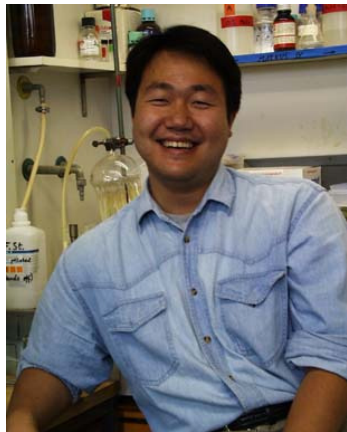


## Prof. Dr. Motomu Tanaka



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28/07/1970, Kyoto (Japan)

### SCIENTIFIC VITA

- 2007 - present Faculty member, Hartmut Hoffmann-Berling International Graduate School of Molecular and Cellular Biology
- 2007 – present Joint appointment, Faculty of Physics and Astronomy, University of Heidelberg
- 2005 - present Professor (W3), Biophysical Chemistry Laboratory, Institute of Physical Chemistry, University of Heidelberg, Germany
- 2005 Habilitation in Experimental Physics, Technical University Munich, Germany
- 2004 Invited Lecturer, Department of Physics and Center of Excellence, Kyoto University, Japan
- 2001 - 2005 Independent Group Leader (Emmy Noether Fellow), Department of Physics, Technical University Munich, Germany
- 2001 Invited Scholar, Department of Chemical Engineering, Stanford University, USA
- 1999 – 2001 PostDoc (Humboldt Fellow), Department of Physics, Technical University Munich, Germany
- 1998 - 1999 PostDoc (Fellow of Japan Society for Promotion of Science), Department of Physics, Technical University Munich, Germany
- 1995 - 1998 PhD, Department of Molecular Engineering, Kyoto University, Japan
- 1993 - 1995 M.S. Department of Molecular Engineering, Kyoto University, Japan
- 1989 – 1993 B.S. Physical Chemistry, Kyoto University, Japan

### COORDINATING FUNCTIONS

- 2004 Organizer, French-German Workshop “Complex Fluids in Two and Three Dimensions”, Munich, Germany
- 2005 Organizer, Japanese-German Workshop “Bio-inspired Materials”, Kyoto, Japan

### FIELDS OF INTEREST

Biophysics, quantitative modeling of biological adhesion, influence of carbohydrates on

structures and functions of biomembranes, functionalization of semiconductor devices for new hybrid biosensors

### **CURRENTLY FUNDED PROJECTS**

One EU project, three DFG-projects, one BMBF Collaborative Project,...

### **EXPERIENCE IN THE SUPERVISION OF DOCTORAL CANDIDATES**

Member of thesis and thesis advisory committees (Tech. Univ. Munich, Tech. Univ. Berlin, Univ. Heidelberg)

International reviewer of doctoral theses (Stanford Univ., Univ. New South Wales, Kyoto Univ., College de France, etc.)

### **SUPERVISED DISSERTATIONS**

Completed: 6 PhD theses, 12 Diploma/Master theses, 5 post-docs

On-going: 7 PhD theses, 1 Diploma theses, and 3 post-docs

### **PUBLICATIONS (10 most important publications):**

M. Tanaka, S. Kaufmann, J. Nissen, and M. Hochrein, Orientation Selective Immobilization of Human Erythrocyte Membranes on Ultrathin Cellulose Films. *Phys. Chem. Chem. Phys.* **3**, 4091 (2001).

K. Adlkofer, E.F. Duijs, F. Findeis, M. Bichler, A. Zrenner, E. Sackmann, G. Abstreiter, and M. Tanaka, Enhancement of Photoluminescence from Near-Surface Quantum Dots by Suppression of Surface State Density. *Phys. Chem. Chem. Phys.* **4**, 785 (2002).

H. Hillebrandt, M. Tanaka, and E. Sackmann, A Novel Membrane Charge Sensor: Sensitive Detection of Surface Charge at Polymer / Lipid Composite Films on Indium–Tin–Oxide Electrodes. *J. Phys. Chem. B.* **106**, 477 (2002).

S. Goennenwein, M. Tanaka, B. Hu, L. Moroder, E. Sackmann, Functional Incorporation of Integrins into Solid Supported Membranes on Ultrathin Films of Cellulose - Impact on Adhesion. *Biophys. J.* **85**, 846 (2003).

C. Gege, M.F. Schneider, G. Schumacher, L. Limozin, U. Rothe, G. Bendas, M. Tanaka, R.R. Schmidt, Functional Micro-Domains of Glycolipids with Partially Fluorinated Membrane Anchors – Impact on Cell Adhesion. *Chem. Phys. Chem.* **5**, 216 (2004).

M. Tanaka, A.P. Wong, F. Rehfeldt, M. Tutus, S. Kaufmann, Selective Deposition of Native Cell Membranes on Biocompatible Micro-Patterns. *J. Am. Chem. Soc.* **126**, 3257 (2004).

- O. Purrucker, A. Förtig, K. Lüdke, R. Jordan, M. Tanaka, Confinement of Transmembrane Cell Receptors in Tunable Stripe Micropatterns of Lipid/Lipopolymer Monolayers. *J. Am. Chem. Soc.* **127**, 1258 (2005).
- M. Tanaka and E. Sackmann, Supported Lipid Membranes as Cell/Tissue Surface Models. *Nature*, **437**, 656 (2005).
- F. Rehfeldt, R. Steitz, R.v. Klitzing, S.P. Armes, A.P. Gast, M. Tanaka, Reversible Activation of Diblock Copolymer Monolayers at the Interface by pH Modulation (2): Membrane Interactions at the Solid/Liquid Interface. *J. Phys. Chem. B*, **110**, 9171 (2006).
- O. Purrucker, A. Förtig, R. Jordan, E. Sackmann, M. Tanaka, Control of Frictional Coupling of Transmembrane Cell Receptors in Model Cell Membranes with Linear Polymer Spacers, *Phys. Rev. Lett.* **98**, 078102 (2007)