

CURRICULUM VITAE

April 12, 2021

NAME: Jun-ichi Imura

CURRENT ADDRESS:

Jun-ichi Imura,
Vice-President for Teaching and Learning
Professor, Department of Systems and Control Engineering, School of Engineering
(National University Corporation) Tokyo Institute of Technology
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DATE AND PLACE OF BIRTH: 1964, Gifu, Japan

CITIZENSHIP: Japan

OBJECTIVES:

Research and education on control theory, in particular, the following topics:

1. Modeling, Analysis, and Control Synthesis of Hybrid Systems
2. Modeling, Analysis, and Control Synthesis of Network Systems
3. Analysis and Control Synthesis of Nonlinear Systems, in particular, Global/Local Stabilization, Robust control, Nonholonomic Control
4. Applications to Traffic control, Power systems, Biological systems, Robots, Quantum Systems, and Iron Steel Process

TECHNICAL SKILLS/PROFICIENCY :

Control theory, Control engineering

EMPLOYMENT EXPERIENCE:

1. Research Associate, Department of Mechanical Engineering, School of Engineering, Kyoto University, 1992-1996
2. Associate Professor, Department of Mechanical Engineering, School of Engineering, Hiroshima University, 1996-2001
3. Associate Professor, Graduate School of Information Science and Engineering, Tokyo Institute of Technology, 2001-2004
4. Professor, Graduate School of Information Science and Engineering, Tokyo Institute of Technology, 2004-2016
5. Assistant to Executive Vice President for Education, Tokyo Institute of Technology, 2009-2011
6. Professor, School of Engineering, Tokyo Institute of Technology, 2016-
7. Assistant to Executive Vice President for Education, Tokyo Institute of Technology, 2016-2018
8. Vice-President for Teaching and Learning, Tokyo Institute of Technology, 2018-
9. Director, Tokyo Tech Academy for Leadership, Tokyo Institute of Technology, 2018-
10. Director, Center for Innovative Teaching and Learning, Tokyo Institute of Technology, 2018-

11. Program Officer, Fusion Oriented Research for Disruptive Science and Technology (FOREST), Japan Science and Technology Agency (JST), 2020-

EDUCATION:

Bachelor of Engineering	Mechanical Engineering	Kyoto University	1988
Master of Engineering	Applied Systems Science	Kyoto University	1990
Doctor of Engineering	Mechanical Engineering	Kyoto University	1995

AWARDS/ACCOMPLISHMENTS:

1. Best Paper Prize, Institute of Systems, Control and Information Engineers, Japan, 1991, 1998, 2014, 2015.
2. Best Paper Prize, Society of Instrument and Control Engineers, Japan, 1994, 2005, 2007, 2015.
3. Asian Control Conference Young Author Prize, 1994.
4. Pioneer Award, Control Division of Society of Instrument and Control Engineers, Japan, 2001.
5. IEA-AIE Best Paper Award of International Society of Applied Intelligence, 2010.
6. Best Teacher Award of Tokyo Institute of Technology, 2010.
7. ISIMM 2011 Best Poster Award Bronze Prize, 2011.
8. ISIMM 2013 Best Poster Award Gold Prize, 2013.
9. SICE Fellow, 2015.
10. IEEE Senior Member, March 2018.
11. IEEE Control Systems Magazine Outstanding Paper Award, 2020
 - a. Finalist of the Best Student Paper Award of the IEEE Conference on Decision Control, 2012 (as a supervisor).
 - b. Finalist of the Best Student Paper Award of the European Control Conference, 2014 (as a supervisor).

H-INDEX: 32 as of April. 12, 2021 (Google Scholar)

<https://scholar.google.com/citations?user=ycCQGPEAAAAJ&hl=en>

SOCIETY ACTIVITIES on IEEE:

1. IEEE CSS Board of Governors Member (2010, 2013, 2015-2017)
2. Associate Editor of IEEE Transactions on Automatic Control (2014-2016)
3. IEEE CSS Young Best paper award committee member 2015
4. IEEE CSS SICE Liaison (2010-2013)
5. Local arrangement chair of IEEE Multiconference on Systems and Control (MSC) 2010
6. Program Committee member of IEEE Conference on Control Technology and Applications (CCTA) 2017
7. Program Committee member of IEEE Conference on Decision and Control(CDC) 2015
8. Program Committee member of IEEE Multi-Conference on Systems and Control (MSC) 2016
9. Program Committee member of IEEE Multi-Conference on Systems and Control (MSC) 2015
10. Program Committee member of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2009
11. Program Committee member of IEEE International Conference on Networking, Sensing and Control (ICNSC) 2009
12. Program Committee member of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2008
13. Program Committee member of IEEE Conference on Control Applications (CCA) 2006

