Curriculum Vitae

Hideaki Ishii

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Current Position

 Professor, Department of Information Physics and Computing, Graduate School of Information Science and Technology, and Department of Mathematical Engineering and Information Physics, School of Engineering, University of Tokyo, since 2024

Earlier Positions

- Professor (2020–2024), Associate Professor (2007–2020), Department of Computer Science, School of Computing, Tokyo Institute of Technology (until 2016: Department of Computational Intelligence and Systems Science, Interdisciplinary Graduate School of Science and Engineering)
 - Also affiliated with: Cyber Security Research Center; Department of Systems and Control Engineering, School of Engineering; Center of Data Science and Artificial Intelligence
- Research Associate, Department of Information Physics and Computing, Graduate School of Information Science and Technology, and Department of Mathematical Engineering and Information Physics, School of Engineering, University of Tokyo, 2004–2007
- Postdoctoral Research Associate, Coordinated Science Laboratory, University of Illinois at Urbana-Champaign, 2001–2004 (Research adviser: Professor Tamer Başar)

Short-Term Appointments

- Visiting Researcher, Technical University of Berlin, Germany, July-October 2018
- Visiting Professor, City University of Hong Kong, China, September 2015
- Visiting Researcher, University of Stuttgart, Germany, April 2014-March 2015
- Visiting Researcher, IEIIT-CNR, Politecnico di Torino, Italy, October-November 2007, September 2008, November 2014

Education

- Ph.D., Electrical and Computer Engineering, University of Toronto, 2002 (Supervisor: Professor Bruce A. Francis)
- M.Eng., Applied Systems Science, Kyoto University, Japan, 1998
- B.Eng., Engineering Systems, University of Tsukuba, Japan, 1996

Personal Data

Born in 1972 in Tokyo, Japan Nationality: Japanese

Research Interests

- Systems and control
- Control over communication networks
- Cooperative control of multi-agent systems
- Distributed algorithms for PageRank computation in search engines
- Cyber security of control systems with applications to power systems
- Hybrid dynamical systems
- Control analysis and design via randomized algorithms
- Sampled-data control theory and its application

Awards and Honors

- Co-author of the Best Young Author Award Finalist, IFAC Conference on Networked Systems, Zurich, July 2022.
- IEEE Fellow, Class of 2021, Citation: "For contributions to networked control of large-scale systems"
- Selected in the Tokyo Tech Research Map, 2023–2024, 2021–2022, and 2019–2020
- IFAC Pavel J. Nowacki Distinguished Lecturer, 2020–2023
- IFAC Outstanding Service Award, July 2020
- Co-author for the Best Student Paper Award, 8th IFAC Workshop on Distributed Estimation and Control, Chicago, September 2019
- SICE Control Division Conference Award, 2019
- Plenary Lecture, 18th International Conference on Control, Automation and Systems (ICCAS), PyeongChang, Korea, October 2018

- Tejima Memorial Research Award (Young Researcher Award), Tokyo Institute of Technology, 2017
- SICE Outstanding Author Award, 2016
- IEEE CSS Control Systems Magazine Outstanding Paper Award, 2015
- Humboldt Research Fellowship, Alexander von Humboldt Foundation, 2014
- Semi-Plenary Lecture, The 21st International Symposium on Mathematical Theory of Networks and Systems (MTNS), Groningen, The Netherlands, July 2014
- SICE Outstanding Paper Award, 2013 and 2014
- SICE Control Division Research Award (Kimura Award), 2013
- Supervisor for the Best Student Paper Award Finalist, The 12th European Control Conference, Zurich, Switzerland, 2013
- SICE Control Division Pioneer Award, 2010
- Supervisor for the Best Student Paper Award, IEEE Multi-Conference on Systems and Control, Yokohama, Japan, 2010
- Nominated as an outstanding reviewer for Automatica, 2003 and 2007
- Wiley Prize for Best Student Paper, International Conference on Control 2000, Cambridge, U.K., 2000
- University of Toronto Open Fellowship, 2000–2001
- Japan Scholarship Foundation Award, 1996–1998

Membership

- IEEE, Fellow
- SICE (Society of Instrument and Control Engineers, Japan)
- ISCIE (Institute of Systems, Control and Information Engineers, Japan)
- IEICE (Institute of Electronics, Information and Communication Engineers, Japan)

Editorial Activities

- Associate Editor, Mathematics of Control, Signals and Systems, since 2016.
- Associate Editor, IEEE Control Systems Letters, 2017–2022.
- Associate Editor, IEEE Transactions on Control of Network Systems, 2015–2018.
- Associate Editor, Automatica, 2008–2017.

- Associate Editor, IEEE Transactions on Automatic Control, 2009–2011.
- Associate Editor, Transactions of the SICE, 2011–2013.
- Guest Editor, Special Section on Resilient and Safe Control in Multi-Agent Systems,
 IEEE Open Journal of Control Systems, 2023–2024.
- Guest Editor, Special Issue on Control Technology for Networked and Distributed Robotics, Advanced Robotics, 2021–2022.
- Guest Editor, Special Section on Learning and Control for Multi-agent Systems, Annual Reviews in Control, 2021–2022.
- Guest Editor, Special Issue on Security and Privacy Issues of Smart Network Systems,
 IEEE Transactions on Network Science and Engineering, 2020.
- Guest Editor, Special Issue on Multi-Symposium on Control Systems, Transactions of the SICE, 2020.
- Guest Editor, Special Issue on Feedback Control for the Internet of Things, IEEE Internet of Things Journal, 2016–2018.
- Member, Editorial Committee for the Special Section on "Reliable Communication and Control," IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences, 2016–2017.
- Member, Editorial Committee for the Special Section on "Networked Control Systems: Theories and Applications," *IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences*, 2012–2013.
- Member, Editorial Committee for the Special Section on "Reliable Robust Radio Control Technology," *IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences*, 2011–2012.
- Guest Editor, Special Issue on Advances in Networking for Distributed Control and Measurement, SICE Journal of Control, Measurement, and System Integration, 2010–2011.
- Member, Conference Editorial Board of the European Control Association (EUCA), 2013–2018.
- Member, Conference Editorial Board of the IEEE Control Systems Society, 2007–2009.
- Member, Editorial Committee, Journal of the SICE, 2005–2007.

