

2024  
10.16 (wed.) 12:10  
12:50

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◆ Introduction

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◆ Seminar  
(Presentation)

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# The Challenge of Carbon Neutrality: Developing catalysts to create organic chemicals from CO<sub>2</sub> and water



Key Words

CO<sub>2</sub>

Carbon neutral

Electrochemistry

Catalysis

Professor **Miho Yamauchi**Institute for Materials Chemistry and Engineering Department  
of Applied Molecular Chemistry, Kyushu University

Miho Yamauchi was born in Fukushima and received her Ph. D degree from University of Tsukuba, Japan, in 2001, and joined Kyushu University as an assistant professor and CRC (ICAT, now) Hokkaido University as an associate professor. She became a PI and a professor at WPI-I2CNER and moved to IMCE at Kyushu University and is currently a cross-appointed professor at Tohoku University. Her research interests include nanomaterials science with respect to hydrogen science, catalysis and efficient energy conversion. Recently, she is a group leader of GteX project for water electrolysis (JST) and a unit leader for CO<sub>2</sub> electrolysis for Moonshoot project (NEDO) and is focusing on the construction of CO<sub>2</sub> conversion systems using CO<sub>2</sub> captured directly from the air.

Carbon dioxide (CO<sub>2</sub>) is considered a nuisance that causes global warming, but it is also an important chemical resource containing carbon, which is a main component of chemicals. We are developing a new chemical synthesis method that uses CO<sub>2</sub> and water as raw materials and electricity as an energy source. A catalyst is indispensable for chemical synthesis. In this presentation, I would like to introduce a catalyst that is currently being developed to convert CO<sub>2</sub> into organic chemicals.