

June 1, 2011

CURRICULUM VITAE

Tomoki Fukai (male)

Personal Data

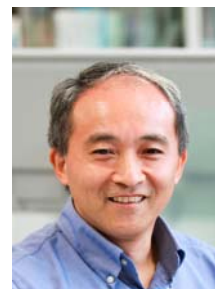
Date of Birth: January 8, 1958

Nationality: Japanese

Home Address: Tamagawa Gakuen 8-13-21, Machida,
Tokyo 194-0041, Japan

Affiliation:

Senior Team Leader,
Laboratory for Neural Circuit Theory
RIKEN Brain Science Institute
Hirosawa 2-1, Wako, Saitama 351-0198, Japan
(TEL) +81 (0)48-467-6896
(FAX) +81 (0)48-467-6899
E-mail: tfukai@riken.jp
Home page: <http://nct.brain.riken.jp/>



Education

| | |
|-------------------|--|
| B.Sc. (Mar 1980) | Department of Physics, Waseda University |
| M.Sc. (Mar, 1982) | Department of Physics, Waseda University |
| Ph.D. (Mar 1985) | Particle Physics Theory, Department of Physics, Waseda University, Tokyo, Japan |

Research and Teaching Job Experiences

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|----------------------|---|
| Apr 1985 – Mar 1986: | Research Fellow, Waseda University |
| Apr 1985 – Jul 1986: | Lecturer, Liberal Education (Mathematics), Seikei University |
| Aug 1986–Aug 1988: | Visiting Researcher, Theoretical Physics Group Tata Institute of Fundamental Research (Bombay) |
| Sep 1988 – Mar 1989: | Lecturer, Center for Foreign Student Educations, Tokai University |
| Apr 1989 – Mar 1991: | Lecturer, Management and Information Science Department, Gumma Women's College |
| Apr 1991 – Mar 1992: | Lecturer, Department of Electronic Engineering, Tokai University |
| Apr 1992 – Sep 1999: | Associate Professor, Department of Electronic Engineering, Tokai University |
| Dec 1992 – Mar 1998: | Visiting Researcher, RIKEN Brain Science Institute |
| Oct 1999 – Mar 2001: | Associate Professor, Department of Information-Communication Engineering, Tamagawa University |

- Apr 2001 – Mar 2005: Professor, Department of Intelligent Information Engineering & Brain Science Research Center, Tamagawa University
- Oct 1998 – Nov 2003: Project leader, Crest, JST (Core Research for Evolutional Science and Technology, Japan Science and Technology) “Modeling neural basis for processing temporal information”.
- Oct 2004 – present: Team Leader, Lab. for Neural Circuit Theory, RIKEN BSI
- Apr 2005 – Mar 2008: Group Director, Computational Neuroscience Group, RIKEN BSI
- Apr 2008 – Mar 2009: Group Director, Theoretical Neuroscience Group, RIKEN BSI
(Previous Computational Neuroscience Group and Brain-Style Information Processing Group were unified)
- *The position of the Group Director system was abolished at the end of March 2009.
- Apr 2007 – present: Professor, Joint Graduate School Program of Frontier Sciences, University of Tokyo
- Nov 2007 – Feb 2010: Member of the Strategic Unit of RIKEN BSI-TOYOTA Collaboration Center
- Oct 2008 – present: Core Member of the Brain Research Team in the Next-Generation Supercomputer Project
- Jun 2010 – present: Senior Team Leader, Lab. for Neural Circuit Theory, RIKEN BSI
- Oct 2010 – present: Professor, Joint Graduate School Program of Informatics, Kyoto University

Major External Grants

- 1) 2010-2014 Grant-in-Aid for Scientific Research on Innovative Areas
“Data mining methods and mathematical modeling of brain microcircuits.”
Project Leader: Tomoki FUKAI
- 2) 2009-(2014) Core Research for Evolutional Science and Technology (CREST)
Japan Science and Technology “Selection mechanism in behavioral learning by habenular” (Project Leader: Hitoshi Okamoto)
Major collaborator: Tomoki FUKAI
- 3) 2008- the Next-Generation Supercomputer Project
Core member: Tomoki FUKAI
- 4) 2005-2009 Grant-in-Aid for Scientific Research on Priority Areas
“Neuronal dynamics and computations by the cortico-basal ganglia loops.”
Project Leader: Tomoki FUKAI
- 5) 1999-2004 Core Research for Evolutional Science and Technology, Japan Science and Technology “Modeling neural basis for processing temporal information”
Project Leader: Tomoki FUKAI

