

**42nd NIPS International Symposium**  
**- NIPS and BRI Niigata University Joint Symposium -**  
**“Advanced Research Areas for the Future Breakthrough in Neuroscience”**

Date: March 6 (Tue) - 7 (Wed), 2012

Place: Yamate Conference Room, Seminar Room

**March 6 (Tue)**

12:00-12:10 Welcome Remarks

Yasunobu Okada (Director-General, National Institute for Physiological Sciences)

**Session I: Advanced Mouse Model** Chair: Akiyoshi Kakita, BRI Niigata Univ.

12:10-12:45 “Systematic generation of gene manipulated mice using C57BL/6 ES cell RENKA”

Kenji Sakimura (Basic Neuroscience Branch, Department of Cellular Neurobiology, BRI Niigata University)

12:45-13:20 “GABA accelerates the migration of cortical interneurons in vivo”

Junichi Nabekura (Section of Multiphoton Neuroimaging, Center for Brain Experiment, NIPS)

13:20-13:30 Coffee Break

**Session II: Biological Fluctuations** Chair: Kazuhiro Ikenaka, NIPS

13:30-14:05 “Regulatory role of hypothalamic AMP-kinase in food selection behavior”

Yasuhiko Minokoshi (Section of Metabolic Physiology, Center for Genetic Analysis of Behavior, NIPS)

14:05-15:00 **(Special Lecture)**

“Molecular regulation of voltage-gated ion channel expression, localization and function in mammalian brain neurons”

James S. Trimmer (University of California, Davis)

15:00-15:15 Coffee Break

**Session III: Advanced Analysis for Alzheimer's Disease** Chair: Keiji Imoto, NIPS

15:15-15:50 “Molecular dissection of Alzheimer's disease (AD) pathogenesis by analysis of familial AD-linked molecules”

Takeshi Ikeuchi (Center for Transdisciplinary Research, BRI Niigata University)

15:50-16:25 “Genomics of Alzheimer disease”

Ryozo Kuwano (Department of Molecular Genetics, Center for Bioresource-based Researches, BRI Niigata University)

16:25-17:20 **(Special Lecture)**

“Preventive and therapeutic effects of intravenously injected adipose-derived stem cells in Alzheimer's disease and advanced human brain imaging in neurodegenerative diseases”

Yoo-Hun Suh (Seoul National University)

17:20-20:00 **Poster Session & Reception**

March 7 (Wed)

**Session IV: Advanced Molecular Imaging** Chair: Ryuichi Shigemoto, NIPS

9:30-10:05 “High voltage electron microscopy for biological specimens”

Kazuyoshi Murata (Section of Brain Structure Information, Supportive Center for Brain Research, NIPS)

10:05-10:40 “Axonal distribution of lipids revealed by imaging mass spectrometry”

Mitsutoshi Seto (Division of Neural Cell Structure, Department of Cell Physiology, NIPS)

10:40-10:55 Coffee Break

**Session V: Brain Imaging** Chair: Hitoshi Takahashi, BRI Niigata Univ.

- 10:55-11:30 “Surgical Pathologic Features of Epileptogenic Lesions”  
Akiyoshi Kakita (Department of Digital Medicine, Center for Integrated Human Brain Science, BRI Niigata University)
- 11:30-12:05 “Dynamics of water in brain: focusing on ischemic edema”  
Hironaka Igarashi (Department of Biological Magnetic Resonance, Center for Integrated Human Brain Science, BRI Niigata University)
- 12:05-12:40 “Inter-individual neural synchronization during eye-contact and joint attention”  
Norihiro Sadato (Section of Brain Function Information, Center for Brain Experiment, NIPS)
- 12:40-12:45 Closing Remarks  
Hitoshi Takahashi (Director, Niigata University Brain Research Institute)