Scientific and Professional Activities

International Federation of Automatic Control (IFAC)

 IPC Vice-Chair, 23rd World Congress of the International Federation of Automatic Control (IFAC), Busan, Republic of Korea, August 2026.

- Chair, IFAC Pavel J. Nowacki Distinguished Lecturer Committee, since 2023.
- Chair, IFAC Foundation Kwon Award Selection Committee, 2021–2023.
- Member, Manfred Thoma Medal Selection Committee, 2020–2023.
- Chair, IFAC Coordinating Committee on Systems and Signals (CC 1), 2017–2023.
- Member, Technical Board, 2017–2023.
- Ex-Officio Member, Conference Board, since 2020.
- Chair, IFAC Technical Committee on Networked Systems (TC 1.5), 2011–2017 (Member, since 2004).
- IPC Chair, 22nd World Congress of the International Federation of Automatic Control (IFAC), Yokohama, Japan, July 2023.
- Member, Young Author Prize Selection Committee, 20th World Congress of the International Federation of Automatic Control (IFAC), Toulouse, France, July 2017.
- Member, Best Paper Award Selection Committee, Nonlinear Analysis: Hybrid Systems, 2017.
- Conference Chair, 6th IFAC Workshop on Distributed Estimation and Control in Networked Systems, Tokyo, September 2016.
- Member, Committee on Preparation of the IFAC World Congress 2023, Science Council of Japan, 2015–2016.
- Member, Young Author Prize Selection Committee, The 19th World Congress of the International Federation of Automatic Control (IFAC), Cape Town, South Africa, August 2014.
- Member, Committee on Preparation of the IFAC World Congress 2020, Science Council of Japan, 2012–2013.

IEEE Control Systems Society (IEEE CSS)

- Vice President (for Diversity, Outreach, and Development), 2022–2023.
- Elected Member, Board of Governors, 2014–2016.
- Member, IEEE CSS Technical Committee on Security and Privacy, since 2021.
- Member, IEEE CSS Technical Committee on Networks and Communications, since 2015.
- Member, IEEE CSS Technical Committee on Computational Aspects of Control System Design, since 2010.

- Publicity Chair, 62nd IEEE Conference on Decision and Control, Marina Bay Sands, Singapore, December 2023.
- Publicity Chair, 59th IEEE Conference on Decision and Control, Jeju Island, Korea, December 2020.
- Workshop Co-Chair, 3rd IEEE Conference on Control Technology and Applications (CCTA'19), Hong Kong, August 2019.
- Liaison Representative for SICE, IEEE Control Systems Society, 2019–2021.
- Chair, Japan Chapter of the IEEE Control Systems Society, since 2018 (Co-Chair, 2016–2017)
- Co-organizer (with Quanyan Zhu), Workshop on Learning and Security for Multi-Agent Systems, 59th IEEE Conference on Decision and Control, Jeju Island, Republic of Korea, December 2020.
- Co-organizer (with Masaaki Nagahara, Kenji Kashima, and Kenji Sugimoto), Workshop on Mathematical Theory of Control and Signal Processing in the Digital World (A workshop dedicated to Yutaka Yamamoto's 70th birthday), 58th IEEE Conference on Decision and Control, Nice, France, December 2019.
- Co-organizer (with Quanyan Zhu), Workshop on Secure and Resilient Control Systems,
 57th IEEE Conference on Decision and Control, Miami, Florida, December 2018.
- Publicity Chair, 54th IEEE Conference on Decision and Control, Osaka, Japan, December 2015.
- Co-Organizer Invited session (with P. Frasca, C. Ravazzi, and R. Tempo) "Dynamics in social networks: Opinions, games and optimization," IEEE Conference on Decision and Control, December 2014.
- Registration Chair, IEEE Multi-Conference on Systems and Control (MSC'10), Yoko-hama, Japan, September 2010.
- Co-Organizer, Invited Session (with Yasumasa Fujisaki) "Probabilistic and Randomized Methods in Systems and Control," IEEE International Symposium on Computer-Aided Control System Design (CACSD'10), Yokohama, Japan, September 2010.
- Organizer, Invited Session "Control Techniques Using Networks," IEEE Conference on Control Applications, Taipei, Taiwan, September 2004.

Society of Instrument and Control Engineers (SICE), Japan

- Director (for the SICE Annual Conference), 2021–2022.
- Member, SICE Diversity Improvement Activity (SICE-DIA), since 2021.
- Chair, IFAC Committee of the SICE, since 2017.

- Member, Committee of International Affairs, since 2016.
- Co-Organizer, JST-CREST Special Sessions (with Shinji Hara) "Towards Novel Distributed Management for Power Systems," SICE Control Division Conference, Fukuoka, Japan, March 2013.
- Secretary, IFAC Committee of the SICE, 2012–2017.
- Secretary, Control Division of the SICE, 2012.
- Member, Committee of International Affairs, SICE, 2008–2009.

Japan Association of Automatic Control (JAAC)

- Director, since 2020.
- Co-organizer (with H. Asama and J. Imura), IFAC WC 2023 Pre-event Workshop, Yokohama, Japan, November 2022.
- Co-organizer (with R. Tanaka, T. Hayakawa, Y. Minami, K. Shimizu, and D. Tsubakino), Girls in Control Workshop (in Japanese), since 2021.
 - Online, May 2021, November 2021, August 2022
 - Tokyo Institute of Technology, November 2022, March 2023
 - IFAC World Congress, Yokohama, July 2023
 - Tohoku University, November 2023
 - Hiroshima University, March 2024
- Co-organizer (with H. Asama and J. Imura), IFAC WC 2023 Pre-event Workshop, Nagoya, Japan, November 2018.