14. Program Committee member of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2006
15. Program Committee member of IEEE Conference on Decision and Control - European Control Conference (CDC) 2005
16. Program Committee member of IEEE Conference on Control Applications (CCA) 2004
17. Program Committee member of IEEE Conference on Decision and Control (CDC) 2003

OTHER SOCIETY ACTIVITIES:

1. General Chair of IFAC World Congress 2023, Yokohama, Japan (2023)
 2. Member of Senior International Program Committee of European Control Conference (2019)
 3. IPC chair of IFAC Conference on Analysis and Control of Chaotic systems (Chaos) (2018)
 4. Member of IFAC Technical Board (2017-2020)
 5. General Chair of IFAC Conference on Analysis and Control of Chaotic systems (Chaos) (2015)
 6. Member of IFAC Policy Committee (2014-2020)
 7. Steering Committee member of IFAC Symposium on Analysis and Design of Hybrid Systems (ADHS) (2012-)
 8. SICE Executive Director (General Affairs) (2011-2012)
 9. IFAC Technical Committee member on Discrete Event and Hybrid Systems (2012-)
 10. Associate Editor of Nonlinear Analysis: Hybrid Systems (2011-2016)
 11. Associate Editor of Automatica (2009-2017)
 12. Associate Editor of SICE Journal of Control, Measurement, and System Integration (JCIMSI) (2007-2010)
 13. IFAC Technical Committee member on Robust Control (2003-)
 14. IFAC Technical Committee member on Nonlinear Control Systems (2003-)
 15. Associate Editor of Asian Journal of Control (2002-2007)
- * More than 40 Program Committee Members including IEEE Conferences

VISITING POSITIONS:

Visiting Researcher: May 1998 - April 1999, Applied Mathematics of Twente University

RECENT MAIN RESEARCH GRANTS:

1. Sub-principal investigator, Aihara FIRST Innovative Mathematical Modelling, funded by the Japan Society for the Promotion of Science (JSPS) through the Funding Program for World-Leading Innovative R&D on Science and Technology (First Program, PI: Kazuyuki Aihara, Total budget of the project: USD 18.5 million), initiated by the Council for Science and Technology Policy (CSTP), 2010-2014 (Total budget as Sub-PI: USD 1 million)
2. Principal Investigator, Kakenhi (A), funded by the Japan Society for the Promotion of Science (JSPS) 2013-2017 (Total budget: USD 0.4 million)
3. Principal Investigator, JST CREST program, funded by Agency of Japan Science and Technology (JST), 2012-2014 (Total budget: USD 1 million)
4. Principal Investigator, JST CREST program, funded by Agency of Japan Science and Technology (JST), 2015-2019 (Total budget: USD 8.1 million)
5. Principal Investigator, Kakenhi (A), funded by the Japan Society for the Promotion of Science (JSPS) 2018-2021 (Total budget: USD 0.4 million)

BOOKS:

1. T. Yoshikawa, J. Imura, Modern Control Theory, Shoko-do (1994) (in Japanese) (*sold more than 22,000 copies*)
2. J. Imura, Stability Theory for Systems and Control, Corona (2000) (in Japanese)
3. J. Imura, S. Azuma, I. Masubuchi, Control of Hybrid systems, Corona (2013) (in Japanese)
4. K. Aihara, J. Imura, T. Ueta (Eds.), Analysis and Control of Complex Dynamical Systems: Robust Bifurcation, Dynamic Attractors, and Network Complexity, Mathematics for Industry 7, Springer Japan (2015)
5. J. Imura, S. Hara (Eds), Smart Power Supply of Photovoltaic Power Generation, Nikkan Kogyo Shinbun Ltd. (2018) (in Japanese)
6. J. Imura, S. Hara (Eds), Next Generation Power System Design, Ohmsha Ltd. (2019) (in Japanese)

