

Kazunori Sakurama

Education

Graduate School of Informatics, Kyoto University

Ph.D. 2004

Graduate School of Informatics, Kyoto University

Master's degree of Informatics 2001

Faculty of Engineering, Kyoto University

Bachelor's degree of Engineering 1999

Research / Teaching Experience

Graduate School of Informatics, Kyoto University

Associate Professor 2018–present

Graduate School of Engineering, Tottori University

Associate Professor 2011–2018

The University of Electro-Communications

Research Associate 2004–2011

Recent Journal Publications

- K. Sakurama, S. Azuma, and T. Sugie. Design theory of distributed controllers via gradient-flow approach. In *Emerging Applications of Control and System Theory*, chapter 23, pages 313–325. Springer, 2018 (Book chapter)
- K. Sakurama and H. Ahn. Network-based distributed direct load control guaranteeing fair welfare maximization. *IET Control Theory & Applications*, 2019. (to appear)
- K. Sakurama, S. Azuma, and T. Sugie. Multi-agent coordination via distributed pattern matching. *IEEE Transactions on Automatic Control*, 64(8), August 2019. (to appear)
- K. Sakurama. Control of large-scale cyber-physical systems with agents having various dynamics. *IEEE Transactions on Big Data*, 2018. (to appear)
- K. Sakurama, H. Yasuki, and S. Nishida. Multiple source seeking via distributed sample-variance control of swarm robots. *IMA Journal of Mathematical Control and Information*, 35(4):1263–1280, December 2018
- K. Sakurama, S. Azuma, and T. Sugie. Multi-agent coordination to high-dimensional target subspaces. *IEEE Transactions on Control of Network Systems*, 5(1):345–358, March 2018
- K. Sakurama, E. I. Verriest, and M. Egerstedt. Scalable stability and time-scale separation of networked, cascaded systems. *IEEE Transactions on Control of Network Systems*, 5(1):321–332, March 2018
- K. Sakurama, Y. Kosaka, and S. Nishida. Formation control of swarm robots with multiple proximity distance sensors. *International Journal of Control, Automation and Systems*, 16(1):16–26, January 2018
- K. Sakurama. Distributed flow network control with demand response via price adjustment.

Neurocomputing, 270:34–42, December 2017

- K. Sakurama. Leader selection via LASSO for formation control of time-delayed multi-agent systems. *Neurocomputing*, 270:18–26, December 2017
- B. D. O. Anderson, Z. Sun, T. Sugie, S. Azuma, and K. Sakurama. Formation shape control with distance and area constraints. *IFAC Journal of Systems and Control*, 1:2–12, September 2017
- K. Wada and K. Sakurama. Privacy masking for distributed optimization and its application to demand response in power grids. *IEEE Transactions on Industrial Electronics*, 64(6):5118–5128, June 2017
- K. Sakurama and M. Miura. Communication-based decentralized demand response for smart microgrids. *IEEE Transactions on Industrial Electronics*, 64(6):5192–5202, June 2017
- K. Sakurama and M. Miura. Distributed constraint optimization on networked multi-agent systems. *Applied Mathematics and Computation*, 292:272–281, January 2017
- M. Miura, Y. Tokunaga, and K. Sakurama. Graphical and scalable multi-agent simulator for real-time pricing in electric power grid. *Artificial Life and Robotics*, 21(2):181–187, June 2016
- K. Sakurama, S. Azuma, and T. Sugie. Distributed controllers for multi-agent coordination via gradient-flow approach. *IEEE Transactions on Automatic Control*, 60(6):1471–1485, June 2015
- K. Sakurama and K. Nakano. Necessary and sufficient condition for average consensus of networked multi-agent systems with heterogeneous time delays. *International Journal of Systems Science*, 46(5):818–830, April 2015