Others

- Reviewer, Mathematical Reviews, Michigan, USA, 2008–2015.
- Member, Joint International Lab COOPS (Cooperative Control for Energy Management Systems), National Research Council of Italy (CNR) and Japan Science and Technology Agency (JST), 2015–2018.
- Co-Principal Investigator (PI: Tatsuya Suzuki), "Integrated Design of Local EMSs and their Aggregation Scenario Considering Energy Consumption Behaviors and Cooperative Use of Decentralized In-Vehicle Batteries," Distributed Energy Management System, Core Research for Evolutional Science and Technology (CREST), Japan Science and Technology Agency (JST), 2015–2020.
- Principal Investigator, "Distributed Intrusion Detection for Power Grids and Control Communication Networks," Distributed Energy Management System, Core Research for Evolutional Science and Technology (CREST), Japan Science and Technology Agency (JST), 2012–2015.

- Secretary, Technical Committee on Reliable Robust Radio Control, IEICE ESS, 2013–2014; Member, since 2010.
- Member, Local Organizing Committee, Symposium on Developments in Control Theory Towards Glocal Control (in honor of Professor Shinji Hara), University of Tokyo, January 2012.
- Member, Organization Committee, Workshop on Uncertain Dynamical Systems, Awaji Yumebutai, Hyogo, July 2008.
- Co-organizer, Mini-Symposium (with Shinji Hara) "Data Rate Constraints in Networked Control and Estimation," The 17th International Symposium on Mathematical Theory of Networks and Systems, Kyoto, Japan, July 2006.

Conference Program Committees

- IPC Member, 15th IFAC Workshop Adaptive and Learning Control Systems (ALCO25), Mexico City, July 2025.
- IPC Member, 18th International Conference on Control, Automation, Robotics and Vision (ICARCV), Dubai, UAE, December 2024.
- Senior IPC Member, European Control Conference (ECC'24), Stockholm, Sweden, July 2024.
- Senior IPC Member, European Control Conference (ECC'23), Bucharest, Romania, June 2023.
- IPC Member, 19th Latin American Congress of Automatic Control (CLCA'22), Havana, Cuba, November 2022
- IPC Member, IFAC Conference on Networked Systems (NecSys'22), Zurich, Switzerland, July 2022.
- Senior IPC Member, European Control Conference (ECC'22), London, U.K., July 2022.
- TPC Member, 12th Conference on Decision and Game Theory for Security (GameSec'21), Prague, Czech Republic, October 2021.
- Senior IPC Member, European Control Conference (ECC'21), Rotterdam, The Netherlands, June 2021.
- PC Member, 15th International Symposium on Distributed Autonomous Robotic Systems (DARS'21), Kyoto, Japan, June 2021.
- TPC Member, 11th Conference on Decision and Game Theory for Security (GameSec'20),
 University of Maryland College Park, USA, October 2020.
- IPC Member, 16th International Conference on Control, Automation, Robotics and Vision (ICARCV), Shenzhen, China, December 2020.

- Editor and Associate Editor, 21st World Congress of the International Federation of Automatic Control (IFAC), Berlin, Germany, July 2020.
- Senior IPC Member, European Control Conference (ECC'20), Saint Petersburg, Russia, July 2020.
- TPC Member, 58th IEEE Conference on Decision and Control, Nice, France, December 2019.
- PC Member, 3rd International Symposium on Swarm Behavior and Bio-Inspired Robotics (SWARM'19), Okinawa, Japan, November 2019.
- TPC Member, 10th Conference on Decision and Game Theory for Security (GameSec'19), Stockholm, Sweden, October 2019.
- IPC Member, 8th IFAC Workshop on Distributed Estimation and Control of Networked Systems (NecSys'19), Chicago, September 2019.
- TPC Member, IEEE Information Theory Workshop (ITW), Gotland, Sweden, August 2019.
- IPC Member, 15th International Conference on Control and Automation (ICCA'19), Edinburgh, Scotland, July 2019.
- TPC Member, 57th IEEE Conference on Decision and Control, Miami, Florida, December 2018.
- IPC Member, 2nd IFAC Conference on Cyber-Physical & Human Systems, Miami, Florida, December 2018.
- IPC Member, 7th IFAC Workshop on Distributed Estimation and Control of Networked Systems (NecSys'18), Groningen, the Netherlands, August 2018.
- IPC Member, IFAC Symposium on Robust Control Design (ROCOND'18), Florianopolis, Brazil, September 2018.
- PC Member, IEEE Conference on Control Technology and Applications (CCTA'18), Copenhagen, Denmark, August 2018.
- IPC Member, 23rd International Symposium on Mathematical Theory of Networks and Systems (MTNS), Hong Kong, July 2018.
- PC Member, 2nd International Symposium on Swarm Behavior and Bio-Inspired Robotics (SWARM'17), Kyoto, Japan, October 2017.
- PC Member, IEEE Conference on Control Technology and Applications (CCTA'17), Hawaii, August 2017.
- Editor, 20th World Congress of the International Federation of Automatic Control (IFAC), Toulouse, France, July 2017.