PLENARY/INVITED TALKS:

1. Jun-ichi Imura, Clustered model reduction of large-scale complex networks, Semi-plenary talk, 20th International Symposium on Mathematical Theory of Networks and Systems, Melbourne, Australia, July 9-13, 2012.
2. Jun-ichi Imura, Control of large-scale network systems - aggregation and extension -, Invited talk, CICESE, Mexico, Nov. 26, 2015.
3. Jun-ichi Imura, Control of uncertain large-scale network systems and its applications to power networks, Invited talk, 2017 “Roberto Tempo” Workshop on Uncertain Dynamical Systems (WUDS2017), Banyuls-sur-Mer, France, July 5-7, 2017.
4. Jun-ichi Imura, Clustered model reduction of large-scale networks and its application to control, Invited talk, Workshop on Modelling Reduction Tools for Large Scale Complex Networks, Grenoble, France, Sept. 21-22, 2017.
5. Jun-ichi Imura, Control of large-scale network systems for societal system design, Plenary talk, 12th Asian Control Conference, Kitakyusyu International Conference Center, Fukuoka, Japan, June 10-12, 2019.
6. Jun-ichi Imura, Large-scale network control for societal system design, Plenary talk, 19th International Conference on Control, Automation, and Systems (ICCAS), International Conference Center, Jeju, Korea, Oct. 16-18, 2019

EDUCATION:

18 PhD students and 62 Msc students graduated since 2002.

PUBLICATIONS IN JOURNALS:

1. Jun-ichi Imura, Toshiharu Sugie, Yasuyoshi Yokokohji, Tsuneo Yoshikawa, Robust control of robot manipulators based on joint torque sensor information, *International Journal of Robotics Research*, Vol. 13, No. 5, pp. 434-442 (1994)
2. Jun-ichi Imura, Toshiharu Sugie, Tsuneo Yoshikawa, Adaptive robust control of robot manipulators -theory and experiment-, *IEEE Trans. on Robotics and Automation*, Vol. 10, No. 5, pp. 705-709 (1994)
3. Jun-ichi Imura, Toshiharu Sugie, Tsuneo Yoshikawa, Global robust stabilization of nonlinear cascaded systems, *IEEE Trans. on Automatic Control*, Vol. 39, No. 5, pp. 1084-1089 (1994)
4. Jun-ichi Imura, Hiroshi Maeda, Toshiharu Sugie, Tsuneo Yoshikawa, Robust stabilization of nonlinear systems by H_∞ state feedback, *System & Control Letters*, Vol. 24, pp. 103-114 (1995)
5. Tsuneo Yoshikawa, Yasuyoshi Yokokohji, Norio Hosotani, Jun-ichi Imura, Robust control of master-slave systems considering uncertainties of environment and operator, *Journal of the Robotics Society of Japan*, Vol. 14, No. 6, pp. 836-845 (1996) (Japanese)
6. Jun-ichi Imura, Toshiharu Sugie, Tsuneo Yoshikawa, A Hamilton-Jacobi inequality approach to strict H_∞ control problem of nonlinear systems, *Automatica*, Vol. 32, No. 4, pp. 645-650 (1996)
