Curriculum Vitae – Natsuhiko Yoshinaga

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Date of birth:	27 July, 1979, Osaka, Japan
Gender:	Male
Marital Status:	Single
Citizenship:	Japan

EDUCATION

B.Sc. in Physics, Kyoto University **04/1998 - 03/2002**

M.Sc. in Physics, Kyoto University **04/2002 - 03/2004**
on the subject of "The folding transition in a single semiflexible polymer."
Supervisor: Kenichi Yoshikawa, Kyoto University

Ph.D. in Physics, Kyoto University **04/2004 – 03/2007**
on the subject of "Single semiflexible polymers at equilibrium and nonequilibrium states."
Supervisor: Kenichi Yoshikawa, Kyoto University

RESEARCH EXPERIENCE

Visiting researcher in **10/2005 – 03/2006**
Département de recherche fondamentale sur la matière condensée (DRFMC), CEA-Grenoble (France)
collaborating with Avraham Halperin
Theory Group, Institut Laue Langevin (France)
collaborating with Efim Katz

Research fellow in **04/2007 – present**
Department of Physics, Graduate School of Science, the University of Tokyo (Japan)
collaborating with Masaki Sano

Visiting researcher in **10/2007 – 03/2008**
PhysicoChimie Curie UMR 168, Institut Curie, Section recherche (France)
collaborating with Jean-François Joanny and Philippe Marcq

LANGUAGES

Japanese (native language), English (fluent)

TECHNICAL SKILLS

Good experience with UNIX-LINUX and Windows
Good experience with C, C++

HONOR, FELLOWSHIPS and AWARD

Research Fellow of the Japan Society for Promotion of Science for Young Scientists. (DC1, No.1142)	2004-2007
Research Fellow of the Japan Society for Promotion of Science for Young Scientists. (PD, No.7662)	2007-present

PUBLICATIONS AND PRESENTATIONS

1. Hong-Ren Jiang, Hirofumi Wada, Natsuhiko Yoshinaga, and Masaki Sano
"Manipulation of Colloids by Nonequilibrium Depletion Force in Temperature Gradient"
Physical Review Letters, 102, 208301 (2009).

2. Takahiro Sakaue and Natsuhiko Yoshinaga
"Dynamics of Polymer Decompression: Expansion, Unfolding and Ejection"
Physical Review Letters 102, 148302 (2009)

3. N. Yoshinaga, E.I. Kats and A. Halperin
"On the Adsorption of Two-State Polymers"
Macromolecules, 41, 7744-7751 (2008)

4. N. Yoshinaga
"Folding and unfolding transition in a single semiflexible polymer"
Physical Review E, 77, 061805 (2008).

5. N. Yoshinaga and K. Yoshikawa,
"Core-shell structures in single flexible-semiflexible block copolymers: Finding the free energy minimum for the folding transition"
Journal of Chemical Physics, 127, 044902 (2007)

6. N. Yoshinaga, D. J. Bicout, E.I. Kats and A. Halperin
"Dynamic Core Shell Structures in Two State Models of Neutral Water Soluble Polymers"
Macromolecules, 40(6), 2201-2209 (2007)

7. N. Yoshinaga
"Transition kinetics of a single semiflexible polymer"
Progress of Theoretical Physics Supplement, 161, 397-402 (2006).

8. N. Yoshinaga, K. Yoshikawa and T. Ohta
"Different pathways in mechanical unfolding/folding cycle of a single semiflexible polymer"
European Physical Journal E, 17, 485 (2005).

9. K. Yoshikawa and N. Yoshinaga
"Novel scenario on the folding transition of a single chain"
Journal of Physics: Condensed Matter, 17, S2817-S2823 (2005).

10. N. Yoshinaga, K. Yoshikawa and S. Kidoaki
"Multiscaling in a Long Semiflexible Polymer Chain in Two Dimension"
Journal of Chemical Physics, 116, 9926 - 9929 (2002).

11. N. Yoshinaga, T. Akitaya and K. Yoshikawa
"Intercalating Fluorescence Dye YOYO-1 Prevents the Folding Transitionin Giant Duplex DNA"
Biochemical and Biophysical Research Communications, 286, 264-267, (2001).

International Conference, etc.:

Oral presentation

1. Natsuhiko Yoshinaga
   "Folding kinetics of a single semiflexible polymer"
   YITP Workshop "Soft Matter as Structured Materials"
   Yukawa Institute for Theoretical Physics, Kyoto, Japan , (1-3 Aug., 2005)

2. Natsuhiko Yoshinaga and Kenichi Yoshikawa
   "Folding Transitions and Organized Structures in a Single Polymer Chain"
   5th International Symposium "Molecular Mobility and Order in Polymer Systems"
   The House of Scientist, St. Petersburg, Russia, (20-24 June, 2005)

Poster presentation

1. Natsuhiko Yoshinaga
   "The kinetics of conformational change in single macromolecules: Semiflexible polymers in the folding and unfolding transition "
   OIST International Workshop on Single Molecule Analysis
   Bankoku Shinryokan, Okinawa, Japan, (17 April- 21, 2006)

2. Natsuhiko Yoshinaga
   "Different pathways in mechanical unfolding/folding cycle of a single semiflexible polymer"
   European Polymer Congress 2005
   Moscow State University, Moscow, Russia, (26 June- 1 July, 2005)

3. Natsuhiko Yoshinaga
   "Phase transition in a single semiflexible polymer: hysteresis with temperature cycling"
   The International Workshop on Physics of Softmatter Complexes
   Tokyo Metropolitan University, Tokyo, Japan (29 Dec. - 2 Nov., 2004)

4. Natsuhiko Yoshinaga
   "A Semi-flexible Polymer under Strain: Structural Transition and Hysteresis"
   The 5th International Conference on Biological Physics
   Gothenburg, Sweden, (23-27 August, 2004)

5. Natsuhiko Yoshinaga
   "A Semi-flexible Polymer under Strain: Structural Transition and Hysteresis"
   International Workshop on Dynamics of Complex Fluids
   Yukawa Institute, Kyoto University, Kyoto, Japan (8-10 March, 2004)

6. Natsuhiko Yoshinaga
   "Irreversibility on the Structural Transition under the Strain in a Single Semi-flexible Polymer"
   (AIP Conference Proceedings, 708, 348-349 (2004))
   Slow Dynamics in Complex Systems
   Tohoku University, Sendai, Japan, (3-8 November, 2003)

7. Natsuhiko Yoshinaga and Kenichi Yoshikawa
   "Irreversibility on the Structural Transition under the Strain in a Single Semi-flexible Polymer"
   Frontiers in Chemical Biology: Biomolecular Dynamics and Force Generation, Royal Society of Chemistry
   Hulme Hall, University of Manchester, UK, (4-6 September 2003)

Invited Seminar

1. “Folding and unfolding kinetics of a single semiflexible polymer under strain”
   10 March, 2006 at Institut Laue Langevin (France)

2. “Statistical properties of long DNA molecules”
   17 January 2006 at École Polytechnique Fédérale de Lausanne EPFL (Swissland)