- TPC Member, 55th IEEE Conference on Decision and Control, Las Vegas, Nevada, December 2016.
- PC Member, 1st IFAC Conference on Cyber-Physical & Human-Systems, Florianopolis, Brazil, December 2016.
- PC Member, IEEE Conference on Control Applications (CCA'16), Buenos Aires, Argentina, September 2016.
- PC Member, 1st International Symposium on Swarm Behavior and Bio-Inspired Robotics (SWARM'15), Kyoto, Japan, October 2015.
- IPC Member, 16th IFAC Workshop on Control Applications of Optimization (CAO'15),
 Garmisch-Partenkirchen/Murnau, Germany, October 2015.
- IPC Member, 5th IFAC Workshop on Distributed Estimation and Control of Networked Systems (NecSys'15), Philadelphia, Pennsylvania, September 2015.
- PC Member, IEEE Multi-Conference on Systems and Control (MSC'15), Sydney, Australia, September 2015.
- IPC Member, 4th IFAC Conference on Analysis and Control of Chaotic Systems (CHAOS'15), Tokyo, Japan, August 2015.
- IPC Member, 1st IFAC Conference on Modelling, Identification and Control (MIN-CON'15), Saint-Petersburg, Russia, June 2015.
- Editor, 19th World Congress of the International Federation of Automatic Control (IFAC), Cape Town, South Africa, August 2014.
- Scientific Committee Member, Satellite Workshop "New Trends in the Analysis and Control of Complex Networks," European Conference on Complex Systems, Lucca, Italy, September 2014.
- TPC Member, 52nd IEEE Conference on Decision and Control, Florence, Italy, December 2013.
- IPC Member, 4th IFAC Workshop on Distributed Estimation and Control of Networked Systems (NecSys'13), Koblenz, Germany, September 2013.
- IPC Member, IEEE Conference on Computer-Aided Control System Design (CACSD), Hyderabad, India, August 2013.
- IPC Member, 12th European Control Conference, Zurich, Switzerland, July 2013.
- IPC Member, 13th IFAC Symposium on Large Scale Complex Systems: Theory and Applications (IFAC LSS 2013), Shanghai, China, July 2013.
- TPC Member, 51st IEEE Conference on Decision and Control, Maui, Hawaii, December 2012.

- IPC Member, 3rd IFAC Workshop on Distributed Estimation and Control of Networked Systems (NecSys'12), Santa Barbara CA, September 2012.
- IPC Member, IEEE Joint Symposium on Computer-Aided Control System Design and Systems with Uncertainty (CACSD-SU'12), Dubrovnik, Croatia, October 2012.
- IPC Member, 20th International Symposium on Mathematical Theory of Networks and Systems (MTNS), Melbourne, Australia, July 2012.
- IPC Member, IEEE Joint Symposium on Computer-Aided Control System Design and Systems with Uncertainty (CACSD-SU'11), Denver, Colorado, September 2011.
- IPC Member, 2nd IFAC Workshop on Distributed Estimation and Control of Networked Systems (NecSys'10), Annecy, France, September 2010.
- IPC Member, 8th International Conference on Control and Automation (ICCA'10), Xiamen, China, June 2010.
- IPC Member, IEEE International Symposium on Computer-Aided Control System Design (CACSD'10), Yokohama, Japan, September 2010.
- The 3rd International Symposium on Systems and Control in Aeronautics and Astronautics (ISSCAA'10), Harbin, China, June 2010.
- IPC Member, 1st IFAC Workshop on Distributed Estimation and Control of Networked Systems (NecSys'09), Venice, Italy, September 2009.
- PC Member, Control over Communication Channels Workshop (ConCom'09), Seoul, Korea, June 2009.
- IPC Member, 7th International Conference on Control and Automation (ICCA'09), Christchurch, New Zealand, December 2009.
- IPC Member, SICE Annual Conference 2008, Chofu, Tokyo, August 2008.

Publications

Google Scholar Citations: 7675 (h-index: 42, i10-index: 122)

Books

- [B1] H. Ishii and Q. Zhu (editors), Security and Resilience of Control Systems: Theory and Applications, vol. 489 in Lecture Notes in Control and Information Sciences, Springer, 2022.
- [B2] S. Fang, J. Chen, and H. Ishii, Towards Integrating Control and Information Theories: From Information-Theoretic Measures to Control Performance Limitations, vol. 465 in Lecture Notes in Control and Information Sciences, Springer, 2017.
- [B3] H. Ishii and B. A. Francis, Limited Data Rate in Control Systems with Networks, vol. 275 in Lecture Notes in Control and Information Sciences, Springer, 2002.

Journal Articles

- [J1] J. Yan and H. Ishii, "Distributed parameter estimation with Gaussian observation noises in time-varying digraphs," *Automatica*, accepted, 2024.
- [J2] K. Kimura and H. Ishii, "Quantized zero dynamics attacks against sampled-data control systems," *IEEE Transactions on Automatic Control*, to appear, 2023.
- [J3] R. Kato and H. Ishii, "Cluster synchronization of Kuramoto oscillators and the method of averaging," *IEEE Transactions on Automatic Control*, accepted, 2023.
- [J4] J. Yan, Y. Mo, and H. Ishii, "A framework for distributed estimation with reduced communication via event-based strategies," *IEEE Transactions on Automatic Control*, to appear, 2023.
- [J5] S. Feng, M. Ran, H. Ishii, and S. Xu, "Dynamic quantized consensus under DoS attacks: Towards a tight zooming-out factor," *IEEE Transactions on Control of Network Systems*, 11(1): 340–352, 2024.
- [J6] H. Matsume, Y. Wang, H. Ishii, and X. Defago, Mixed self/event-triggered ternary control for resilient consensus against mobile adversarial agents, *Nonlinear Analysis: Hybrid Systems*, 52: 101473, 2024.
- [J7] R. Kato and H. Ishii, "Hausdorff dimension estimates for interconnected systems with variable metrics," *IEEE Control Systems Letters*, 7: 3247-3252, 2023.
- [J8] L. Yuan and H. Ishii, "Event-triggered approximate Byzantine consensus with multi-hop communication," *IEEE Transactions on Signal Processing*, 71: 1742–1754, 2023.
- [J9] A. Cetinkaya, H. Ishii, and T. Hayakawa, "Effects of jamming attacks on wireless networked control systems under disturbance," *IEEE Transactions on Automatic Control*, 68(2): 1223–1230, 2023.
- [J10] N. Ahmadi, Y. Chakhchoukh, and H. Ishii, "Analysis of targeted coordinated attacks on decomposition-based robust state estimation," *IEEE Open Access Journal of Power* and Energy, 10: 116–127, 2023.
- [J11] R. K. Mishra and H. Ishii, "Event-triggered control for discrete-time multi-agent average consensus," *International Journal of Robust and Nonlinear Control*, Special Issue on Sparsity-inducing Methods in Control Theory, 33(1): 159–176, 2023.
- [J12] Y. Nugraha, A. Cetinkaya, T. Hayakawa, H. Ishii, and Q. Zhu, "Rolling horizon games of resilient networks with non-uniform horizons," *European Journal of Control*, ECC Special Issue, 68: 100693, 2022.
- [J13] Y. Wang, H. Ishii, F. Bonnet, and X. Defago, Resilient consensus for multi-agent systems under adversarial spreading processes, *IEEE Transactions on Network Science and Engineering*, 9(5): 3316–3331, 2022.