7. Jun-ichi Imura, Tsuneo Yoshikawa, Characterization of some gain conditions via Hamilton-Jacobi inequality, *Systems & Control Letters*, Vol. 28, No. 5, pp. 263-271 (1996)
8. Jun-ichi Imura, Tsuneo Yoshikawa, Parameterization of all stabilizing controllers of nonlinear systems, *Systems & Control Letters*, Vol. 29, No. 4, pp. 207-214 (1997)
9. Jun-ichi Imura, Toshiharu Sugie, Tsuneo Yoshikawa, Characterization of bounded real condition of nonlinear systems, *IEEE Trans. on Automatic Control*, Vol. 42, No. 9, pp. 1459-1464 (1997)
10. Koichi Kobayashi, Jun-ichi Imura, Tsuneo Yoshikawa, Nonholonomic control of 3 D.O.F manipulators with a free joint, *Trans. of the Society of Instrument and Control Engineers*, Vol. 33, No. 8, pp. 799-804 (1997) (Japanese)
11. Jun-ichi Imura, Koji Ieki, Mamami Saeki, Yasunori Wada, Experiments of twin-rotor helicopter model using exact linearization via dynamic state feedback, *Trans. of the Japan Society of Mechanical Engineers*, Vol. 66, No. 64, pp. 2630-2637 (2000) (Japanese)
12. Jun-ichi Imura, Arian. J. van der Schaft, Characterization of well-posedness of piecewise linear systems, *IEEE Trans. on Automatic Control*, Vol. 45, No. 9, pp.1600-1619 (2000)
13. Jun-ichi Imura, Classification and stabilizability analysis of bimodal piecewise affine systems, *Int. J. Robust and Nonlinear Control*, Vol. 12, No. 10, pp. 897-926 (2002)
14. Jun-ichi Imura, Well-posedness analysis of switch-driven hybrid systems, *IEEE Trans. on Automatic Control* Vol. 48, No. 11 pp. 1926-1935 (2003)
15. Jun-ichi Imura, Discussion on: "Switched integrator control schemes for integrating plants", *European Journal of Control*, Vol. 9, No. 6, pp. 563-565 (2003)
16. Jun-ichi Imura, Optimal control of sampled-data piecewise affine systems, *Automatica*, Vol. 40, No. 4, pp. 661-669 (2004)
17. Jun-ichi Imura, Akira Kojima, Shiro Masuda, Kazuro Tsuda, Kazuya Asano, Hybrid system modeling and model predictive control of a hot strip mill tension/looper system, *Tetsu-to-Hagane*, Vol. 90, No. 11, pp. 67-74 (2004) (in Japanese)
18. Shun-ichi Azuma, Jun-ichi Imura, Optimal control synthesis of piecewise affine systems with sampled-data switching, *Automatica*, Vol. 42, No. 5, pp. 697-710 (2006)
19. Shun-ichi Azuma, Jun-ichi Imura, Polynomial-time probabilistic observability analysis of sampled-data piecewise affine systems, *Systems and Control Letters*, Vol. 56, No. 11-12, pp. 685-694 (2007)
20. Daijiro Sugiyama, Jun-ichi Imura, Controllability measure of piecewise affine systems and its applications to the luminescence bacterium, *IEICE Trans. Fundamentals*, Vol. E90-A, No. 11 pp. 2472-2477 (2007)

