

Prof. Dr.

Tomohiro Shibata

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Born January 19, 1969

Career

2002-present Associate professor / NAIST
2001-2002 Senior researcher / Metalearning and Neuromodulation, Creating the Brain, CREST, JST.
1997-2001 Senior researcher, Kawato Dynamic Brain Project, ERATO, JST.
1996-1997 Postdoctoral researcher, JSPS.

Research Interests

Vision and motor control in humans, and online statistical estimation algorithm.

Honours

- Best paper award, JNNS, 2002.
Shibata, T. and Schaal, S.
"Biomimetic Gaze Stabilization based on Feedback-Error-Learning with Nonparametric Regression Networks", *Neural Networks*, 14(2), 2001, pp.201-216.
- Accepted as a student for the 2000 EU Advanced Course in Computational Neuroscience.
- Young Investigator Award, Robotics Society of Japan, 1992.

Activities/Competence

- ICDL-05 Program Committee Member.
- ICRA05 Video Program Committee Member.
- Assistant for Technical Committee on Neurocomputing, IEICE, 2004-2006.
- Tutor head in Okinawa Computational Neuroscience Course (OCNC), 2004.
- Faculty & tutor in Neuroinformatics Summer School (NISS), 2003.
- Lecture in Dagstuhl Seminar "Embodied Artificial Intelligence", 2003.
- Editor of the special issue "Kawato Dynamic Brain Project" for *Journal of Robotics Society of Japan*, 2001.

Most Important Publications

- [1] Hitomi, K., **Shibata, T.**, Nakamura, Y., & Ishii, S..Reinforcement learning for quasi-passive dynamic walking of an unstable biped robot. *Journal Robotics and Autonomous Systems*, (in press).
- [2] Bando, T., **Shibata, T.**, Doya, K., & Ishii, S. Switching particle filters for efficient visual tracking. *Journal of Robotics and Autonomous Systems*, (in press).
- [3] Kawawaki, D., **Shibata, T.**, Goda, N., Doya, K., and Kawato, M. Anterior and superior lateral occipito-temporal cortex responsible for target motion prediction during overt and covert visual pursuit. *Neuroscience Research*, 54(2), pp.112-123 (2006)
- [4] **Shibata, T.**, Tabata, H., Schaal, S. and Kawato, M. A model of smooth pursuit in primates based on learning the target dynamics. *Neural Networks*, 18(3), pp.213-224 (2005)
- [5] S. Taguchi, H. Tabata, **T. Shibata** and M. Kawato. Transformation from population codes to firing rate codes by learning: Neural representation of smooth pursuit eye movements. *Systems and Computers in Japan*, 35(6), 79-88, (2004)
- [6] **Shibata, T.** and Vijayakumar, S. and Conradt, J. and Schaal, S. Biomimetic Oculomotor Control. *Adaptive Behavior*, 9 (3/4), pp.189-208 (2001).
- [7] **Shibata, T.** and Schaal, S. Biomimetic gaze stabilization based on feedback-error-learning with nonparametric regression networks. *Neural Networks*, 14(2), pp.201-216 (2001)
- [8] **Shibata, T.**, Matsumoto, Y., Kuwahara, T., Inaba, M., and Inoue, H. Development and integration of generic components for a teachable vision-based mobile robot. *IEEE/ASME Trans. on Mechatron.*, 1(3), pp. 230-236 (1996)