- [J14] M. Safi, S. M. Dibaji, and H. Ishii, Cooperative distributed state estimation: Resilient topologies against smart spoofers, Control Theory and Technology, 20: 488–503, 2022.
- [J15] S. Feng, A. Cetinkaya, H. Ishii, P. Tesi, and C. De Persis, "Resilient quantized control under Denial-of-Service: Variable bit rate quantization," *Automatica*, 141: 110302, 2022.
- [J16] M. Shi, S. Feng, and H. Ishii, "Quantized state feedback stabilization of nonlinear systems under Denial-of-Service," *Automatica*, 139: 110180, 2022.
- [J17] H. Ishii, Y. Wang, and S. Feng, "An overview on multi-agent consensus under adversarial attacks," Annual Reviews in Control, Special Section on Learning and Control for Multi-agent Systems, 53: 252-272, 2022. (Also, presented at the 10th IFAC Symposium on Robust Control Design (ROCOND'22) as a dissemination paper, 2022.)
- [J18] R. Kato, A. Cetinkaya, and H. Ishii, "Linearization-based quantized stabilization of non-linear systems under DoS attacks," *IEEE Transactions on Automatic Control*, 67(12): 6826-6833, 2022.
- [J19] S. Feng and H. Ishii, "Dynamic quantized consensus of general linear multi-agent systems under Denial-of-Service attacks," *IEEE Transactions on Control of Network Systems*, 9(2): 562-574, 2022.
- [J20] Y. Wang, H. Ishii, F. Bonnet, and X. Defago, "Resilient real-valued consensus in spite of mobile malicious agents on directed graphs," *IEEE Transactions on Parallel and Distributed Systems*, 33(3): 586–603, 2022.
- [J21] R. Kato, A. Cetinkaya, and H. Ishii, "Security analysis of linearization for nonlinear networked control systems under DoS," *IEEE Transactions on Control of Network Sys*tems, 8(4): 1692–1704, 2021.
- [J22] M. Nakamura, H. Ishii, and S. M. Dibaji, "Resiliency against malicious agents in maximum-based consensus," SICE Journal of Control, Measurement, and System Integration, 14(1): 279–290, 2021.
- [J23] J. M. Maestre, P. Velarde, H. Ishii, and R. R. Negenborn, "Scenario-based defense mechanism against vulnerabilities in Lagrange-based DMPC," Control Engineering Practice, 114: 104879, 2021.
- [J24] X. Wang, H. Ishii, J. He, and P. Cheng, "Dynamic privacy-aware collaborative schemes for average computation: A multi-time reporting case," *IEEE Transactions on Infor*mation Forensics and Security, 16: 3843–3858, 2021.
- [J25] H. Matsume, Y. Wang, and H. Ishii, "Resilient self/event-triggered consensus based on ternary control," Nonlinear Analysis: Hybrid Systems, 42: 101091, 2021.
- [J26] L. Yuan and H. Ishii, "Secure consensus with distributed detection via two-hop communication," *Automatica*, 131: 109775, 2021.

- [J27] N. Ahmadi, Y. Chakhchoukh, and H. Ishii, "Power systems decomposition for robustifying state estimation under cyber attacks," *IEEE Transactions on Power Systems*, 36(3): 1922–1933, 2021.
- [J28] Y. Nugraha, A. Cetinkaya, T. Hayakawa, H. Ishii, and Q. Zhu, "Dynamic resilient network games with applications to multi-agent consensus," *IEEE Transactions on Control of Network Systems*, 8(1): 246–259, 2021.
- [J29] S. Feng, A. Cetinkaya, H. Ishii, P. Tesi, and C. De Persis, "Networked control under DoS attacks: Trade-offs between resilience and data rate," *IEEE Transactions on Automatic Control*, 66(1): 460–467, 2021.
- [J30] X. Wang, H. Ishii, L. Du, P. Cheng, and J. Chen, "Privacy-preserving distributed machine learning via local randomization and ADMM perturbation," *IEEE Transactions on Signal Processing*, 68: 4226–4241, 2020.
- [J31] M. Wakaiki, A. Cetinkaya, and H. Ishii, "Stabilization of networked control systems under DoS attacks and output quantization," *IEEE Transactions on Automatic Control*, 65(8): 3560–3575, 2020.
- [J32] A. Cetinkaya, K. Kikuchi, T. Hayakawa, and H. Ishii, "Randomized transmission protocols for protection against jamming attacks in multi-agent consensus," *Automatica*, 117: 108960, 2020.
- [J33] Y. Wang and H. Ishii, "An event-triggered approach to quantized resilient consensus," International Journal of Robust and Nonlinear Control, Special Issue on Privacy and Security of Cyber-Physical Systems, 30(11): 4188–4204, 2020.
- [J34] Y. Wang and H. Ishii, "Resilient consensus through event-based communication," *IEEE Transactions on Control of Network Systems*, 7(1): 471–482, 2020.
- [J35] W. Ananduta, J. M. Maestre, C. Ocampo-Martinez, and H. Ishii, "Resilient distributed model predictive control for energy management of interconnected microgrids," Optimal Control, Applications and Methods, Special Issue on MPC for Energy Systems: Economic and Distributed Approaches, 41(1): 146–169, 2020.
- [J36] J. Chen, S. Fang, and H. Ishii, "Fundamental limitations and intrinsic limits of feedback: An overview in an information age," *Annual Reviews in Control*, 47: 155–177, 2019.
- [J37] A. Cetinkaya, H. Ishii, and T. Hayakawa, "Analysis of stochastic switched systems with application to networked control under jamming attacks," *IEEE Transactions on Automatic Control*, 64(5): 2013–2028, 2019.
- [J38] A. Cetinkaya, H. Ishii, and T. Hayakawa, "An overview on denial-of-service attacks in control systems: Attack models and security analyses," *Entropy*, Special Issue on Entropy in Networked Control, 21(2): 210, 2019.