21. Shun-ichi Azuma, Jun-ichi Imura, Polynomial-time probabilistic controllability analysis of discrete-time piecewise affine systems, *IEEE Trans. on Automatic Control*, Vol. 52, No. 11, pp. 2029-2046 (2007)
22. Shun-ichi Azuma, Eriko Yanagisawa, Jun-ichi Imura, Controllability analysis of biosystems based on piecewise affine systems approach, Special issue of *IEEE Trans. on Automatic Control and IEEE Trans. on Circuits and Systems I*, Vol. 53, No. 1, pp. 139-152 (2008)
23. Ravi Gondhalekar, Jun-ichi Imura, Exact cost performance of piecewise affine systems, *IEICE Trans. Fundamentals* Vol. E91-A, No. 11, pp. 3253-326 (2008)
24. Kazunori Nishio, Kenji Kashima, Jun-ichi Imura, Effects of time delay in feedback control of linear quantum systems, *Physical Review A*, Vol. 79, No. 6, 062105 (2009)
25. Mohammad Hadi Honarvar, Yuichi Tazaki, Jun-ichi Imura, State waypoint approach to continuous-time nonlinear optimal control problems, *Asian Journal of Control*, Vol.11, No.6, pp. 669-676 (2009)
26. Ravi Gondhalekar, Jun-ichi Imura, Kenji Kashima, Controlled invariant feasibility - A general approach to enforcing strong feasibility in MPC applied to move-blocking, *Automatica*, Vol. 45, No. 12, pp. 2869-2875 (2009)
27. Yukihiro Sakai, Hwa Yeong Yu, Kenji Kashima, Jun-ichi Imura, Polynomial optimization approach to stability analysis of boundary controlled 2-dimensional fluid flow, *SICE Journal of Control, Measurement, and System Integration*, Vol. 3, No. 1, pp. 20-26 (2010)
28. Sun-ichi Azuma, Jun-ichi Imura, Toshiharu Sugie, Lebesgue piecewise affine approximation of nonlinear systems, *Nonlinear Analysis: Hybrid Systems*, Vol. 4, No.1, pp. 92-102 (2010)
29. Yuichi Tazaki, Jun-ichi Imura, Planar bipedal locomotion control based on state-discretization, *Robotics and Autonomous Systems*, Elsevier, Vol. 58, Issue 5, pp. 657-665 (2010)
30. Kenji Kashima, Jun-ichi Imura, Local stability analysis of heterogeneous equilibrium patterns observed in delta-notch signalling interaction, *Journal of the Chinese Institute of Engineers*, Vol. 33, No. 3, pp. 347-355 (2010) (invited paper)
31. Ravi Gondhalekar, Jun-ichi Imura, Least-restrictive move-blocking model predictive control, *Automatica*, Vol. 46, Issue 7, pp. 1234-1240 (2010)
32. Koichi Kobayashi, Jun-ichi Imura, Kunihiko Hiraishi, Polynomial-time algorithm for controllability test of a class of Boolean biological networks, *EURASIP Journal on Bioinformatics and Systems Biology*, Vol. 2010 (2010), Article ID 210685, 12 pages, doi:10.1155/2010/210685
33. Jun-ichi Imura, Kenji Kashima, Masami Kusano, Tsukasa Ikeda, Tomohiro Morohoshi, Piecewise affine systems approach to control of biological networks, *Philosophical Transactions A*, Vol. 368, No. 1930, pp. 4977-4993 (2010)
34. Koichi Kobayashi, Jun-ichi Imura, Kunihiko Hiraishi, Stabilization of finite automata with application to hybrid systems control, *Discrete Event Dynamic Systems, Theory and Applications*, Vol. 21, No. 4, pp. 519-545 (2011)
35. Kenji Kashima, Yasuyuki Kawamura, Jun-ichi Imura, Oscillation analysis of linearly coupled piecewise affine systems and its application to spatio-temporal neuron dynamics, *Automatica*, Vol. 47, Issue 6, pp. 1249-1254 (2011)
36. Y. Tazaki and J. Imura; Discrete abstractions of nonlinear systems based on error propagation analysis, *IEEE Transactions on Automatic Control*, Vol.57, No.3, 550-564 (2012)
37. Koichi Kobayashi, Jun-ichi Imura, Deterministic finite automata representation for model predictive control of hybrid systems, *Journal of Process Control*, Vol. 22, Issue 9, pp. 1670-1680 (2012)
38. Tomohito Oda, Kenji Kashima, Jun-ichi Imura, Shuji Miyazaki, Hiroshi Morita, Control theoretic approach to iterative methods for large-scale toeplitz-type systems with application to magnetic field analysis, *Transactions of the Society of Instrument and Control Engineers*, Vol. 48, Issue 7, pp. 441-449 (2012) (in Japanese)
39. Masaki Inoue, Jun-ichi Imura, Kenji Kashima, Kazuyuki Aihara, Robust bifurcation analysis of systems with dynamic uncertainties, *International Journal of Bifurcation and Chaos*, Vol. 23, No. 9, 1350157 (2013)

