

<b>Prof. Dr. Tanaka, Motomu (*1970, male)</b>		
Contact	Physical Chemistry of Biosystems Institute of Physical Chemistry Heidelberg University INF253, 69120 Heidelberg	
	Phone:	+49 6221 54-4916
	E-Mail:	tanaka@uni-heidelberg.de
Position	Professor (W3)	

Curriculum vitae (ab hier bitte alle Eigenname in Englisch)	
University training and degree	
1989-1995	Physical Chemistry (MSc) Kyoto University, Japan

Advanced academic qualifications	
1997-1999	Habilitation, Experimental Physics, Technical University Munich
1995-1998	Ph.D., Physical Chemistry, Kyoto University, Japan

Postgraduate professional career	
2018-	Director, Center for Integrative Medicine and Physics, Kyoto University, Japan (additional commitment)
2013-2018	Professor, Institute for Integrated Cell-Material Sciences, Kyoto University, Japan (additional commitment)
Since 2007	W3 Professor, Faculty of Physics and Astronomy, Heidelberg University (co-opted member)
Since 2005	W3 Professor, Faculty of Chemistry and Geosciences, Heidelberg University
2001-2005	Emmy Noether Fellow, German Science Foundation (DFG), Technical University Munich
1999-2001	Humboldt Fellow, Technical University Munich
1998-1999	JSPS Fellow, Technical University Munich

Other	
2018	Guest Editor, Langmuir Special Issue "Mechanobiology"
Since 2016	Member of Editorial Board, Scientific Reports

2012-2014	Member of Program Committee, European Synchrotron Radiation Facility (Soft Condensed Matter)
2010-2014	Member of Program Committee, Institut Laue Langevin (Biological Physics)
2010-2012	Member, International Advisory Board, World Premier International Center Program, Ministry for Education, Science and Sports, Japan
2002-2007	Member, Canadian Center of Excellence Advanced Food and Material Network

#### Research interest

Physics of soft and complex interfaces, Biofunctionalization of solid-based devices, X-ray and neutron scattering of biological matter, Cell adhesion and migration, Cell and tissue mechanics, Non-equilibrium dynamics in diseases

#### Ten most important publications

##### **a) articles with scientific assurance**

**M. Tanaka** and E. Sackmann, *Polymer-Supported Membranes as the Model of Cell Surfaces*, Nature **437** (2005), 656.

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** (2007), 078102.

E. Schneck, T. Schubert, O.V. Konovalov, B.E. Quinn, T. Gutschmann, K. Brandenburg, R.G. Oliveira, D.A. Pink, **M. Tanaka**, *Quantitative Determination of Ion Distributions in Bacterial Lipopolysaccharide Membranes by Grazing-Incidence X-Ray Fluorescence* Proc. Natl. Acad. Sci. USA **107** (2010), 9147.

W. Abuillan, A. Vorobiev, A. Hartel, N.G. Jones, M. Engstler, **M. Tanaka**, *Quantitative Determination of the Lateral Density and Intermolecular Correlation between Proteins Anchored on the Membrane Surfaces Using Grazing Incidence Small-Angle X-Ray Scattering and Grazing Incidence X-Ray Fluorescence*, J. Chem. Phys. **137** (2012), 204907.

F. F. Rossetti, E. Schneck, G. Fragneto, O. V. Konovalov, **M. Tanaka**, *Generic Role of Polymer Supports in the Fine Adjustment of Interfacial Interactions between Solid Substrates and Model Cell Membranes*, Langmuir, **31** (2015), 4473.

C. Monzel, M. Veschgini, J. Madsen, A. L. Lewis, S. P. Armes, **M. Tanaka**, *Fine Adjustment of Interfacial Potential between pH-Responsive Hydrogels and Cell-Sized Particles*, Langmuir, **31** (2015), 8689

H. Rieger, H. Y. Yoshikawa, K. Quadt, M. A. Nielsen, C. P. Sanchez, A. Salanti, **M. Tanaka**, M. Lanzer, *Cytoadhesion of P. falciparum-Infected Erythrocytes to Chondroitin-4-Sulfate is Cooperative and Shear-Enhanced*, Blood, **125** (2015), 383.

M. Veschgini, T. Habe, S. Mielke, S. Inoue, X. Liu, M.P. Krafft, and **M. Tanaka**, *Two-Dimensional Physical Gels Can Exist even at Zero Surface Pressure at the Air/Water Interface - Rheology of Self-Assembled Domains of Small Molecules*, Angew. Chem. Int. Edit. **56** (2017), 12603.

T. Ohta, C. Monzel, A.S. Becker, A.D. Ho, and **M. Tanaka**, *Simple Physical Model Unravels Influences of Chemokine on Shape Deformation and Migration of Human Hematopoietic Stem Cells*, Sci. Rep. **8** (2018), 10630.

W. Abuillan, A.S. Becker, B. Demé, T. Homma, H. Isobe, K. Harano, E. Nakamura, **M. Tanaka**, *Neutron Scattering Reveals Water Confined in a Watertight Bilayer Vesicle*, J. Am. Chem. Soc. **140**, 11261 (2018).