984.3 Master’s degree from WASEDA University
1984.4 Researcher, National Research Institute for Metals (NRIM)
1990.9 Visiting Researcher at Metals & Ceramics Division, Oak Ridge National Laboratory, Tennessee, USA, for 1 year.
1996.2 Ph.D. (Engineering) from WASEDA University
2002.4 Associate Director, Eco-materials Center, National Institute for Materials Science (NIMS)
2004.11 Senior Specialist, Office for Materials Research and Development, Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan
2006.1 Back to NIMS, Associate Director, Eco-materials Center
2006.4 Managing Director, Fuel Cell Materials Center, NIMS
2006.5 Guest Professor, Huazhong University of Science and Technology, China

Research Fields:
1) Materials for hydrogen energy applications including metallic membrane materials, hydrogen storage alloys, 
2) Structural intermetallics, Hydrogen embrittlement in metallic materials. 

**Fuel Cell Materials Center**  
**Hydrogen Purification Materials Group - Researcher**  

Kiyoshi Kobayashi is a researcher of Hydrogen Purification Materials Group, Fuel Cell Materials Center, National Institute for Materials Science (NIMS) in Tsukuba, Japan. He has been engaged in the study of solid state ionics and solid state electrochemistry for 15 years and published more than 40 papers. He has got his ph. D. from Nagoya Institute of Technology for sol-gel synthesis, drawing phase diagrams, and transport properties of ionic and electronic defects of ceramics in ZrO$_2$-Y$_2$O$_3$-TiO$_2$ system. His main contribution is clarifying the high temperature electrical transport properties of ionic conductor by combinations of unique electrochemical techniques with theoretical calculation based on defect chemistry. He studied wide variety of materials such as yttria stabilized zirconia based oxide to lanthanoid silicate oxyapatites which are new oxide ion conductor family.

**International Center for Materials Nanoarchitectonics**  
**Rechargeable Battery Materials Group - Group Leader**  

Dr. Kazunori Takada is Group Leader of Rechargeable Battery Materials Group, International Center for Materials Nanoarchitectonics, National Institute for Materials Science (NIMS) in Tsukuba, Japan. He has been engaged in the study on solid-state batteries for 25 years and published more than 150 papers. He has got his ph. D. from Osaka City University for the development of solid-state batteries. His main contribution is the study on ion-conducting ceramics covering from basic research on ionic conductors to their application to solid-state electrochemical cells.
Managing Director
Group Leader
Dr. Liyuan Han

Advanced photovoltaics Center
http://www.nims.go.jp/eng/units/p05_solar-cell.html

Dr. Han is a managing director at advanced photovoltaics center, National Institute for Materials Science (NIMS). He has been investigating dye-sensitized solar cells, especially, improving the conversion efficiency of cell and submodule, and developing new sensitized dyes, since 1996. His major researches include proposing the equivalent circuit model of DSCs and applying the back-contact model into DSCs. Through his career, he has made great accomplishments in the field including achieving the world record efficiency of 11.2% in DSCs. He is inventor in about 100 patents and author in ca 40 scientific publications in the field of dye sensitized solar cells.

Institute of Multidisciplinary Research for Advanced Materials, IMRAM

Institute of Multidisciplinary Research for Advanced Materials
Tohoku University
Associate Professor
http://www.tagen.tohoku.ac.jp/labotsai/members.html

Dr. Satoshi Kameoka is associate professor in IMRAM at Tohoku University. He received his PhD (1996) from University of Tsukuba, studying in surface science and catalysis over heterogeneous catalysts. His current research is focused on the preparation and design of novel metal & alloy catalysts based on metallurgy.
歡迎您參加『Materials for Green Energy 先端綠能材料研發與應用國際研討會』

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報名方式：Fax: 02-8773-2608  
          email: t9789005@ntut.org.tw
          截止日期：99 年 11 月 05 日。

聯絡人：黃永翰 先生
電話：0911228347
傳真：02-8773-2608

Materials for Green Energy 先端綠能材料研發與應用國際研討會
舉辦日期：99 年 11 月 08 日

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<td>□ 國科會</td>
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