- [J39] S. Fang, J. Chen, and H. Ishii, "Power gain bounds of MIMO networked control systems: An entropy perspective," *IEEE Transactions on Automatic Control*, 64(3): 1170–1177, 2019.
- [J40] A. Cetinkaya, H. Ishii, and T. Hayakawa, "A probabilistic characterization of random and malicious communication failures in multi-hop networked control," *SIAM Journal on Control and Optimization*, 56(5): 3320–3350, 2018.
- [J41] S. Linsenmayer, H. Ishii, and F. Allgöwer, "Containability with event-based sampling for scalar systems with time-varying delay and uncertainty," *IEEE Control Systems Letters*, 2(4): 725–730, 2018.
- [J42] K. Takijiri and H. Ishii, "Networked control of uncertain systems via the coarsest quantization and lossy communication," Systems & Control Letters, 119: 57–63, 2018.
- [J43] A. Cetinkaya, H. Ishii, and T. Hayakawa, "The effect of time-varying jamming interference on networked stabilization," SIAM Journal on Control and Optimization, 56(3): 2398–2435, 2018.
- [J44] S. M. Dibaji, H. Ishii, and R. Tempo, "Resilient randomized quantized consensus," *IEEE Transactions on Automatic Control*, 63(8): 2508–2522, 2018.
- [J45] Y. Kikuya, S. M. Dibaji, and H. Ishii, "Fault tolerant clock synchronization over unreliable channels in wireless sensor networks," *IEEE Transactions on Control of Network Systems*, 5(4): 1551–1562, 2018.
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Tutorial Articles

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- [E2] H. Ishii, "Resilient consensus and synchronization in multi-agent systems: Event-based communication approach," *SICE Measurement and Control*, 60(1): 53–58, 2021 (in Japanese).
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Others

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- [O2] A. Cetinkaya and H. Ishii, "Jamming attacks: A major threat to controlling over wireless channels," IFAC Blog (blog.ifac-control.org), 2017.

Selected Invited Lectures

- Workshop Fujita Fest (in honor of Professor Masayuki Fujita), University of Tokyo, March 2024.
- Workshop on Emerging Challenges of Network-Enabled Control and Optimization, 62nd
 IEEE Conference on Decision and Control, Singapore, December 2023.
- Workshop on Control, Game, and Learning Theory for Security and Privacy, 62nd IEEE
 Conference on Decision and Control, Singapore, December 2023.
- Lecture at the IEEE Tokyo Section, Tokyo, October 2023.

- Publishing Research in IEEE Journals and Conferences, IEEE Authorship and Open Access Symposium, Tokyo, October 2024.
- Panel Session, Workshop on Skills and Perspectives for Early Career Development, 61st
 IEEE Conference on Decision and Control, Cancun, Mexico, December 2022.
- Publishing Research in IEEE Journals and Conferences, IEEE Authorship and Open Access Symposium, October 2022.
- IEEE CSS Workshop on Control for Societal-Scale Challenges: Future Directions, Stockholm, Sweden, June 2022.
- Stockholm Workshop on Emerging Topics in Systems and Control, Stockholm, Sweden, June 2022.
- IEEE CSS Workshop on Control for Societal-Scale Challenges: Future Directions (virtual workshop), June 2021.
- I2CNER-IMI Joint International Workshop, Kyushu University, Japan, January 2021.
- Workshop on Learning and Security for Multi-Agent Systems (with Ahmet Cetinkaya),
 59th IEEE Conference on Decision and Control, Jeju Island, Republic of Korea, December 2020.
- 52nd ISCIE International Symposium on Stochastic Systems Theory and Its Applications (SSS'20), Osaka University, Japan, October 2020.
- Workshop on Data-based Methods for Interconnected Systems: Theory and Algorithm,
 21st World Congress of the International Federation of Automatic Control (IFAC),
 Berlin, Germany, July 2020.
- IEICE Technical Committee on Information Theory, Hiroshima, Japan, January 2020.
- Workshop on Learning, Games and Control, Cyber-Physical Systems (with Ahmet Cetinkaya), 58th IEEE Conference on Decision and Control, Nice, France, December 2019.
- 3rd Japanese-French Laboratory for Informatics (JFLI) Workshop, Tokyo Institute of Technology, May 2019.
- Workshop on Secure and Resilient Control Systems, 57th IEEE Conference on Decision and Control, Miami, Florida, December 2018.
- IFAC WC 2023 Pre-event Workshop, Nagoya, Japan, November 2018.
- Plenary Lecture, 18th International Conference on Control, Automation and Systems (ICCAS), PyeongChang, Korea, October 2018.
- Mini-Workshop on Entropy, Information and Control, Oberwolfach, Germany, March 2018.

