

Curriculum Vitae

Shigeyoshi Fujiawa, Ph.D.

Team Leader

Laboratory for Systems Neurophysiology

RIKEN Center for Brain Science

2-1 Hirosawa, Wako, Saitama, Japan 351-0198

Tel: +81-48-467-5159 (direct)

Tel: +81-48-462-1111 ext.6211

shigeyoshi.fujisawa [at] riken.jp

Academic Employment

2018.4-present RIKEN Center for Brain Science, Team Leader

2012.9-2018.3 RIKEN Brain Science Institute, Team Leader

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,

Education

2005.3 Ph.D., Pharmaceutical Science

Graduate School of Pharmaceutical Sciences, The University of Tokyo

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-Ektessabi

Publications

- Danjo T, Toyozumi T, & **Fujisawa S**. (2018) Spatial representations of self and other in the hippocampus. *Science*, 359:213-218.
- Terada S, Sakurai Y, Nakahara H, & **Fujisawa S**. (2017) Temporal and rate coding for discrete event sequences in the hippocampus. *Neuron*, 94:1248–62.
- Berényi A, Somogyvári Z, Nagy AJ, Roux L, Long JD, **Fujisawa S**, Stark E, Leonardo A, Harris TD, & Buzsáki G. (2014) Large-scale, high-density (up to 512 channels) recording of local circuits in behaving animals. *J Neurophysiol.* 111:1132-49.
- Stark E, Eichler R, Roux L, **Fujisawa S**, Rotstein HG, & Buzsáki G. (2013) Inhibition-induced theta resonance in cortical circuits. *Neuron*, 80:1263-76.
- Patel J, Schomburg EW, Berényi A, **Fujisawa S**, & Buzsáki G. (2013) Local generation and propagation of ripples along the septotemporal axis of the hippocampus. *J. Neurosci.* 33:17029-41.
- 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, Zanella 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