

●Division of Energy Science

Analytical Spectroscopy in Energy and Medical Fields

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Outline of Research

- (1) Infrared spectroscopy
- (2) Raman spectroscopy
- (3) Near-infrared spectroscopy
- (4) Two-dimensional correlation spectroscopy
- (5) Perturbation-correlation analysis
- (6) Chemometrics
- (7) Polymer electrolyte fuel cells
- (8) Flame emission spectroscopy
- (9) Biomaterials
- (10) Biopolymers
- (11) Pharmaceutical materials

<http://www.ran.nagoya-u.ac.jp/morita/>

Career

1996 **Bachelor of Engineering**, Tokyo University of Agriculture and Technology (Tokyo, Japan)
1998 **Master of Science**, Tokyo University of Agriculture and Technology (Tokyo, Japan)
2001 **Ph.D.**, Tokyo University of Agriculture and Technology (Tokyo, Japan)
2001-2003 **Postdoctoral Fellow**, Hokkaido University (Sapporo, Japan)
2003-2007 **Postdoctoral Fellow**, Kwansai-Gakuin University (Sanda, Japan)
2007-present **Assistant Professor**, Nagoya University (Nagoya, Japan)
2008-present **Adjunct Lecturer**, Chubu University (Nagoya, Japan)
2009 **Research Fellow**, University of Duisburg-Essen (Essen, Germany)



Membership of Academic Society

The Japan Society for Analytical Chemistry, The Spectroscopical Society of Japan, The Society of Polymer Science, Japan, The Chemical Society of Japan, Japan Council for Near Infrared Spectroscopy, Society for Applied Spectroscopy

Publications

- (1) Shigeaki Morita, Hideyuki Shinzawa, Roumiana Tsenkova, Isao Noda, Yukihiro Ozaki, *Computational Simulations and a Practical Application of Moving-Window Two-Dimensional Correlation Spectroscopy*, **Journal of Molecular Structure**, 799, 111-120, (2006).
- (2) Shigeaki Morita, Hideyuki Shinzawa, Isao Noda, Yukihiro Ozaki, *Perturbation-Correlation Moving-Window Two-Dimensional Correlation Spectroscopy*, **Applied Spectroscopy**, 60, 398-406, (2006).
- (3) Shigeaki Morita, Masaru Tanaka, Yukihiro Ozaki, *Time-Resolved In Situ ATR-IR Observations of the Process of Sorption of Water into a Poly(2-methoxyethyl acrylate) Film*, **Langmuir**, 23, 3750-3761, (2007).
- (4) Shigeaki Morita, Masaru Tanaka, Isao Noda, Yukihiro Ozaki, *Phase Angle Description of Perturbation Correlation Analysis and Its Application to Time-Resolved Infrared Spectra*, **Applied Spectroscopy**, 61, 867-872, (2007).
- (5) Shigeaki Morita, Eiji Hattori, Kuniyuki Kitagawa, *Two-Dimensional Imaging of Water Vapor by Near-Infrared Laser Absorption Spectroscopy*, **Applied Spectroscopy**, 62, 1216-1220, (2008).
- (6) Shigeaki Morita, Kuniyuki Kitagawa, Yukihiro Ozaki, *Hydrogen-Bond Structures in Poly(2-hydroxyethyl methacrylate): Infrared Spectroscopy and Quantum Chemical Calculations with Model Compounds*, **Vibrational Spectroscopy**, 51, 28-33, (2009).