

May 25, 2017

CURRICULUM VITAE

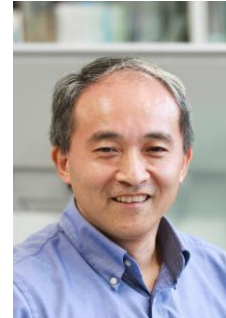
Tomoki Fukai (male)

Personal Data

Date of Birth: January 8, 1958
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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

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) 2017-2018 Grant-in-Aid for Scientific Research on Innovative Areas. “Novel architecture and learning rules inspired by cortical microcircuits” Project Leader
- 2) 2010-2014 Grant-in-Aid for Scientific Research on Innovative Areas “Data mining methods and mathematical modeling of brain microcircuits.” Project Leader
- 3) 2013-2018 Core Research for Evolutional Science and Technology (CREST) Japan Science and Technology “Memory integration process based on cell assembly and neural circuit model. Major collaborator (Project Leader: Kaoru Inokuchi)
- 4) 2009-2014 Core Research for Evolutional Science and Technology (CREST) Japan Science and Technology “Selection mechanism in behavioral learning by habenular”. Major collaborator (Project Leader: Hitoshi Okamoto)
- 5) 2008-2013 The Next-Generation Supercomputer Project of MEXT. Core member
- 6) 2005-2009 Grant-in-Aid for Scientific Research on Priority Area. “Neuronal dynamics and computations by the cortico-basal ganglia loops.” Project Leader
- 7) 1999-2004 Core Research for Evolutional Science and Technology, Japan Science and Technology “Modeling neural basis for processing temporal information”.

Project Leader

Organizing activities:

- 1) Organizer, International Workshop, “Mathematical views in Neuroscience and AI”, 3/16, 2017, at Okouchi Hall, RIKEN
- 2) 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
- 3) 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
- 4) 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
- 5) 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
- 6) 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
- 7) 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
- 8) Scientific advisory board member for the International Symposium “Topical Problems of Biophotonics 2007” 8/4-8/11, 2007 in Nizhny Novgorod, Russia
- 9) 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
- 10) Chair of the organizing committee, RIKEN BSI summer program 2006 “Dynamical States in the Brain” 7/25-8/4, 2006 in Wako, Japan
- 11) 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
- 12) Member of the organizing committee, 2006 Japan-Germany Symposium on Computational Neuroscience 2/1-2/4, 2006 in Wako, Saitama, Japan
- 13) 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* (2010-2015)
- 2) *Neural Networks*
- 3) *Biological Cybernetics*
- 4) *Cognitive Neurodynamics*
- 5) *Frontiers in Computational Neuroscience*

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)