Recent Conference Proceedings Papers

- K. Sakurama. Formation control of multi-agent systems over generalized relative measurement. In *Proc. of the 57th IEEE Conference on Decision and Control*, page TuA14.4, Miami Beach, USA, 17-19 December 2018
- K. Sakurama and H. Ahn. Index-free assignment formation of networked multi-agent systems. In *Proc. of American Control Conference*, pages 466–471, Milwaukee, USA, 27-29 June 2018
- B. D.O. Anderson, Z. Sun, T. Sugie, S. Azuma, and K. Sakurama. Distance-based rigid formation control with signed area constraints. In *Proc. of the 56th IEEE Conference on Decision and Control*, Melbourne, Australia, 12-15 December 2017
- K. Sakurama. Formation control of multi-agent systems with the scale freedom. In *Proc. of the Second International Symposium on Swarm Behavior and Bio-Inspired Robotics*, pages 270–271, Kyoto, Japan, 29 October 2017
- K. Sakurama. Aggregate state control of multi-agent systems with white noise via networked PI-consensus controllers. In *Proc. of the 56th Annual Conference of the Society of Instrument and Control Engineers of Japan*, pages 291–292, Kanazawa, Japan, 19-22 September 2017
- S. Nakatani, M. Murakami, N. Araki, K. Sakurama, S. Nishida, and K. Mabuchi. Frequency-band and electrode-channel selection for motion discrimination from electroencephalography using L1-constrained least squares. In *Proc. of the IEEE International Conference on Systems, Man, and Cybernetics*, pages 2141–2145, Banff, Canada, 5-8 October 2017
- S. Nishida, K. Nishigaki, T. Homma, M. Miura, and K. Sakurama. Study of a new type of UAV with vertical fins. In *Proc. of the IEEE International Conference on Advanced Intelligent Mechatronics*, pages 809–814, Munich, Germany, 3-7 July 2017
- K. Sakurama. Aggregate state control of large-scale systems via networked controllers. In *Proc. of the 20th IFAC World Congress*, pages 2555–2559, Toulouse, France, 9-14 July 2017

- K. Sakurama. Distributed control of networked multi-agent systems for formation with freedom of special Euclidean group. In *Proc. of the 55th IEEE Conference on Decision and Control*, pages 928–932, Las Vegas, Nevada, USA, 12–14 December 2016
- K. Sakurama. Control of large-scale cyber-physical systems with agents via a representative model. In *Proc. of the 4th IEEE International Conference on Cyber-Physical Systems, Networks, and Applications*, pages 40–43, Nagoya, Japan, 6–7 October 2016
- K. Wada and K. Sakurama. Masking method for local information on distributed optimization with constraints. In *Proc. of the 4th IEEE International Conference on Cyber-Physical Systems, Networks, and Applications*, pages 55–58, Nagoya, Japan, 6–7 October 2016
- K. Sakurama. Formation control of multi-agent systems with freedom of rotation and translation. In *Proc. of the 55th Annual Conference of the Society of Instrument and Control Engineers of Japan*, pages 1749–1750, Tsukuba, Japan, 20–23 September 2016
- K. Sakurama. Multi-robot formation control over distance sensor network. In *Proc. of the 6th IFAC Workshop on Distributed Estimation and Control in Networked Systems*, pages 198–203, Tokyo, Japan, 8–9 September 2016
- K. Wada and K. Sakurama. Masking method of private information for distributed optimization and its application to real-time pricing. In *Proc. of the 22nd International Symposium on Mathematical Theory of Networks and Systems*, pages 211–214, Minneapolis, Minnesota, USA, 12–15 July 2016
- K. Sakurama and S. Nishida. Source seeking by distributed swarm robots with sample variance control. In *Proc. of American Control Conference*, pages 2484–2487, Boston, Massachusetts, USA, 6–8 July 2016
- K. Wada, M. Miura, and K. Sakurama. Masking method for power consumption on negotiation-based real-time pricing. In *Proc. of SICE International Symposium on Control Systems 2016*, number 2A2-3, Nagoya, Japan, 7–10 March 2016
- K. Sakurama, S. Azuma, and T. Sugie. Distributed control of networked multi-agent systems for high-dimensional coordination. In *Proc. of the 54th IEEE Conference on Decision and Control*, pages 5613–5616, Osaka, Japan, 15–18 December 2015
- K. Sakurama and M. Miura. Real-time pricing via distributed negotiations between prosumers in smart grids. In *Proc. of IEEE PES Innovative Smart Grid Technologies in Asia*, number 035, Bangkok, Thailand, 3–6 November 2015
- K. Sakurama, H. Yasuki, and S. Nishida. Multi-source seeking by swarm robots with decentralized control. In *Proc. of the First International Symposium on Swarm Behavior and Bio-Inspired Robotics*, pages 375–376, Kyoto, Japan, 28–30 October 2015
- K. Sakurama and M. Miura. Complete distributed optimization with constraints on networked multi-agent systems and its application to real-time pricing. In *Proc. of European Control Conference*, pages 634–639, Linz, Austria, 15–17 July 2015
- K. Sakurama, E. I. Verriest, and M. Egerstedt. Effects of insufficient time-scale separation in cascaded, networked systems. In *Proc. of American Control Conference*, pages 4683–4688, Chicago, Illinois, USA, 1–3 July 2015