- Scaling Heights: A Journey through Roberto Tempo's Research Activity, 56th IEEE
 Conference on Decision and Control, Melbourne, Australia, December 2017.
- COOPS Workshop, Milano, Italy, November 2017.
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- A Tribute in Memory of Roberto Tempo, 20th IFAC World Congress, Toulouse, France, July 2017.
- Workshop on Cyber Threats in Distributed Model Predictive Control and Distributed Estimation, 20th IFAC World Congress, Toulouse, France, July 2017.
- Half a Century of Progress in Teams, Games and Control: A Workshop Dedicated to Tamer Başar's 70th Birthday, Las Vegas, December 2016
- COOPS Workshop, Osaka, Japan, December 2015.
- Workshop on Control Theory: A Mathematical Perspective on Cyber-Physical Systems, Oberwolfach, Germany, February 2015.
- Workshop on Uncertain Dynamical Systems, Amsterdam, The Netherlands, August 2014.
- Semi-Plenary Lecture, The 21st International Symposium on Mathematical Theory of Networks and Systems (MTNS), Groningen, The Netherlands, July 2014.
- Kimura Award Lecture, The 1st SICE Multi-Symposium on Control Systems, Tokyo, March 2014.
- Workshop on Cooperative Distributed Control for Energy Management Systems: New Frameworks and Research Directions, 52nd IEEE Conference on Decision and Control, Florence, Italy, December 2013.
- Collective Agency and Cooperation in Natural and Artificial Systems, University of Stuttgart, Germany, July 2013.
- International Workshop on Modeling, Analysis and Control of Cyber-Physical Systems,
 Hong Kong University of Science and Technology, China, June 2012.
- Satellite Meeting of the 2nd International Symposium on Innovative Mathematical Modelling, University of Tokyo, Japan, May 2012.
- Symposium on Developments in Control Theory Towards Glocal Control (in honor of Professor Shinji Hara), University of Tokyo, Japan, January 2012.
- Workshop on Uncertain Dynamical Systems, Udine, Italy, August 2011.
- The 4th HYCON2 Ph.D. School on Control of Networked and Large-Scale Systems, University of Trento, Italy, June 2011.

- Symposium on Systems, Control, and Signal Processing (in honor of Professor Yutaka Yamamoto), Kyoto University, Japan, March 2010.
- Pioneer Award Lecture, Symposium of the SICE Control Division, University of Kumamoto, Japan, March 2010.
- International Workshop on Networked Control Systems, Shenzhen, China, December 2009.
- The 3rd WIDE Ph.D. School on Networked Control Systems, University of Siena, Italy, July 2009.
- Workshop on Uncertain Dynamical Systems, Awaji Yumebutai, Hyogo, Japan, July 2008.
- Global COE Workshop on Networked Control Systems, Kyoto University, Japan, March 2008.
- Japan Joint Automatic Control Conference, Kobe, Japan, November 2006 (Tutorial Lecture).
- Japan Joint Automatic Control Conference, Okayama, Japan, November 2003 (Tutorial Lecture).

Lectures at Various Universities

- University of California, Los Angeles (2022)
- Tsinghua University (2022)
- KTH Royal Insitute of Technology (2014, 2021)
- New York University (2019)
- Electric Power Research Institute, Knoxville, TN, USA (2018)
- University of Tennessee, TN, USA (2018)
- Iowa State University, IA, USA (2017, 2018)
- Ruhr-Universität Bochum (2018)
- University of Stuttgart (2014, 2018)
- University of Groningen (2018)
- Technische Universität Berlin (2009, 2018)
- Otto-von-Guericke University Magdeburg (2017)
- Politecnico di Torino (2007, 2008, 2014, 2017)

- University of Tokyo (2012, 2017)
- University of Seville (2016)
- Waseda University (2015)
- SINTEF Trondheim (2015)
- City University of Hong Kong (2015)
- Arizona State University (2015)
- Nagoya University (2015)
- Technical Universität Munich (2015)
- Eindhoven University of Technology (2015)
- Delft University of Technology (2015)
- Zhejiang University (2011)
- Japan Science and Technology Agency (2011)
- The Iron and Steel Institute of Japan (2009)
- Tokyo Institute of Technology (2008, 2009)
- University of Alberta (2008)
- Kobe University (2008)
- Kyushu Institute of Technology (2008)
- Kanazawa University (2007)
- University of Padova (2007)
- Tohoku University (2006)
- Kyoto University (2003)
- Osaka University (2003)

Research Supervision

Tokyo Institute of Technology

Postdocs

- Jiaqi Yan (2021–2023, Postdoc at ETH Zurish, Switzerland)
- Yuan Wang (2020, Postdoc at the KTH Royal Institute of Technology, Sweden)
- Shuai Feng (2019–2020, Postdoc at the University of Groningen, the Netherlands)
- Ahmet Cetinkaya (2015–2019, Appointed Associate Professor at the National Institute of Informatics, Tokyo)
- Song Fang (2017–2018, Postdoc at New York University)
- Yacine Chakhchoukh (2013–2016, Associate Professor at the University of Idaho)

Doctoral Students

- Qiulin Xu (Started in September 2022)
- Xile Kang (Started in April 2020)
- Rui Kato (March 2024)
- Naime Ahmadi (March 2023, Postdoc at the Unviersity of Aarhus University, Denmark)
- Liwei Yuan (September 2022, Postdoc at the University of Hunan, China)
- Rajiv Mishra (March 2022, Postdoc at Technion Israel Institute of Technology)
- Yuan Wang (August 2019, Postdoc at KTH Royal Institute of Technology, Sweden)
- Seyed Mehran Dibaji (March 2016, Postdoc at MIT)
- Kunihisa Okano (September 2013, Associate Professor at Ritsumeikan University)
- Kai Cai (September 2011, Associate Professor at Osaka City University)

Master's Students

- Sota Araki (Started in April 2023)
- Yu Ishiyama (Started in April 2023)
- Iori Takaki (Started in April 2023)
- Runkang Xie (Started in October 2022)
- Zhongmin Zheng(Started in October 2022)
- Naoto Fujiwara (March 2024)