Organizing activities:

- 1) Chair of the organizers for the Japan-Germany Joint Workshop on “Computational Neuroscience” sponsored by JST/DFG
3/2-3/5, 2011 in Okinawa, Japan
- 2) Co-organizer with Dr. Keiji Imoto for the NIPS International Workshop “Fresh Perspectives of Computation in Neuronal Systems”
6/2-6/3, 2010 in Okazaki, Japan
- 3) Member of the organizing committee for the German-Japanese Workshop “Computational Neuroscience” sponsored by BMBF/DFG/JSPS
5/25-5/28, 2009 in Berlin, Germany
- 4) Member of the organizing committee, Mechanism of Brain and Mind “Large-scale Simulations and Database in Neuroscience”
1/13-1/15, 2009 in Rusutsu, Hokkaido, Japan
- 5) Co-organizer with Dr. Keiji Imoto for the NIPS Workshop 「理論と実験の融合による神経回路機能の統合的理解」
12/4-12/5, 2008 in Okazaki, Japan
- 6) Member of the organizing committee for the ISTC-RIKEN BSI workshop (44th Japan Workshop) “Bridging non-linear dynamics with cellular and molecular neuroscience”
3/18-3/19, 2008 in Wako, Saitama, Japan
- 7) Scientific advisory board member for the International Symposium “Topical Problems of Biophotonics 2007”
8/4-8/11, 2007 in Nizhny Novgorod, Russia
- 8) Member of the organizing committee, The 9th China-India-Japan-Korea Joint Workshop of Neurobiology and Neuroinformatics 2007 (NBNI '07)
7/5-7/7 in Jeju city, Korea
- 9) Chair of the organizing committee, RIKEN BSI summer program 2006 “Dynamical States in the Brain” 7/25-8/4, 2006 in Wako, Japan
- 10) Member of the organizing committee, The 8th China-India-Japan-Korea Joint Workshop of Neurobiology and Neuroinformatics 2006 (NBNI '06)
7/23-7/24, 2006 in Kyoto, Japan
- 11) Member of the organizing committee, 2006 Japan-Germany Symposium on Computational Neuroscience
2/1-2/4, 2006 in Wako, Saitama, Japan
- 12) Member of the organizing committee, The 7th China-India-Japan-Korea Joint Workshop of Neurobiology and Neuroinformatics 2005 (NBNI '05)
11/4-11/5, 2005 in Xiamen, China

Award

- 1) Jun-nosuke Teramae and Tomoki Fukai
“Single-cell graded persistent activity modelled by Ca²⁺ store dynamics”.
Research Award of the 14th Japanese Neural Network Society Meeting, Kyoto University, Sep. 27-29, 2004.

- 2) Hideyuki Cateau and Tomoki Fukai
“A stochastic method to predict the consequence of arbitrary forms of spike-timing-dependent plasticity”. *Neural Computation* 15: 597-620, 2003.
Research Paper Award of the 14th Japanese Neural Network Society Meeting, Kyoto University, Sep. 27-29, 2004.
- 3) Katsunori Kitano and Tomoki Fukai
“A multiple synfire-chain model for the predictive synchrony in the motor-related cortical areas”.
Best Poster Award of the 9th international conference on neural information processing, Singapore, Nov. 18-22, 2002.

Contributions to Academic Societies

(Editorial board members of journals)

- 1) *European Journal of Neuroscience*
- 2) *Neural Networks*
- 3) *Biological Cybernetics*
- 4) *Cognitive Neurodynamics*

Outreach Activities

(Cultural event)

“Neural clock”, Exhibition by architect Shohei Matsukawa and advisory scientist T Fukai, Forum on Intellectual Unity II, Italian Cultural Institute, Akasaka, Tokyo (2007.12.7)