

Curriculum Vitae

Shigeyoshi Fujiawa, Ph.D.
Laboratory Head
Laboratory for Systems Neurophysiology
RIKEN Brain Science Institute
Room 102b, BSI Neural Circuit Genetics Research Building
2-1 Hirosawa, Wako, Saitama, Japan 351-0198
Tel: +81-48-467-5159 (direct)
Tel: +81-48-462-1111 ext.6211
fujisawa@brain.riken.jp

Academic Employment

2012.3-2012.9 New York University, School of Medicine, The Neuroscience Institute,
Dr. György Buzsáki's Laboratory
2005.6-2012.2 Rutgers University, Center for Molecular and Behavioral Neuroscience,
Dr. György Buzsáki's Laboratory
2005.4-2005.5 The University of Tokyo, Graduate School of Pharmaceutical Sciences,
Post-doctoral fellow. Adviser: Dr. Yuji Ikegaya and Dr. Norio Matsuki

Education

2005.3 Ph.D., Pharmaceutical Science
Graduate School of Pharmaceutical Sciences, The University of Tokyo, Japan
Adviser: Dr. Yuji Ikegaya and Dr. Norio Matsuki
2002.3 M.Sc., Engineering
Graduate School of Engineering, Kyoto University, Japan
Adviser: Dr. Ali Ide-Extessabi
2000.3 B.Sc., Engineering
Department of Engineering, Kyoto University, Japan
Adviser: Dr. Ali Ide-Extessabi

Fellowships

2006.1-2006.12 Uehara Memorial Foundation, Postdoctoral Fellowships for Research
Abroad
2007.1-2008.12 Japan Society for the Promotion of Science (JSPS), Postdoctoral
Fellowships for Research Abroad

Publications

- Patel J, **Fujisawa S**, Berényi A, Royer S, & Buzsáki G. (2012) Traveling Theta Waves along the Entire Septotemporal Axis of the Hippocampus. *Neuron*, **75**:410-417.
- Madisen L, Mao T, Koch H, Zhuo JM, Berenyi A, **Fujisawa S**, Hsu YW, Garcia AJ 3rd, Gu X, Zanello S, Kidney J, Gu H, Mao Y, Hooks BM, Boyden ES, Buzsáki G, Ramirez JM, Jones AR, Svoboda K, Han X, Turner EE & Zeng H. (2012) A toolbox of Cre-dependent optogenetic transgenic mice for light-induced activation and silencing. *Nat Neurosci.* **15**:793-802.
- Fujisawa S** & Buzsáki G. (2011) A 4-Hz oscillation adaptively synchronizes prefrontal, VTA and hippocampal activities. *Neuron*, **72**:153-165.
- Sirota A, Montgomery S, **Fujisawa S**, Isomura Y, Zugaro M & Buzsáki G. (2008) Entrainment of neocortical neurons and gamma oscillations by hippocampal theta rhythm. *Neuron*, **60**:683-697.
- Fujisawa S**, Amarasingham A, Harrison MT & Buzsáki G. (2008) Behavior-dependent short-term assembly dynamics in the medial prefrontal cortex. *Nature Neurosci.*, **11**:823-834.
- Fujisawa S**, Matsuki N & Ikegaya Y. (2006) Single neurons can induce phase transitions of cortical recurrent networks with multiple internal states. *Cereb Cortex*, **16**:639-654.
- Yasui T, **Fujisawa S**, Tsukamoto M, Matsuki N & Ikegaya Y. (2005) Dynamic synapses as archives of synaptic history: state-dependent redistribution of synaptic efficacy in the rat hippocampal CA1. *J. Physiol.*, **566**:143-160.
- Fujisawa S**, Matsuki N & Ikegaya Y. (2004) Chronometric readout from a memory trace: Gamma-frequency field stimulation recruits timed recurrent activity in the rat CA3 network. *J. Physiol.*, **560**:123-131.
- Koyama R, Yamada MK, **Fujisawa S**, Katoh-Semba R, Matsuki N, Nishiyama N & Ikegaya Y. (2004) Brain-derived neurotrophic factor induces hyperexcitable reentrant circuits in the dentate gyrus. *J. Neurosci.*, **24**:9215-9224.
- Fujisawa S**, Yamada MK, Nishiyama N, Matsuki N & Ikegaya Y. (2004) BDNF boosts spike fidelity in chaotic neural oscillations. *Biophys. J.*, **86**:1820-1828.
- Baba A, Yasui T, **Fujisawa S**, Yamada RX, Yamada MK, Nishiyama N, Matsuki N & Ikegaya Y. (2003) Activity-evoked capacitative Ca²⁺ entry: Implications in synaptic plasticity. *J. Neurosci.*, **23**: 7737-7741.
- Yoshida S, Ide-Ektessabi A & **Fujisawa S**. (2003) Application of synchrotron radiation in neuromicrobiology: role of iron in Parkinson's disease. *Struct. Chem.*, **14**: 85-95.
- Ide-Ektessabi A, **Fujisawa S**, & Yoshida S. (2002) Chemical state imaging of iron in nerve cells from a patient with Parkinsonism-dementia complex. *J. Appl. Phys.*, **91**:1613-1617.