40. Hideyuki Suzuki, Jun-ichi Imura, Kazuyuki Aihara, Chaotic Ising-like dynamics in traffic signals, *Scientific Reports* Vol. 3 No. 1127 (2013)
41. Hideyuki Suzuki, Jun-ichi Imura, Yoshihiko Horio, Kazuyuki Aihara, Chaotic Boltzmann machines, *Scientific Reports*, Vol. 3, No. 1610 (2013)
42. Kenji Kashima, Yutaka Takahashi, Jun-ichi Imura, On the convergence rate of diffusion in the bidirectional Erdos-Renyi networks: an H2-norm perspective, *Physica A: Statistical Mechanics and its Applications*, Vol. 392, Issue 21, pp. 5461-5472 (2013)
43. Masayasu Suzuki, Jun-ichi Imura, Kazuyuki Aihara, Analysis and stabilization for networked linear hyperbolic systems of rationally dependent conservation laws, *Automatica*, Vol. 49, No. 11, pp. 3210-3221 (2013)
44. Takayuki Ishizaki, Kenji Kashima, Jun-ichi Imura, Atsushi Katoh, Hiroshi Morita, Kazuyuki Aihara, Distributed parameter modelling and finite-frequency loop-shaping of electromagnetic molding machine, *Control Engineering Practice*, Vol. 21, Issue 12, pp. 1735-1743 (2013)
45. Takayuki Ishizaki, Kenji Kashima, Jun-ichi Imura, Kazuyuki Aihara, Model reduction and clusterization of large-scale bidirectional networks, *IEEE Transactions on Automatic Control*, Vol. 59, No. 1, pp. 48-63 (2014)
46. Masayasu Suzuki, Kenji Katsuki, Jun-ichi Imura, Jun-ichi Nakagawa, Tetsuaki Kurokawa, Kazuyuki Aihara, Simultaneous optimization of slab permutation scheduling and heat controlling for a reheating furnace, *Journal of Process Control*, Vol. 24, No. 1, pp. 225-238 (2014)
47. Md. Abdus Samad Kamal, Jun-ichi Imura, Tomohisa Hayakawa, Akira Ohata, Kazuyuki Aihara, Smart driving of a vehicle using model predictive control for improving traffic flow, *IEEE Transactions on Intelligent Transportation Systems*, Vol. 15, No. 2, pp. 878-888 (2014)
48. Daisuke Ito, Tetsushi Ueta, Takuji Kousaka, Jun-ichi Imura, Kazuyuki Aihara, Controlling chaos of hybrid systems by variable threshold values, *International Journal of Bifurcation and Chaos*, Vol. 24, No. 10, 1450125 (2014)
49. Takayuki Ishizaki, Tomonori Sadamoto, Jun-ichi Imura, Hierarchical distributed stabilization of power networks, *The European Physical Journal, Special Topics on Resilient Power Grids and Extreme Events*, Vol. 223, Issue 12, pp. 2461-2473 (2014)
50. Md. Abdus Samad Kamal, Jun-ichi Imura, Tomohisa Hayakawa, Akira Ohata, Kazuyuki Aihara, Traffic signal control of a road network using MILP in the MPC framework, *International Journal of Intelligent Transportation Systems Research*, Vol. 13, Issue 2, pp. 107-118 (2015)
51. Koichi Kobayashi, Jun-ichi Imura, Hiromichi Matsushima, Model predictive control of directed-graph constrained systems, *International Journal of Robust and Nonlinear Control*, Vol. 25, No. 1, pp. 142-162 (2015)
52. Takayuki Ishizaki, Jun-ichi Imura, Clustered model reduction of interconnected second-order systems, *Nonlinear Theory and Its Applications, Institute of Electronics, Information and Communication Engineers, Special Section on Complex Systems Modelling and its Transdisciplinary Applications*, Vol. 6, No. 1, pp. 26-37 (2015)
53. Hiroyuki Kitajima, Tetsuya Yoshinaga, Jun-ichi Imura, Kazuyuki Aihara, Robust bifurcation analysis based on optimization of degree of stability, *Int. Journal of Innovative Computing, Information and Control*, Vol. 11, No. 1, pp. 153-162 (2015)
54. Taylan Ayken, Jun-ichi Imura, Event triggered distributed optimization based on dual decomposition, *SICE Journal of Control, Measurement, and System Integration*, Vol. 8, No. 3, pp. 221-227 (2015)
55. Tomonori Sadamoto, Takayuki Ishizaki, Masakazu Koike, Yuzuru Ueda, Jun-ichi Imura, Spatiotemporally multiresolutional optimization towards supply-demand-storage balancing under PV prediction uncertainty, *IEEE Transactions on Smart Grid*, Vol. 6, Issue 2, pp. 853-865 (2015)
56. Takayuki Ishizaki, Henrik Sandberg, Kenji Kashima, Jun-ichi Imura, Kazuyuki Aihara, Dissipativity-preserving model reduction for large-scale distributed control systems, *IEEE Transactions on Automatic Control*, Vol. 60, No. 4, pp. 1023-1037 (2015)