## Poster Session

### Brain Research Institute, Niigata University

- 1) “Perinatal neurotrophic signals persistently alter the electrophysiological properties of adult midbrain dopaminergic neurons.”  
Hisaki Namba; Department of Molecular Neurobiology
- 2) “How rapidly, simply and inexpensively can we make a gene-manipulated mouse?”  
Manabu Abe; Department of Cellular Neurobiology
- 3) “Inhibitory projections from higher association areas to visual cortices revealed by transcranial electrical stimulation in mice”  
Ryuichi Hishida; Department of Neurophysiology
- 4) “Spinocerebellar ataxia type 2 (SCA2) is associated with TDP-43 pathology”  
Yasuko Toyoshima; Department of Pathology
- 5) “Human auditory processing of short-time nonlinear predictability in chaotic sounds: electrophysiologic and behavioral evidence.”  
Kosuke Itoh; Center for Integrated Human Brain Science
- 6) “Hyperphosphorylation of tau induced by naturally secreted amyloid- $\beta$  at low nanomolar concentrations is mediated by insulin-dependent AKT-GSK-3 $\beta$  signaling pathway.”  
Takayoshi Tokutake; Department of Neurology
- 7) “Blood collection method in newborn mice.”  
Yoshitaka Maeda; Department of Comparative & Experimental Medicine
- 8) “Biomarker for diagnosis of Alzheimer’s disease.”  
Ryozo Kuwano; Department of Molecular Genetics.

### National Institute for Physiological Sciences

- 9) “Expanding repertoire of optogenetically targeted cells in transgenic approaches”  
Kenji Tanaka; Division of Neurobiology and Bioinformatics
- 10) “An analytical method for N-glycans on a few pmol glycoprotein and its application to the analysis of N-glycans on myelin protein zero”  
Takeshi Yoshimura; Division of Neurobiology and Bioinformatics
- 11) “Neural activity relating to experience of embarrassment: an fMRI study”  
Tomoyo Morita; Department of Integrative Physiology
- 12) “Inhibitory synaptic transmission from the substantia nigra pars reticulata in

the murine ventral medial thalamus”  
Daisuke Kase; Department of Neural Signaling

- 13) “Mechanisms underlying ATP release from cultured astrocyte”  
Naoko Inamura<sup>1</sup>, Hae Ung Lee<sup>1</sup>, Kenji F Tanaka<sup>1,2</sup>, Kishio Furuya<sup>3</sup>, Masahiro Sokabe<sup>4</sup>, Kazuhiro Ikenaka<sup>1,2</sup>; <sup>1</sup>Division of Neurobiology and Bioinformatics, National Institute for Physiological Sciences, Okazaki, Aichi, Japan, <sup>2</sup>Department of Physiological Sciences, Graduate University for Advanced Studies (SOKENDAI), Okazaki, Aichi, Japan, <sup>3</sup>FIRST Research Center for Innovative Nanobiodevice, Nagoya University, Nagoya, Aichi, Japan, <sup>4</sup>Department of Physiology, Nagoya University Graduate School of Medicine, Nagoya, Aichi, Japan
- 14) “The roles of Bre1, a histone H2B ubiquitin ligase, in the neural precursor cell proliferation and differentiation”  
Yugo Ishino; Division of Neurobiology and Bioinformatics
- 15) “A molecular correlate of ocular dominance columns in the developing mammalian visual cortex”  
Tomita K<sup>1,2</sup>, Sperling M<sup>1</sup>, Bonhoeffer T<sup>1</sup>, Hübener M<sup>1</sup>; <sup>1</sup>Max Planck Institute of Neurobiology, D-82152 Martinsried, Germany; <sup>2</sup>National Institute for Physiological Sciences, Okazaki, Japan
- 16) “Generation of transgenic mice expressing GFP in two kisspeptin neuronal populations”  
GOTO T<sup>1,3</sup>, TOMIKAWA J<sup>1</sup>, FUKANUMA T<sup>1</sup>, ABE H<sup>1</sup>, TAKASE K<sup>1</sup>, IMAMURA T<sup>2</sup>, SANBO M<sup>3</sup>, TOMITA K<sup>3</sup>, HIRABAYASHI M<sup>3</sup>, TSUKAMURA H<sup>1</sup>, MAEDA K<sup>1</sup>, UENOYAMA Y<sup>1</sup>; <sup>1</sup>Graduate School of Bioagricultural Sciences, Nagoya University, Nagoya, Japan. <sup>2</sup>Graduate School of Sciences, Kyoto University, Kyoto, Japan. <sup>3</sup>Center for Genetic Analysis of Behavior, National Institute of Physiological Science, Okazaki, Japan.
- 17) “Plastic changes in nociceptive excitatory synaptic transmission induced in bone cancer model mice, and selective antinociceptive actions of local anesthetics and TRPA1 channel agonist”  
Daisuke Uta, Yoshikazu Yanagisawa, Hidemasa Furue and Keiji Imoto; Department of Information Physiology