

新学術領域研究：予測と意思決定の脳内計算機構の解明による人間理解と応用  
第7回領域会議

The 7th Research Area Meeting

Grant-in Aid for Scientific Research on Innovative Areas:

**Elucidation of the Neural Computation for Prediction and Decision Making**

2014.6.6-8

北九州学術研究都市内、学術情報センター & 九州工業大学

Media Center & Kyushu Institute of Technology, in Kitakyushu Science and Research Park

**Friday, 6 June Tutorial (in Japanese)**

**“ヒトの意思決定過程の測定とモデル化”**

<b>13:00-</b>	<b>The registration starts</b>
<b>13:30-14:30</b>	Dr. Kenji Matsumoto, Tamagawa Univ. 内発的動機づけ、選択の自由、およびその平等の神経基盤
<b>14:30-14:45</b>	<b>Break (15mins)</b>
<b>14:45-15:45</b>	Dr. Masahiko Haruno, NICT 報酬ベース学習や意思決定における扁桃体の役割
<b>15:45-16:00</b>	<b>Break (15mins)</b>
<b>16:00-17:00</b>	Dr. Tomohiro Shibata, Kyushu Institute of Technology 購買意思決定過程の観測とモデル化
<b>17:00-17:30</b>	Discussion
<b>18:30-</b>	Reception at Kantekiya Kurosaki-honten *A shuttle bus to the restaurant will be provided after the tutorial.

**Saturday, 7 June**

<b>8:30-</b>	<b>The registration starts</b>
<b>9:00- 9:15</b>	Greeting Dr. Kenji Doya, OIST
<b>9:15- 9:40</b>	Dr. Yu Omura, Hokkaido univ. (A02) Elucidation of the relationship between serotonergic systems and model-based decision making using optogenetics
<b>9:40-10:05</b>	Dr. Kazuhiro Sakamoto, Tohoku univ. (A02) Network mechanisms for prediction and decision in the frontal lobe through analysis of inter-areal and inter-laminar information flows
<b>10:05-10:30</b>	Dr. Kenichiro Tsutsui, Tohoku univ. (A02) Investigating the prefrontal function underlying flexible behavior control
<b>10:30-10:40</b>	<b>Break (10mins)</b>
<b>10:40-11:05</b>	Dr. Hiromu Tanimoto, University of Tokyo (A02) Neural circuits and behavioural control of memories in different sensory modalities
<b>11:05-11:30</b>	Dr. Koshi Murata, University of Tokyo (A02) Decision making on food intake via neural pathways from the orbitofrontal cortex onto the olfactory tubercle
<b>11:30-11:55</b>	Dr. Kenji Morita, University of Tokyo (A02) Neural circuit mechanisms of the computation of reward prediction error and reinforcement learning: theoretical exploration of the corticostriatal temporal difference (CS-TD) hypothesis
<b>11:55-12:20</b>	Dr. Hiroyuki Mizoguchi, Nagoya univ. (A02) Research on impaired decision-making by using DREADD system and computational approach
<b>12:20-13:20</b>	<b>Lunch</b> (Administrative Meeting at Café restaurant La Fontaine)
<b>13:20-15:30</b>	Poster presentations ( <b>130mins</b> )
<b>15:30-15:55</b>	Dr. Takayuki Teramoto, Kyushu univ. (A02) In vivo 4-D Ca <sup>2+</sup> imaging of multi-neuronal activities in a local circuit for <i>C. elegans</i> decision-making

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<b>15:55-16:20</b>	Dr. Kazuto Kobayashi, Fukushima Medical univ. (A02) Control of behavioral flexibility by striatal cholinergic interneurons
<b>16:20-16:45</b>	Dr. Fumino Fujiyama, Doshisha univ. (A02) New morphological aspect of the basal ganglia circuitry to modulate the dopaminergic neurons.
<b>16:45-16:55</b>	<b>Break(10mins)</b>
<b>16:55-17:20</b>	Dr. Katsuhiko Miyazaki, OIST (A02) Elucidation of neural mechanism for regulating waiting behavior based on reward prediction
<b>17:20-17:45</b>	Dr. Yasuo Kawaguchi, NIPS (A02) Sequential activation of basal ganglia-projecting cortical subnetworks
<b>17:45-18:10</b>	Dr. Masaaki Ogawa, NIPS (A02) Neural mechanisms of reward-based decision making
<b>18:10-18:35</b>	Dr. Hiroyuki Nakahara, RIKEN (A02) Neural mechanisms for value generation and value integration in decision making: modeling and experiment
<b>18:35-18:50</b>	General discussion (A02) (15mins)
<b>19:00-</b>	Reception at Event Hall *A shuttle bus to Kurosaki station will be provided after the reception.

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## Sunday, 8 June

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<b>8:30-</b>	<b>The registration starts</b>
<b>9:00- 9:25</b>	Dr. Akio Namiki, Chiba univ. (A01) Research on decision-making algorithm for game-playing robots based on prediction of opposing player's motions.
<b>9:25- 9:50</b>	Dr. Koji Jimura, Tokyo Institute of Technology (A01) Brain-wide computational mechanisms for reward reinforcement and intertemporal choice via temporal difference learning model and expected utility
<b>9:50-10:15</b>	Dr. Shigenobu Toda, Kanazawa univ. (A01) Role of neuronal plasticity in the nucleus accumbens in transition from goal-directed actions to habits
<b>10:15-10:40</b>	Dr. Yasushi Kobayashi, Osaka univ. (A01) Exploring decision-making mechanism by analyzing brainstem-cortical network dynamics with tDCS on monkeys
<b>10:40-10:50</b>	<b>Break(10mins)</b>
<b>10:50-11:15</b>	Dr. Ken Takiyama, Tamagawa univ. (A01) Investigation into common principles of motor learning and decision making through construction of a unified model
<b>11:15-11:40</b>	Dr. Eiji Uchibe, OIST (A01) Role of model-based and model-free reinforcement learning in partially observable environments
<b>11:40-11:55</b>	General discussion (A01) (15mins)
<b>11:55-13:00</b>	<b>Lunch</b>
<b>13:00-13:25</b>	Dr. Masayuki Matsumoto, University of Tsukuba (A03) Roles of salience- and value-related dopamine signals in learning mechanisms
<b>13:25-13:50</b>	Dr. Shuji Kaneko, Kyoto University (A03) Identifying serotonergic circuits involved in impulsive behaviors using cell-type-specific, retrograde viral vectors
<b>13:50-14:15</b>	Dr. Jin Narumoto, Kyoto Prefectural University of Medicine (A03) Neural Substrates for Altered Reward Prediction in Psychiatric Disorders with Serotonergic Dysfunction
<b>14:15-14:40</b>	Dr. Takafumi Minamimoto, National Institute of Radiological Sciences (A03) Roles of Serotonin in Controlling and Interrupting Decision Making
<b>14:40-14:55</b>	General discussion (A03) (15mins)
<b>14:55-15:05</b>	General report and information(10mins)

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