

FUMIHIKO TANAKA

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PERSONAL DATA

Date of Birth: August 20, 1947
Country of Birth: Japan
Citizenship: Japanese

CURRENT STATUS

Professor Emeritus, Kyoto University

PROFESSIONAL SOCIETY MEMBERSHIP

Fundamental Polymer Science, Japanese Society of Polymer Science (1982 - 2021)
Material Science, Physical Society of Japan (1975 to present)
Theoretical Chemistry, Japanese Chemical Society (1999 - 2013)
Japanese Society of Rheology (1998 - 2012)
Polymer Division, (National), American Chemical Society (1995 - 2013)

EMPLOYMENT HISTORY

2012 - present	Professor Emeritus, Kyoto University
2012 - 2017	Lecturer (part time), Department of Physics, Tokai University
2012 - 2015	Member of Advisory Board, Kanagawa Institute of Industrial Science and Technology
2012 - 2013	Guest Professor, Tokyo University of Agriculture and Technology
1997 - 2012	Professor of Polymer Science, Department of Polymer Chemistry, Kyoto University
2006 - 2007	Head, Department of Polymer Chemistry, Kyoto University
2006 - 2012	Director, Kyoto Institute of Polymer Science
2000 - 2001	Head, Department of Polymer Chemistry, Kyoto University
1994 - 1996	Professor of Applied Physics, Department of Applied Physics, Tokyo University of Agriculture and Technology
1990 - 1991	Visiting Professor, Cavendish Laboratory, University of Cambridge

1983 - 1993	Associate Professor, Department of Applied Physics, Tokyo University of Agriculture and Technology
1978 - 1980	Research Fellow, Cavendish Laboratory, University of Cambridge
1976 - 1982	Research Associate, Department of Physics, University of Tokyo

EDUCATION

University of Tokyo, Dr. of Science, Department of Physics, 1976
University of Tokyo, Master of Science, Department of Physics, 1973
University of Tokyo, B.S., Department of Physics, 1971

HONORS

Interview deposited in Centre d'Archives en Philosophie et Édition des Sciences (CAPHÉS) at ENS-Paris
<https://caphes.ens.fr/history-of-replica-symmetry-breaking-in-physics/>
Polymer Science Prize, Japanese Society of Polymer Science, 2001
Visiting Professor, Cavendish Laboratory, University of Cambridge, 1990-91

Ph.D RESEARCH SUPERVISED

Akihiko Matsuyama

Theoretical Study of Hydration and Closed-Loop Miscibility Gap in Aqueous Poly(ethylene oxide) Solutions (1990).

Masahiko Ishida

Molecular Mechanism of Reversible Gelation and Phase Separation in Associating Polymers (1997).

Yukinori Okada

Theoretical Study of Phase Separation and Thermoreversible Gelation in Aqueous Solutions of Temperature-Sensitive Polymers (2007)

Hiroyuki Kojima

Statistical Mechanical Study on Phase Transition of Thermosensitive Aqueous Polymer Solutions and Gels (2012)

VISITING SCIENTISTS AND POSTDOCTORAL ASSOCIATES

Postdoctoral Associates

Tsuyoshi Koga, 1999-2012
Masahiko Shoji, 2001-2002
Thomas Bickel, 2001 July-August
Tsutomu Indei, 2003-2005

Visiting Scientists

Professor F. M. Winnik, University of Montreal (March 19, 2005 - April 30, 2005)

PUBLICATIONS BY CATEGORY (Full List shown below)

Publication Code	Description	Number
BK	Books	5
BKE	Edited books, translations, etc.	2
CEW	Contributions to edited works; Chapters in books	15
PAJ	Full Papers in refereed academic journals	112(polymer) + 25(spin glass)
RAJ	Review articles in Academic Journals	3

Scientific Profile (Full list)

<https://sciprofiles.com/profile/1204350>

SCIENTIFIC INTERESTS

- Polymer networks
- Gels and gelation
- Rheology of polymer solutions and gels
- Water-soluble polymers, Biopolymers
- Structure and properties of macromolecules
- Conformational transition of macromolecules
- Visco-elastic characterisation of soft solids

PUBLICATIONS

Books

Fumihiko Tanaka, "*Polymer Physics---Applications to Molecular Association and Thermoreversible Gelation*" pp. 400

