



## *Kenji Doya's Publications*

### **Metalearning and Neuromodulators**

Asahi S., Okamoto, Y., Okada, G., Morinobu, S., Yamawaki, S., , Doya K. (2002). Relationship between brain activation during GO/NOGO task and impulsiveness: A fMRI study. 32nd Annual Meeting, Society for Neuroscience, Orlando, USA.

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Doya K. (2000). A possible role of serotonin in regulating the time scale of reward prediction. Serotonin Conference.

Doya K. (2000). Possible roles of neuromodulators in the regulation of learning processes. 30th Annual Meeting, Society for Neuroscience.

Doya K. (1999). Metalearning, neuromodulation and emotion. 13th Toyota Conference on Affective Minds, Mikkabi, Japan, 46–47.

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Okada G., Okamoto Y., Ueda K., Yamashita H., Kagaya A., Morinobu S., Yamawaki S., Doya K. (2001). Localization of brain activity in prediction of future reward using fMRI and MEG. 31st Annual Meeting, Society for Neuroscience, San Diego, USA.

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Schweighofer N., Doya K. (2003). Meta-learning of reinforcement learning. *Neural Networks*, 16, 5–9.

Schweighofer N., Doya K. (2002). A biologically plausible computational model of meta-learning in reinforcement learning. 32nd Annual Meeting, Society for Neuroscience, Orlando, USA.

Tanaka, S., Doya, K., Okada, G., Ueda, K., Okamoto, Y., Yamawaki, S. (2004). Prediction of immediate and future rewards differentially recruits

cortico–basal ganglia loops. *Nature Neuroscience*, 7(8), 887–893.

Tanaka, S., Schweighofer,N., Asahi, S., Okamoto, Y., Yamawaki, S., Doya, K. (2004). An fMRI study of the delay discounting of reward after tryptophan depletion and loading. 2: reward expectation. Society for Neuroscience 34th Annual Meeting, 98.

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Ueda Y., Samejima K., Doya K., Kimura M. (2002). Reward value–dependent striate neuron activity of monkey performing trial–and–error behavioral decision task. 32nd Annual Meeting, Society for Neuroscience, Orlando, USA.

### **Specialization and Integration of Brain Areas**

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### **Reinforcement Learning**

- Doya K. (2000). Reinforcement learning in continuous time and space. *Neural Computation*, 12, 219–245.
- Doya K. (1997). Efficient nonlinear control with actor–tutor architecture. Mozer MC, Jordan MI, Petsche T, *Advances in Neural Information Processing Systems 9*, MIT Press, 1012–1018.
- Doya K. (1996). Temporal difference learning in continuous time and space. Touretzky DS, Mozer MC, Hasselmo ME, *Advances in Neural Information Processing Systems 8*, MIT Press, 1073–1079.
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Capi G., Doya K. (2003). Evolving recurrent neural controllers for sequential tasks – A parallel implementation. *Congress on Evolutionary Computation*, 1, 514–519.

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## Multiple Models

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## Cerebellum

Kuroda S., Yamamoto K., Miyamoto H., Doya K., Kawato M. (2001). Statistical characteristics of climbing fiber spikes necessary for efficient cerebellar learning. *Biological Cybernetics*, 84, 183–192.

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### **Sequence Learning and Basal Ganglia**

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## **Neural Oscillators**

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