Name: Kenji Doya
Position: Professor
Affiliation: Neural Computation Unit,
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Date of birth: July 13, 1961

Education:
1980-1984 B.S., Engineering, University of Tokyo
1984-1986 M.S., Engineering, University of Tokyo
1994 Ph.D., Engineering, University of Tokyo

Professional Positions:
1986-1991 Instructor, University of Tokyo
1991-1993 Visiting Researcher, University of California, San Diego
1993-1994 Research Associate, The Salk Institute
1994-2003 Senior Researcher, Advanced Telecommunication Research Institute International (ATR)
1995-2006 Visiting Associate Professor, Nara Institute of Science and Technology (NAIST)
2003-2011 Department Head, ATR Computational Neuroscience Laboratories
2004-2011 Principal Investigator, Okinawa Institute of Science and Technology (OIST) Initial Research Project
2006-2015 Visiting Professor, NAIST
2010-2014 Adjunct Professor, Kyoto University
2011- Professor, Neural Computation Unit, OIST Graduate University
2011-2014 Vice Provost for Research, OIST Graduate University
2012-2019 Scientific Technical Committee, Italian Institute of Technology

Major Research Grants:
1999-2005 Metalearning, neuromodulation and emotion, CREST, JST
2011-2016 Prediction and decision making, Kakenhi Innovative Areas, MEXT
2011-2016 Machine learning approaches for depression, SRPBS, MEXT
2011-2016 Hierarchical simulation for predictive medicine, Supercomputational Life Science, RIKEN
2014-2019 Multi-scale models using brain map data, Brain/MINDS, MEXT
2016-2020 Whole-brain simulation and brain-like artificial intelligence, Post-K Application Research & Development, MEXT
2016-2021 Artificial intelligence and brain science, Kakenhi Innovative Areas, MEXT
2019-2024 Development of data analysis methods, Brain/MINDS, AMED

Social Services:
1999-2002, 2008- Board of Governors, Japanese Neural Network Society (JNNS) (2001-2002 Vice President)
1999-2003 Director, Neuro-Informatics Summer School (NISS)
2004- Co-organizer, Okinawa Computational Neuroscience Course (OCNC)
2007, 2016 Program Co-chair, International Conference on Neural Information Processing (ICONIP)
2008-2021 Co-editor in Chief, Neural Networks
2009-2011, 2021- Board of Governors, International Neural Network Society (INNS)
2010 Program Chair, 33rd Annual Meeting of Japan Neuroscience Society (JNS)
2011, 2018 Executive Chair, Annual Conference of JNNS

2017- Board of Governors, JNS
2020-2023 Co-chair, Data Standards and Sharing Working Group, International Brain Initiative (IBI)
2022 President, 45th Annual Meeting of JNS (Neuro2022)
2023-2024 President, JNNS

Awards:
2000, 2003, 2005, 2006 Best Paper Awards, JNNS
2007 JSPS Award, Japan Society for Promotion of Science
2007 Tsukahara Award, Brain Science Foundation
2012 MEXT Prize for Science and Technology
2013 College of Fellows, INNS
2018 Donald O. Hebb Award, INNS
2019 Academic Award, JNNS
2019 Outstanding Achievement Award, Asia Pacific Neural Network Society
2022 Age group 2nd place, Ironman Malaysia

Representative Publications

Doya K, Ema A, Kitano H, Sakagami M, Russell S (2022). Social impact and governance of AI and neurotechnologies. *Neural Networks*.
Doya K (2021). Canonical cortical circuits and the duality of Bayesian inference and optimal control. *Current Opinion in Behavioral Sciences*, 41, 160-167.
Miyazaki K, Miyazaki KW, Yamanaka A, Tokuda T, Tanaka KF, Doya K (2018). Reward probability and timing uncertainty alter the effect of dorsal raphe serotonin neurons on patience. *Nature Communications*, 9:2048.
Fermin AS, Yoshida T, Yoshimoto J, Ito M, Tanaka SC, Doya K (2016). Model-based action planning involves cortico-cerebellar and basal ganglia networks. *Scientific Reports*, 6, 31378.
Funamizu A, Kuhn B, Doya K (2016). Neural substrate of dynamic Bayesian inference in the cerebral cortex. *Nature Neuroscience*, 19, 1682–1689.
Ito M, Doya K (2015). Distinct neural representation in the dorsolateral, dorsomedial, and ventral parts of the striatum during fixed- and free-choice tasks. *Journal of Neuroscience* 35:3499-3514.
Elfwing S, Doya K (2014). Emergence of polymorphic mating strategies in robot colonies. *PLoS One*, 9(4), e93622.
Miyazaki KW, Miyazaki K, Tanaka KF, Yamanaka A, Takahashi A, Tabuchi S, Doya K (2014). Optogenetic activation of dorsal raphe serotonin neurons enhances patience for future rewards. *Current Biology*, 24(17), 2033-2040.
Elfwing S, Uchibe E, Doya K, Christensen HI (2011). Darwinian embodied evolution of the learning ability for survival. *Adaptive Behavior*, 19, 101-120.
Miyazaki K, Miyazaki KW, Doya K (2011). Activation of dorsal raphe serotonin neurons underlies waiting for delayed rewards. *Journal of Neuroscience*, 31, 469-479.
Doya K (2008). Modulators of decision making. *Nature Neuroscience*, 11, 410-416.
Samejima K, Ueda K, Doya K, Kimura M (2005). Representation of action-specific reward values in the striatum. *Science*, 301, 1337-1340.
Tanaka SC, 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.
Doya K (2002). Metalearning and neuromodulation. *Neural Networks*, 15, 495-506.
Doya K (2000). Reinforcement learning in continuous time and space. *Neural Computation*, 12, 219-245.
Doya K (1999). What are the computations of the cerebellum, the basal ganglia, and the cerebral cortex. *Neural Networks*, 12, 961-974.
Doya K., Selverston A.I. (1994). Dimension reduction of biological neuron models by artificial neural networks. *Neural Computation*, 6, 696-717.
Doya K., Yoshizawa S. (1989). Adaptive neural oscillator using continuous-time back-propagation learning. *Neural Networks*, 2, 375-386.