Cambridge University Press, Cambridge, to be distributed in March 2011

Fumihiko Tanaka, "*Thermodynamics for Soft Matter Science*" (in Japanese) pp. 240

Shokabo Pub., Tokyo, 2009

Fumihiko Tanaka, "*Polymer Physics*" (in Japanese) pp.130

Shokabo Pub. Tokyo 1994

Fumihiko Tanaka, "*Fundamental Physical Chemistry of Polymers*" (in Japanese, uncompleted),
(Lecture Note for Graduate Students) 2005 (pp.242, 2MB)

Contributions to Books

Fumihiko Tanaka, "*Theory of Molecular Association and Thermoreversible Gelation*"

Chap.1 in "*Molecular Gels*" ed. P. Terech and R. G. Weiss, pp.1-68, Kluwer Academic Press,
2004 (pp.68, 984kB)

F. Tanaka, M. Doi and T. Ohta (Eds.), "*Space-Time Organization in Macromolecular Fluids*"

Springer-Verlag, 1988

Journal Articles

104. F. Tanaka, T.Koga, H.Kojima, N. Xue and F.M.Winnik, Preferential Adsorption and Co-nonsolvency of Thermoresponsive Polymers in Mixed Solvents of Water/Methanol, *Macromolecules* 44(?), (2011) 2978-2989.
103. Tanaka, F; Koga, T; Kojima, H; Winnik, FM, Hydration and Phase Separation of Temperature-Sensitive Water-Soluble Polymers, *Chinese Journal of Polymer Science* 29(1), (2011) 13-21.
102. F.Tanaka, Transient Network Theory of Wormlike Micelles: Topological Force Accelerates Relaxation. *Langmuir* 26(8), (2010) 5374-5381.
101. H. Kojima; Tanaka. F., Cooperative Hydration Induces Discontinuous Volume Phase Transition of Cross-Linked Poly(N-isopropylacrylamide)Gels in Water. *Macromolecules* 43(11), (2010) 5103-5113.
100. T. Koga; F. Tanaka, Theoretical Predictions on Normal Stresses under Shear Flow in Transient Networks of Telechelic Associating Polymers. *Macromolecules* 43(6), (2010) 3052-3060.
99. T. Koga; F. Tanaka; I. Kaneda; F. M. Winnik, Stress Buildup under Start-Up Shear Flows in Self-Assembled Transient Networks of Telechelic Associating Polymers. *Langmuir* 25(15), (2009) 8626-8638.
98. Y.Satokawa, T.Shikata, F. Tanaka, X-P. Qiu and F.M.Winnik, Hydration and Dynamic Behavior of a Cyclic Poly(N-isopropylacrylamide) in Aqueous Solution: Effect of Polymer Chain Topology, *Macromolecules* 42(4), (2009) 1400-1403 .
97. F. Tanaka, T.Koga, H.Kojima and F.M.Winnik, Temperature- and Tension-Induced Coil-Globule Transition of Poly(N-isopropylacrylamide) Chains in Water and Mixed Solvent of Water/Methanol, *Macromolecules* 42(4), (2009) 1321-1330 .
96. F. Tanaka, T.Koga, and F.M.Winnik, Temperature-Responsive Polymers in Mixed Solvents: Competitive Hydrogen Bonds cause Cononsolvency, *Phys. Rev. Lett.* 101, (2008) 028302[1-4].
95. T.Koga, F. Tanaka, R.Motokawa, S.Koizumi and F.M.Winnik, Theoretical Modeling of Associated Structures in Aqueous Solutions of Hydrophobically Modified Telechelic PNIPAM Based on a Neutron Scattering Study, *Macromolecules* 41(23), (2008) 9413-9422.
94. X-P. Qui, F. Tanaka and F. M. Winnik, Temperature-Induced Phase Transition of Well-Defined Cyclic Poly(N-isopropylacrylamide)s in Aqueous Solution, *Macromolecules* 40(20), (2007) 7069-7071.

