

Ph.D.

Tomomichi Sugihara

Department of Mechano-Informatics
School of Information Science and Technology
University of Tokyo

7-3-1, Hongo, Bunkyo-ku, Tokyo, Japan

<http://www.ynl.t.u-tokyo.ac.jp/~sugihara/index-e.html>
e-mail: zhidao [at] ieee.org Tel.: +81-3-5841-6380



Born April 9, 1975

Career

- 2006-present Adjunct lecturer (concurrent post)
Department of System Robotics, Toyo University, Saitama, Japan
- 2005-present Research associate
Department of Mechano-Informatics, The University of Tokyo, Tokyo, Japan
- 2004-2005 Academic research assistant
Department of Mechano-Informatics, The University of Tokyo, Tokyo, Japan

Research Interests

humanoid robot, multibody dynamics, nonlinear systems, biomimetic engineering, legged motion control, multiscale system simulation, numerical robustness, mechanical design.

Honors

- Robotics Society of Japan Incentive Awards, 2006
- Best paper award from 2005 IEEE-RAS International Conference on Humanoid Robots
- Best paper award from 10th Robotics-Symposia 2004
- ROBOMECH award from Japan Society of Mechanical Engineers, Robotics and Mechatronics Division, 2002

Activitie/Competence

- Reviewer of journals (e.g. IEEE Transactions on Robotics, IEEE Transactions on Robotics and Automation, International Journal of Humanoid Robotics, etc.) and conferences (e.g. IEEE International Conference on Robotics and Automation, IEEE/RSJ International Conference on Intelligent Robots and Systems, IEEE-RAS International Conference on Humanoid Robots, etc.).

Most Important Relevant Publications (Selected)

- [1] **Tomomichi Sugihara** and Yoshihiko Nakamura. Whole-body-cooperative Reaction Force Manipulation on Legged Robots with COG Jacobian involving Implicit Representation of Underactuated DOFs, *Journal of the Robotics Society of Japan*, Vol.24, No.2, pp.222–231, 2006.
- [2] **Tomomichi Sugihara** and Yoshihiko Nakamura. High Mobility Control of Humanoid Robots based on an Analogy of ZMP-COG Model and Carted Inverted Pendulum Model, *Journal of the Robotics Society of Japan*, Vol.24, No.1, pp.74–83, 2006
- [3] **Tomomichi Sugihara** and Yoshihiko Nakamura. Whole Body Cooperative Motion Control of Humanoid Robot based on Dual Term Absorption of Disturbance, *Journal of the Robotics Society of Japan*, Vol.24, No.1, pp.64–73, 2006
- [4] **Tomomichi Sugihara**, Wataru Takano, Kou Yamamoto, Katsu Yamane and Yoshihiko Nakamura. Online Dynamical Retouch of Motion Patterns Towards Animatronic Humanoid Robots, *In Proceedings of 2005 IEEE-RAS International Conference on Humanoid Robots*, Tsukuba, Dec., 2005.
- [5] **Tomomichi Sugihara**, Kou Yamamoto and Yoshihiko Nakamura. Architectural Design of Miniature Anthropomorphic Robots Towards High-Mobility, *In Proceedings of IEEE/RSJ International Conference on Intelligent Robots and Systems*, pp.1083–1088, Edmonton, Aug., 2005.
- [6] **Tomomichi Sugihara** and Yoshihiko Nakamura. A Fast Online Gait Planning with Boundary Condition Relaxation for Humanoid Robots, *In Proceedings of 2005 IEEE International Conference on Robotics and Automation*, pp.306–311, Barcelona, Apr., 2005.
- [7] **Tomomichi Sugihara** and Yoshihiko Nakamura. Whole-body Cooperative Balancing of Humanoid Robot using COG Jacobian, *In Proceedings of 2002 IEEE/RSJ International Conference on Intelligent Robots and Systems*, pp.2575–2580, Lausanne, Oct., 2002.
- [8] **Tomomichi Sugihara**, Yoshihiko Nakamura and Hirochika Inoue. Realtime Humanoid Motion Generation through ZMP Manipulation based on Inverted Pendulum Control, *In Proceedings of 2002 IEEE International Conference on Robotics and Automation*, pp.1404–1409, Washington DC, May, 2002.
- [9] Satoshi Kagami, Koichi Nishiwaki, James J. Kuffner, Jr., **Tomomichi Sugihara**, Masayuki Inaba and Hirochika Inoue. Design, Implementation, and Remote Operation of the Humanoid H6, *In Proceedings of 7th International Symposium on Experimental Robotics*, Honolulu, Dec., 2000.
- [10] Satoshi Kagami, Koichi Nishiwaki, Tomonobu Kitagawa, **Tomomichi Sugihara**, Masayuki Inaba and Hirochika Inoue. A Fast Generation Method of a Dynamically Stable Humanoid Robot Trajectory with Enhanced ZMP Constraint, *In Proceedings of 2000 IEEE International Conference on Humanoid Robotics*, Cambridge, Sep., 2000.