

Title **Single Molecule Spectroscopy performed under Scanning Tunneling Microscope**

Speaker **Dr. Maki Kawai**
Director General, Institute for Molecular Science
Professor, Department of Advanced Materials Science,
University of Tokyo



Date & Time **Tuesday, January 24, 2017 4:00 p.m.**

Place **I²CNER Hall, Ito campus, Kyushu University**

Abstract

STM is a useful tool for spectroscopy utilizing its ultimate spatial resolution. STS including inelastic electron tunneling spectroscopy (IETS) is not only applied to the static spectroscopy but also reflects dynamical phenomena as motion or reaction of molecules induced by the excitation of molecular states, and is utilized to identify the quantum states of the materials. Dynamical information includes as how molecular vibrations can couple with the relevant dynamical processes. Some typical examples of how the fundamental excitation of vibration modes are coupled to chemical reactions at surfaces will be given. Spin state of the molecule is another example of single molecule spectroscopy. Spin nature of molecules strongly depends on the strength of the coupling between the molecule and the substrate. Using FePc as a model molecule, changes in the spin state will be demonstrated.

About the Speaker

Professional Experience

1980-82 Postdoc: Contract Researcher, RIKEN
1982-83 Postdoc: JSPS Fellow at The University of Tokyo
1983-84 Assistant, Osaka Industrial Research Institute, MITI
1984-85 Postdoc: Contract Researcher, Osaka Gas Co.,
1985-88 Researcher, Catalysis Lab., RIKEN
1988-91 TDK Professor, Tokyo Institute of Technology
1991-10 Chief Scientist, Director of Surface Chemistry Laboratory, RIKEN
2004- Professor, Department of Advanced Materials Science, The University of Tokyo
2010-15 Executive Director, RIKEN
2015-16 Special Advisor to the President, RIKEN
2016 - Director General, Institute for Molecular Science

Host: Professor Atsushi Takahara

For registration, please visit our website:
<http://i2cner.kyushu-u.ac.jp/>

Contact: Research Support and International Affairs division
International Institute for Carbon-Neutral Energy Research
Tel:092-802-6934 Email:wpikenkyu@jimu.kyushu-u.ac.jp