93. M.Toda and F. Tanaka, Mechanically-Induced Helicity in Chiral Stimuli-Responsive Gels, *Macromolecules* 40(13), (2007) 4703-4709.
92. Y. Okada, F. Tanaka, P. Kujawa and F. M. Winnik, A Unified Model of Association-Induced LCST Phase Separation and its Application to Solutions of Telechelic PEOs and of telechelic PNIPAMs, *J. Chem. Phys.*, 125(24), (2006) 244902[1-11] .
91. Y. Okada and F. Tanaka, Pressure-Controlled Thermoreversible Gelation, *Macromolecules*, 39(23), 8153-8162 (2006).
90. T. Nakao, F. Tanaka and S. Kohjiya, New Cascade Theory of Branched Polymers and its Application to Size Exclusion Chromatography, *Macromolecules*, 39(19), (2006) 6643-6652.
89. F.Tanaka and T.Koga, Nonaffine Transient Network Theory of Associating Polymer Solutions, *Macromolecules*, 39(17), (2006) 5913-5920.
88. F.Tanaka, Thermoreversible Gelation is a Bose-Einstein Condensation, *Phys. Rev. E*, 73, (2006) 061405[1-6].
87. P. Kujawa, F. Tanaka and F.M. Winnik, Temperature-Dependent Properties of Telechelic Hydrophobically Modified Poly(N-isopropylacrylamides) in Water: Evidence from Light Scattering and Fluorescence Spectroscopy for the Formation of Stable Mesoglobules at Elevated Temperatures, *Macromolecules*, 39(8), (2006) 3048-3055.
86. P. Kujawa, F. Segui, S. Shaban, C. Diab, Y. Okada, F. Tanaka and F.M. Winnik, Impact of End-Group Association and Main-Chain Hydration on the Thermosensitive Properties of Hydrophobically-Modified Telechelic Poly(N-isopropylacrylamides) in Water, *Macromolecules*, 39(1), (2006) 341-348.
85. Y. Tamura and F.Tanaka, Thermoreversible Gelation with Hydrogen-Bonded Zipper-Like Crosslink Junctions, *J. Polym. Sci. : Part B; Polym. Phys.*, 43, (2005) 3331-3336.
84. T. Koga and F. Tanaka, *Elastic Properties of Polymer Networks with Sliding Junctions*, *Europhys J.*, E 17 (2005) 225-229.
83. T. Indei, T. Koga and F. Tanaka, *Theory of Shear Thickening in Transient Networks of Associating Polymers*, *Macromolecular Rap. Comm.*, 26 (2005) 701-706.
82. P. Kujawa, H. Watanabe, F. Tanaka and F. M. Winnik, *Amphiphilic Telechelic Poly(N-isopropylacrylamide) in Water: From Micelles to Gels*, *Europhys J.*, E 17 (2005) 129-137.

81. T. Koga and F. Tanaka, *Molecular Origin of Shear Thickening in Transient Polymer Networks*, Europhys J., E 17 (2005) 115-118.
80. Y. Okada and F. Tanaka, *Cooperative Hydration, Chain Collapse and Flat LCST Behavior in Aqueous Poly(N-isopropylacrylamide) Solutions*, Macromolecules, 38(10), (2005) 4465-4471.
79. M. Toda and F. Tanaka, *Optical Resolution of Chiral Molecules by Stretching Hydrogen-Bonding Helical Polymers*, Macromolecules, 38, (2005) 561-570.
78. T. Indei and F. Tanaka, *Theory of Transient Polymer Networks Crosslinked by Two Different Associative Groups*, Nihon Reorji Gakkaishi, 32, (2004) 285-293.
77. T. Indei and F. Tanaka, *Rheological Study of Transient Polymer Networks Crosslinked by Two-Component Associative Groups --- Inversion of the Gel Skeletal Structure*, J. Rheology, 48, (2004) 641-661.
76. F. Tanaka, *Thermoreversible Gelation Strongly Coupled to Coil-to-Helix Transition of Polymers*, Colloids and Surfaces B: Biointerfaces, 38, (2004) 111-114.
75. T. Furuya and F. Tanaka, *Effects of Added Surfactants on Thermoreversible Gelation of Associating Polymer Solutions*, J. Polym. Sci. Part B: Polym. Phys., 42, (2004) 733-751.
74. F. Tanaka, *Theoretical Study of Helix Induction on a Polymer Chain by Hydrogen-Bonding Chiral Molecules*, Macromolecules, 37, (2004) 605-613.
73. F. Tanaka, *Gel Formation with Multiple Interunit Junctions I ---Molecules carrying Different Functional Groups---*, J. Polym. Sci. Part B: Polym. Phys., 41, (2003) 2405-2412.
72. F. Tanaka, *Gel Formation with Multiple Interunit Junctions II ---Mixture of Different Functional Molecules---*, J. Polym. Sci. Part B: Polym. Phys., 41, (2003) 2413-2421.
71. F. Tanaka, *Thermoreversible Gelation driven by Coil-to-Helix Transition of Polymers*, Macromolecules, 36, No.14, (2003) 5392-5405.
70. M. Shoji and F. Tanaka, *Theoretical Study of Hydrogen-Bonded Supramolecular Liquid Crystals*, Macromolecules, 35, No.19, (2002) 7460-7472.
69. F. Tanaka, *Intramolecular Micelles and Intermolecular Crosslinks in Thermoreversible Gels of Associating Polymers*, J. Non-Crystalline Solids, 307-310, (2002) 688-697.
68. F. Tanaka, *Theoretical Study of Molecular Association and Thermoreversible Gelation in Polymers*,

