

# Takashi OGURA

**Professor, Graduate School of Life Science,  
University of Hyogo**



【E-mail】 ogura@sci.u-hyogo.ac.jp

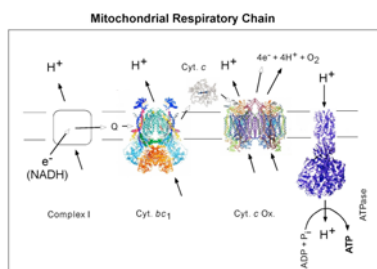
【Speciality】 Biomolecular science

【Keywords】 Biological energy conversion, Oxygen activation, Proton pump, Vibrational spectroscopy, Protein structure dynamics

【Research Subject】 Physiological Molecular Science of Membrane Proteins

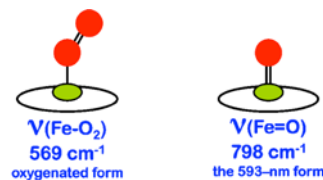
## Research Group Activity

▪ Reaction Mechanisms of the Respiratory Membrane Protein Complexes



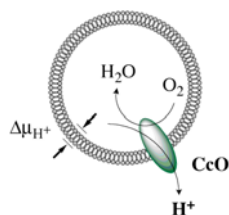
Elucidation of Protein Structure Dynamics with Vibrational Spectroscopy

▪ Reaction Mechanism of Indoleamine 2, 3-Dioxygenase



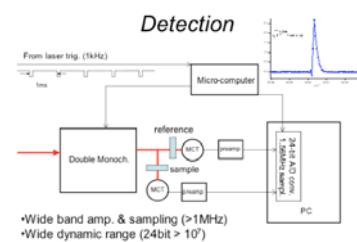
Identification of the Reaction Intermediates with Time-Resolved Resonance Raman Spectroscopy

▪ Reaction Mechanism of COV (cytochrome c oxidase reconstituted in phospholipid vesicles)



Time-Resolved Resonance Raman Spectroscopy

▪ Mechanism of Proton Pumping by Cytochrome c Oxidase



Development of a Highly Sensitive Infrared Spectrophotometer Using a Femtosecond Laser as a Light Source