- Tatsuya Masada (March 2024)
- Takashi Masui (March 2024)
- Yuya Kamo (March 2023)
- Haruhiro Kume (March 2023)
- Mitsuaki Matsubara (March 2022)
- Yukihiro Kato (March 2022)
- Hiroki Matsume (March 2022)
- Kosuke Kimura (March 2022)
- Rui Kato (March 2021)
- Shinya Omori (March 2021)
- Zhuojian Guo (September 2020)
- Yugo Iori (March 2020)
- Kana Nakahara (March 2020)
- Takeshi Sekihara (March 2020)
- Ryoma Yamada (March 2020)
- Liwei Yuan (August 2019)
- Atsushi Suzuki (March 2019)
- Atsushi, Wada (March 2019)
- Takayuki Okamoto (March 2018)
- Masahiro Nakamura (March 2018)
- Mizuki Onogawa (March 2017)
- Muhamadjon Shoev (March 2017)
- Kazuya Takijiri (March 2017)
- Shigeru Akashi (March 2016)
- Hang Yang (March 2016)
- Samratul Fuady (September 2015)
- Yasunori Isozaki (March 2015)
- Hiroaki Nishino (March 2015)

- Yuhta Kobayashi (March 2014)
- Yuki Kadowaki (March 2013)
- Naruhisa Shinjo (March 2013)
- Xile Kang (March 2013)
- Masaki Okaniwa (March 2012)
- Norimitsu Yoshida (March 2012)
- Yusuke Kaji (March 2011)
- Tomoyuki Kogure (March 2010)
- Kai Cai (September 2009)

Undergraduate Students

- Ryota Kokubo (March 2024)
- Shinichi Saiga (March 2024)
- Shuhei Takahashi (March 2024)
- Masahiro Fuchiue (March 2023)
- Yu Ishiyama (March 2023)
- Tatsuya Masada (March 2022)
- Takuma Miyamoto (March 2022)
- Kento Toyoda (March 2022)
- Yuya Kamo (March 2021)
- Sahil Bansal (March 2021)
- Hiroki Matsume (March 2020)
- Tomoki Mizogami (March 2020)
- Rui Kato (March 2019)
- Shinya Omori (March 2019)
- Yugo Iori (March 2018)
- Takeshi Sekihara (March 2018)
- Atsushi Suzuki (March 2017)
- Yuhei Kikuya (March 2016)

- Shigeru Akashi (March 2014)
- Hirosuke Nishino (March 2013)

Research Students

- Rajiv Mishra (April 2018–March 2019)
- Naime Ahmadi (April 2017-March 2018)
- Seyed Mehran Dibaji (April 2012–March 2013)
- Hang Yang (October 2011-March 2013)
- Xile Kang (April 2010-March 2011)

Visiting Students

- Koen Scheres (Ph.D. student from Eindhoven University of Technology, the Netherlands, July-October 2023)
- Shuaiting Huang (Ph.D. student from Zhejiang University, August 2022–February 2023)
- Xin Wang (Ph.D. student from Zhejiang University, October 2018–October 2019)
- Dorus van Dinther (Master's student from Eindhoven University of Technology, the Netherlands, February–May 2019)
- Wicak Ananduta (Ph.D. student from the Technical University of Catalonia, Spain, January, March—May 2018)
- Steffen Linsenmayer (Ph.D. student from the University of Stuttgart, Germany, October 2017–January 2018)
- Bas Vermij (Master's student from Eindhoven University of Technology, the Netherlands, September–December 2017)
- Shuai Feng (Ph.D. student from the University of Groningen, the Netherlands, April– July 2017)
- Otto K. Lote (Under ACAP, undergraduate student from the Norwegian University of Science and Technology, September 2016–August 2017)
- Song Fang (Ph.D. student from the City University of Hong Kong, January 2013–April 2013)

Ph.D. External Examiner

- David Unsomst (Opponent, KTH Royal Institute of Technology, Sweden, 2021)
- Jiaqi Yan (Nanyang Technical University, Singapore, 2021)
- Javad Jazaeri (University of Melbourne, Australia, 2019)

- Mengbin Ye (Australian National University, Australia, 2018)
- Andre Teixeira (KTH Royal Institute of Technology, Sweden, 2014)

Long-Term Visitors

- Junfeng Wu (From Chinese University of Hong Kong, Shenzhen, to be scheduled, supported by JSPS)
- Jose M. Maestre (From the University of Seville, April–October 2015, April 2017–March 2018, supported by JSPS)
- Peng Cheng (From Zhejiang University, November 2016–January 2017, supported by JSPS)

University of Tokyo

Master's Students

- Kunihisa Okano, cosupervised with Prof. S. Hara (March 2008)
- Ornwadee Ratanapinunchai, cosupervised with Prof. S. Hara (March 2007)
- Hiroto Hoshina, cosupervised with Prof. K. Tsumura (March 2007)
- Yuichi Kurahashi, cosupervised with Prof. S. Hara (March 2005)

Undergraduate Students

- Takumi Yoshida, cosupervised with Prof. K. Tsumura (March 2006)
- Chiharu Ohyama, cosupervised with Prof. K. Tsumura (March 2005)

Lectures

University of Tokyo (since 2024)

Undergraduate Level

- Control Theory 1 (Spring 2024)
- Undergraduate Projects (2024)

Tokyo Institute of Technology (2008–2024)

Graduate Level

- Introduction to Data Science (1st Quarter 2022–2024)
- Continuous Systems and Modeling (Spring 2017–2019, 1st Quarter 2020–2023)
- Dynamical Systems (Spring 2016)

- Control of Multi-Agent Systems (Fall 2011–2013, 2015)
- System Modeling (Spring 2010, 2011)
- Dynamical Systems Theory (Spring 2008–2011)
- Advanced Topics in Mathematical Information Sciences (Fall 2010–2013, Spring 2015)
- Foundation of Cybersecurity (Spring 2019–2023, partial)
- Progressive Advanced Data Science and Artificial Intelligence 2 (Fall 2023–2024, partial)

Undergraduate Level

- Systems Control (4th Quarter 2018–2023)
- Digital Control (Fall 2008–2013, 2015)
- Fundamentals of System Science (Fall 2018–2023, partial)

University of Tokyo (2004-2007

Undergraduate Level

- Programming with Micro Computers (Spring 2004–2005)
- Undergraduate Laboratory (2004–2006)
- Undergraduate Projects (2004–2006)