Polymer J., 34, (2002) 479-509.

67. F. Tanaka, *Flows in Polymer Networks*, JSME International J., Ser. B, 45, No.1, (2002) 123-128.

66. T. Nakao, F. Tanaka and S. Kohjiya, *Cascade Theory of Substitution Effects in Nonequilibrium Polycondensation*, Macromolecules, 35, No.14, (2002) 5649-5656.

65. F. Tanaka and T. Koga, *Theoretical and Computational Study of Thermoreversible Gelation*, Bull. Chem. Soc. Japan, 74, No.2, (2001) 201-215.

64. F. Tanaka, *Thermoreversible Gelation Strongly Coupled to Polymer Conformational Transition*, Macromolecules, 33, (2000) 4249-4263.

63. F. Tanaka and T. Koga, *Intramolecular and Intermolecular Association in Thermoreversible Gelation of Hydrophobically Modified Associating Polymers*, Comp. Theor. Polym. Sci., 10, (2000) 259-267.

62. F. Tanaka and M. Ishida, *Thermoreversible Gelation with Two-Component Networks*, Macromolecules, 32, (1999) 1271-1283.

61. F. Tanaka, *Thermoreversible Gelation of Associating Polymers*, Physica A, 257, (1998) 245-255.

60. F. Tanaka, *Polymer-Surfactant Interaction in Thermoreversible Gels*, Macromolecules, 31, (1998) 384-393.

59. F. Tanaka, *Phase Formation and Dynamics of Associating Polymers*, Prog. Colloid Polym. Sci., 106, (1997) 158-166.

58. F. Tanaka, *Structure and Dynamics of Transient Gels*, Prog. Theor. Phys., Suppl. 126, (1997) 257-60.

57. M. Ishida and F. Tanaka, *Theoretical Study of the Post-Gel Regime in Thermoreversible Gelation*, Macromolecules, 30, (1997) 3900-09.

56. F. Tanaka and M. Ishida, *Microphase Formation in Mixtures of Associating Polymers*, Macromolecules, 30, (1997) 1836-44.

55. F. Tanaka and M. Ishida, *Elastically Effective Chains in Transient Gels with Multiple Junctions*, Macromolecules, 29, (1996) 7571-80.

54. F. Tanaka and K. Nishinari, *Junction Multiplicity in Thermoreversible Gelation*, Macromolecules,

29(10), (1996) 3625-28.

53. K. Nishinari and F. Tanaka, *Structure of Junction Zones in Poly(vinyl alcohol) Gels by Rheological and Thermal Studies*, J. Chim. Phys., 93, (1996) 880-6.

52. F. Tanaka, *Phase Formation of Associating Polymers: Gelation, Phase Separation and Microphase Formation*, Adv. Colloid Interface Sci., 63, (1996) 23-40.

51. F. Tanaka and W. H. Stockmayer, *Thermoreversible Gelation with Junctions of Variable Multiplicity*, Macromolecules, 27(14), (1994), 3943-54.

50. F. Tanaka and S. F. Edwards, *Viscoelastic Properties of Reversibly Crosslinked Polymer Networks. ---Transient Network Theory---*, Macromolecules, 25(5), (1992), 1516-23.

49. F. Tanaka and S. F. Edwards, *Viscoelastic Properties of Reversibly Crosslinked Polymer Networks Part 1. Nonlinear Stationary Viscoelasticity*, Journal of Non-Newtonian Fluid Mechanics, 43, (1992), 247-71.

