

**【Engineering】**

<b>Title of Project</b>	Establishment of Electrochemical Device Engineering
<b>Principal Investigator Name</b>	Tetsuya Osaka, Waseda University, Faculty of Science and Engineering, Professor
<b>Abstract of Research Project</b>	Electrochemistry deals with systems of interface between electrode and electrolyte, and it covers industrial products and processes including batteries, energy devices, chemical sensors, surface treatments, electronic devices, and chemical analysis. The objective of this research is to establish 'electrochemical device engineering' based on the design of electrode/electrolyte interface with a single-layer or multi-layers of atoms and/or molecules. The work will be focused on the development of energy devices and chemical sensors, and three- or two-dimensional designs of interface will be investigated to establish the basic concept for device fabrication processing. In addition, nano-particle systems of functional materials will be studied, which can be considered as zero dimensional material systems. The smart design concept based on 'electrochemical device engineering' will be established as this research makes a progress.
<b>Number of Researchers : 4</b>	
<b>Term of Project: 2008-2012</b>	