48. F. Tanaka and S. F. Edwards, *Viscoelastic Properties of Reversibly Crosslinked Polymer Networks Part 2. Dynamic Mechanical Moduli*, Journal of Non-Newtonian Fluid Mechanics, 43, (1992), 273-88.

47. F. Tanaka and S. F. Edwards, *Viscoelastic Properties of Reversibly Crosslinked Polymer Networks Part 3. Stress Relaxation and Stress Overshoot*, Journal of Non-Newtonian Fluid Mechanics, 43, (1992), 289-309.

46. F. Tanaka, *Possible Phase Diagrams for Reversibly Interpenetrating Polymer Networks*, Physical Review Letters, 68(21), (1992), 3188-91.

45. F. Tanaka, M. Ishida and A. Matsuyama, *Theory of Microphase Formation in Reversibly Associating Block Copolymer Blends*, Macromolecules, 24(20), (1991), 5582-89.

44. A. Matsuyama and F. Tanaka, *Theory of Solvation-Induced Reentrant Coil-Globule Transition of an Isolated Polymer Chain*, Journal of Chemical Physics, 94(1), (1991), 781-86.

43. F. Tanaka, *Thermodynamic Theory of Network-Forming Polymer Solutions. 1.*, Macromolecules, 23(16), (1990), 3784-89.

42. F. Tanaka, *Thermodynamic Theory of Network-Forming Polymer Solutions. 2. Equilibrium Gelation by Conterminous Cross-Linking*, Macromolecules, 23(16), (1990), 3790-95.

41. A. Matsuyama and F. Tanaka, *Theory of Solvation-Induced Reentrant Phase Separation in*

Polymer Solutions, Physical Review Letters, 65(3), (1990), 341-44.

40. F. Tanaka, *Theory of Thermoreversible Gelation*, Macromolecules, 22(4), (1989), 1988-94.

39. F. Tanaka and A. Matsuyama, *Tricriticality in Thermoreversible Gels*, Physical Review Letters, 62(23), (1989), 2759-62.

38. F. Tanaka, *Effect of Chain Association on the Viscosity of Dilute Ionomer Solutions*, Macromolecules, 21(7), (1988), 2189-95.

37. F. Tanaka and H. Ushiki, *Chain Conformation in Ternary Polymer Solutions*, Macromolecules, 21(4), (1988), 1041-46.

36. F. Tanaka and A. Matsuyama, *Statistical-Mechanical Analysis of First-Order Wetting Transition in Polymer Solutions*, Journal of the Physical Society of Japan, 56, (1987), 3961-69.

35. F. Tanaka, *Osmotic Pressure of Ring Polymer Solutions*, Journal of Chemical Physics, 87, (1987), 4201-06.

34. F. Tanaka and H. Ushiki, *Internal Condensation of a Polymer Molecule Induced by Saturating Bonds*, Journal of Chemical Physics, 84, (1986), 5925-30.

33. F. Tanaka and H. Takahashi, *Elastic Theory of Supercoiled DNA*, Journal of Chemical Physics, 83, (1985), 6017-26.

32. H. Ushiki, F. Tanaka, *Study on Polymer-Induced Coil-Globule Transition. I. ---Fluorescence Depolarization of Anthryl Groups Attached to Polymer---*, Eur. Polym. J., 21, (1985), 701-5.

31. F. Tanaka, *Theory of Second Virial Coefficients in Polymeric Solutions below the Theta Temperature*, J. Chem. Phys., 82, (1985), 4707-14.

30. F. Tanaka, *The Polymer-Induced Coil-Globule Transition*, J. Chem. Phys., 82, (1985), 2466-71.

29. F. Tanaka, *Elastic Response of Entangled Polymers*, J. Phys. Soc. Japan, 53, (1984), 2205-14.

28. F. Tanaka, *Statistical Mechanics of Sterically Interacting Ring Polymers*, J. Phys. Soc. Japan, 53, (1984), 1652-59.

27. F. Tanaka, *Concentration-Dependent Collapse of a Large Polymer in a Solution of Incompatible Polymers*, J. Chem. Phys., 78, (1983), 2788-94.

26. F. Tanaka, *Absorption of a Self-Avoiding Random Walker by a Random Trap Distribution*, J. Phys. A; Math. Gen., 16, (1983), L489-92.
25. F. Tanaka, *Gauge Theory of Topological Entanglements. II. ---A Pair of Fluctuating Chains---*, Proress of Theoretical Physics, 68, (1982), 164-77.
24. F. Tanaka, *Gauge Theory of Topological Entanglements. I. ---General Theory---*, Proress of Theoretical Physics, 68, (1982), 148-63.
23. F. Tanaka, *Nonlinear Response in the Ground State of Spin Glasses*, Phys. Rev. B, 24, (1981), 6675-85.
22. F. Tanaka, *Density of Electronic Energy Levels in the Randomly Dilute One-Dimensional Tight-Binding Model*, Proress of Theoretical Physics, 65, (1981), 751-4.
21. F. Tanaka, H. Nishimori, *Distribution of the Ground State Energies and the Internal Magnetic Fields in Spin Glasses*, J. Phys. F; Metal Phys., 11, (1981), 1237-45.
20. T. Nakano, F. Tanaka, *Effects of Large-Scale Fluctuations in Fully Developed Turbulence*, Proress of Theoretical Physics, 65, (1981), 120-39.
19. F. Tanaka, *Long-Time Behavior of Classical Diffusion in a Disordered Lattice*, J. Phys. C; Solid State Phys., 13, (1980), L1-4.
18. S. F. Edwards, F. Tanaka, *The Ground State of a Spin Glass*, J. Phys. F; Metal Phys., 10, (1980), 2471-77.
17. F. Tanaka, *Ground State Entropy of the Infinite-Range Model of a Spin Glass*, J. Phys. C; Solid State Phys., 13, (1980), L951-5.
16. F. Tanaka, S. F. Edwards, *Analytic Theory of the Ground State Properties of a Spin Glass II ---XY Model---*, J. Phys. F; Metal Phys., 10, (1980), 2779-92.
15. F. Tanaka, S. F. Edwards
Analytic Theory of the Ground State Properties of a Spin Glass I ---Ising Model---
J. Phys. F; Metal Phys., 10, (1980), 2769-78.
14. F. Tanaka, *On the Critical Slowing Down of Spin Glasses*, Phys. Lett., 75A, (1980), 139-40.
13. F. Tanaka, *Magnetization Relaxation in One-Dimensional Semi-Infinite Chain with an Enhanced Surface Exchange Interaction*, J. Phys. C; Solid State Phys., 12, (1979), 5535-44.

12. F. Tanaka, *Critical Dynamics under Quenched Random Magnetic Fields*, Supplement of the Progress of Theoretical Physics, 64, (1978), 442-51.
11. F. Tanaka, *Critical Dynamics under Quenched Random Magnetic Fields II --- $\epsilon=6-d$ Expansion of the Dynamic Critical Exponent---*, Prog. Theor. Phys., 60, (1978), 1686-91.
10. F. Tanaka, *Critical Dynamics under Quenched Random Magnetic Fields I --- $1/m$ Expansion of the Dynamic Critical Exponent---*, Prog. Theor. Phys., 60, (1978), 380-92.
9. F. Tanaka, *Phase Transitions in Gaussian Random Magnetic Fields II ---Ferromagnets in $d=4+\epsilon$ Space Dimensions---*, Prog. Theor. Phys., 59, (1978), 1483-92.
8. F. Tanaka, *Dynamical Replica for Quenched Random Spin Systems*, Prog. Theor. Phys., 59, (1978), 304-5.
7. F. Tanaka, *Phase Transitions in Gaussian Random Magnetic Field*, Prog. Theor. Phys., 58, (1977), 1166-76.
6. F. Tanaka, *A New Type of Fixed Point Interaction Having Wave-Vector Dependent Structure*, Prog. Theor. Phys., 57, (1977), 1191-96.
5. F. Tanaka, *Coherent Representation of Dynamical Renormalization Group in Bose Systems*, Prog. Theor. Phys., 54, (1975), 289-90 , 1679-92.
4. F. Tanaka, *On the Relaxation Process of Homogeneous Condensate of Weakly Interacting Bose Systems*, Prog. Theor. Phys., 53, (1975), 901-2.
3. M. Suzuki, F. Tanaka, *Perturbational Renormalization Group Approach to Critical Dynamics in Stochastic Models*, Prog. Theor. Phys., 52, (1974), 722-4.
2. M. Suzuki, F. Tanaka, *Critical Dynamics in Bose Systems*, Prog. Theor. Phys., 52, (1974), 344-6.
1. M. Suzuki, F. Tanaka, *On the Critical Behavior of the Two-Dimensional Heisenberg-Ising Model*, Prog. Theor. Phys., 50, (1973), 1085-6.

PRESENTATIONS AT MEETINGS AND SELECTED UNIVERSITIES

International Conferences

F.Tanaka,

Theory of Molecular Association and Thermoreversible Gelation

Summer School on Polymeric and Self-Assembled Gels

6-10 August, 2007 International Center for Materials Research, UCSB, USA

F.Tanaka

Phase Transitions and Rheology of Telechelic Associating Polymer Solutions

Summer School on Polymeric and Self-Assembled Gels

6-10 August, 2007 International Center for Materials Research, UCSB, USA

F.Tanaka

Cooperative Hydration, Phase Separation and Thermoreversible Gelation in Associating Polymer Solutions

The 8th SPSJ International Polymer Conference (IPC 2005)

26-29 July, 2005 Fukuoka, Japan

F.Tanaka

Cooperative Hydration, Phase Separation and Thermoreversible Gelation in Associating Polymer Solutions

CEA Greboble, DRFMC

8 July, 2005 Grenoble, France

F.Tanaka

Thermoreversible Gelation of Helix-Forming Biopolymers

Dynamics of Complex Fluids

8-10 March, 2004 Yukawa Institute, Kyoto, Japan

F.Tanaka

Thermoreversible Gelation strongly coupled to the Coil-to-Helix Transition of Polymers

The 8th IUMRS International Conference on Advanced Materials (IUMRS-ICAM 2003)

8-13 October, 2003 Yokohama, Japan

F. Tanaka,

Thermoreversible Gelation strongly coupled to the Coil-to-Helix Transition of Polymers,

Jülich Soft Matter Days

2002, 19-22 November, 2002 Congressentrum Rolduc, Kerkrade, The Netherlands

F. Tanaka,

Thermoreversible Gelation induced by Polymer Conformational Transition,

Polymer Networks 2002, Functional Networks and Gels,

2-6 September, 2002 Autrans, France

F. Tanaka, *Thermoreversible Gelation of Associating Polymers*, International Symposium on Polymer Physics ---PP'2002 Qingdao, 2-6 July, 2002 Qingdao, China

F. Tanaka, *Thermoreversible Gelation strongly coupled to Polymer Conformational Transition*, 6th Pacific Polymer Conference, Sensitive Polymers and Smart Gels in Honor of the Late Professor Toyochi Tanaka, 5-7 December, 2001 Holiday Inn Express, Oaxaca, Mexico

F. Tanaka, *Flows in Polymer Networks*, 1st International Symposium on Advanced Fluid Information ---AFI2001, 4-5 October, 2001 Zao Royal Hotel, Sendai, Japan

F. Tanaka, *Intramolecular Micelles and Intermolecular Cross-Links in Thermoreversible Gels of Associating Polymers*, 4th International Discussion Meeting on Relaxations in Complex Systems, 17-24 June, 2001 Creta Maris Hotel, Crete, Greece

F. Tanaka, *Intramolecular Micelles and Intermolecular Cross-Links in Thermoreversible Gels of Associating Polymers*, 2000 International Chemical Congress of Pacific Basin Societies ---Pacifichem2000, 14-19 December, 2000, Sheraton Waikiki, Honolulu, Hawaii

F. Tanaka, *Thermoreversible Gelation with Multiple Junctions*, Structure, Deformation and Stimuli-Response of Polymer Gels, Japan-France Workshop in Sapporo, 22-26 March, 1999, Hokkaido University, Japan

F. Tanaka, *Thermoreversible Gelation with Multiple Junctions*, Osaka City University International Symposium 98, 4-10 October, 1998, Osaka City University, Japan

F. Tanaka, *Polymer-Surfactant Interaction in Thermoreversible Gels*, Osaka University Macromolecular Symposium on Molecular Interactions and Time-Space Organization in Macromolecular Systems, 3-6 July, 1998, Osaka University Convention Center, Japan

F. Tanaka, *Thermoreversible Gelation with Multiple Junctions in Associating Polymers*, Taniguchi Conference on Polymer Science Towards the 21st Century, 9-13 May, 1998, Kyoto Royal Hotel, Kyoto, Japan

Fumihiko Tanaka, *Junction Multiplicity in Thermoreversible Gelation*, American Physical Society, 1996.3.18-22 St. Louis, USA, (invited)

Fumihiko Tanaka, *Thermoreversible Gelation of Hydrated Polymers*, American Physical Society, 1996.3.18-22 St. Louis, USA

Fumihiko Tanaka, *Phase Formation of Associating Polymers: Gelation, Phase Separation and Microphase Formation*, Associating Polymers, 1995.6.25-30 Loen, Norway, (invited)

Fumihiko Tanaka, *Phase Transition in Thermoreversible Gels*, Brazilian Workshop, 1994.12.13-16 Brasilia, Brazil, (invited lecture)

Fumihiko Tanaka, *Reversible Heteropolymer Gelation ---Phase Diagrams of Mixed Networks---*, Brazilian Workshop, 1994.12.13-16 Brasilia, Brazil, (invited lecture)

F. Tanaka and S. F. Edwards, *Dynamics of Reversibly Cross-Linked Polymer Networks*, 207th ACS National Meeting, 1994.3.13-19 San Diego, California

F. Tanaka and W. H. Stockmayer, *Thermoreversible Gelation with Junctions of Variable Multiplicity*, 2nd European Gordon Conference on Complex Fluids, 1993.9.27-10.1 Irsee, Babaria, Germany

F. Tanaka, *Reversible Heteropolymer Gelation ---Phase Diagrams of Mixed Networks---*, Osaka University Macromolecular Symposium on Ordering in Macromolecular Systems, 1993.6.5-6 Senri Life Science Center, Osaka

F. Tanaka and W. H. Stockmayer, *Thermoreversible Gelation with Junctions of Variable Multiplicity*, Statistical Mechanics of Condensed Polymer Systems: Theory and Simulation, 1993.10.3-10.6 University of Mainz, Mainz, Germany

F. Tanaka, *Phase Formation of Physically Associating Polymer Blends*, 5th Symposium at A, 1993.3.10-12 水戸

F. Tanaka and S. F. Edwards, *Dynamics of Physically Crosslinked Polymer Networks*, The 1st Tohwa International Symposium, 1991.11.4-8 Tohwa University, Hakata

F. Tanaka, *Possible Phase Diagrams of the Two-Component Physical Gels*, Second Symposium on Polymer Gels, 1991.12.10-11 AIST, Tsukuba Science City

F. Tanaka, *Phase Behavior of Associating Polymer Solutions*, Workshop ACC90, Ordering in Supramolecular Fluids, 1990.10.24-26 Amsterdam

F. Tanaka, *Theory of Thermoreversible Gelation*, The 11th Taniguchi International Symposium, 1988.11.7-12 Hakone, Hakone Kanko Hotel

F. Tanaka, *Topological Nature of Dilute Ring Polymer Solutions*, The Gordon Conference on Polymer Physics, 1988.7.17-22 New Hampshire, USA

F. Tanaka, *Phase Behavior of Thermoreversible Gels*, The 2nd Yukawa International Seminar, 1988.8.24-27 Kyoto, Kansai Seminar House

Lectures at Selected Places

Fumihiko Tanaka and S. F. Edwards, *Dynamics of Reversibly Cross-Linked Polymer Networks*, ACS Stockmayer Symposium, 1994.3.13-15 San Diego, USA

F. Tanaka and W. H. Stockmayer, *Thermoreversible Gelation with Junctions of Variable Multiplicity*, 1993.10.8 Institut Charles Sadron, Strasbourg

F. Tanaka and S. F. Edwards, *Transient Network Theory of Thermoreversible Gels*, 1993.10.11 E.S.P.C.I., Paris

F. Tanaka, *Phase Behavior of Associating Polymer Solutions*, Theoretical Group Seminar at ESPCI, 1990.10.19 ESPCI (パリ物理化学大学), Paris

F. Tanaka, *Phase Behavior of Associating Polymer Solutions*, Seminar at Institut Charles Sadron, 1990.10.16 Institut Charles Sadron, Strasbourg

F. Tanaka, *Phase Behavior of Associating Polymer Solutions*, TCM Macromolecular Seminar, 1990.6.15 Cavendish Laboratory, University of Cambridge

F. Tanaka, *Theory of Thermoreversible Gelation*, Seminar at AT & T Bell Laboratories, 1988.7.15 AT&T Bell Laboratory