57. Taylan Ayken, Jun-ichi Imura, Diffusion based stopping criterion for event-triggered distributed optimization, *SICE Journal of Control, Measurement, and System Integration*, Vol. 8, No. 6, pp. 371-379 (2015)
58. Md. Abdus Samad Kamal, Jun-ichi Imura, Tomohisa Hayakawa, Akira Ohata, Kazuyuki Aihara, A vehicles-intersection coordination scheme for smooth flows of traffic without using traffic lights *IEEE Transactions on Intelligent Transportation Systems*, Vol. 16, No. 3, pp. 1136-1147 (2015)
59. Masaki Inoue, Jun-ichi Imura, Kenji Kashima, Kazuyuki Aihara, Absolute instability of Lur'e systems and its application to oscillation analysis of uncertain genetic networks, *International Journal of Robust and Nonlinear Control*, Vol. 25, Issue 18, pp. 3746-3762 (2015)
60. Takayuki Ishizaki, Kenji Kashima, Antoine Girard, Jun-ichi Imura, Luonan Chen, Kazuyuki Aihara, Clustered model reduction of positive directed networks, *Automatica*, Vol. 59, pp. 238-247 (2015)
61. Masaki Inoue, Hikaru Ikuta, Shuichi Adachi, Jun-ichi Imura, Kazuyuki Aihara, A computational method for robust bifurcation analysis and its application to biomolecular systems, *International Journal of Bifurcation and Chaos*, Vol. 25, No. 7, 1540012 (2015)
62. Takayuki Ishizaki, Masakazu Koike, Nacim Ramdanid, Yuzuru Ueda, Taisuke Masuta, Takashi Oozeki, Tomonori Sadamoto, Jun-ichi Imura, Interval quadratic programming for day-ahead dispatch of uncertain predicted demand, *Automatica*, Vol. 64, pp. 163-173 (2016)
63. Takashi Nakakuki, Jun-ichi Imura, Molecular governor: DNA feedback regulator for molecular robotics, *SICE Journal of Control, Measurement, and System Integration*, Vol. 9, No. 2, pp. 60-69 (2016)
64. Taisuke Masuta, Yoshihiro Tagawa, Masakazu Koike, Takayuki Ishizaki, Jun-ichi Imura, Joao Gari da Silva Fonseca Junior, Takashi Oozeki, Akinobu Murata, Power system operation with battery charge/discharge scheduling based on interval analysis, *Journal of International Council on Electrical Engineering*, Vol. 6, pp. 57-64 (2016)
65. Tomonori Sadamoto, Takayuki Ishizaki, Jun-ichi Imura, Average state observers for large-scale network systems, *IEEE Transactions on Control of Network Systems*, Vol. 4, No. 4, pp. 761-769 (2017)
66. Tomonori Sadamoto, Aranya Chakraborty, Takayuki Ishizaki, Jun-ichi Imura, Retrofit control of wind-integrated power systems, *IEEE Transactions on Power Systems*, Vol. 33, No. 3, pp. 2804-2815 (2018)
67. Takayuki Ishizaki, Masakazu Koike, Jun-ichi Imura, Transient response improvement for interconnected linear systems: low-dimensional controller retrofit approach, *IEEE Transactions on Control of Network Systems*, Vol. 5, No. 4, pp.1796-1808 (2018)
68. Youngchae Cho, Takayuki Ishizaki, Masakazu Koike, Jun-ichi Imura, A bounding method for day-ahead economic dispatch with a dynamic uncertainty set of PV power output, *SICE Journal of Control, Measurement, and System Integration*, Vol. 11, No. 3, pp. 256-262 (2018)
69. Takayuki Ishizaki, Aranya Chakraborty, Jun-ichi Imura, Graph-theoretic analysis of power systems, *Proceedings of the IEEE*, Vol. 106, No. 5, pp. 931-952 (2018)
70. Takayuki Ishizaki, Tomonori Sadamoto, Jun-ichi Imura, Henrik Sandberg, Kark H. Johansson, Retrofit control: Localization of controller design and implementation, *Automatica*, Vol. 95, pp. 336-346 (2018)
71. Masakazu Koike, Takayuki Ishizaki, Nacim Ramdani, Jun-ichi Imura, Optimal scheduling of storage batteries and thermal power plants for supply-demand balance, *Control Engineering Practice*, Vol. 77, pp. 213-224 (2018)
72. Md Abdus Samad Kamal, Tomohisa Hayakawa, Jun-ichi Imura, Road-speed profile for enhanced perception of traffic conditions in a partially connected vehicle environment, *IEEE Transactions on Vehicular Technology*, Vol. 67, No. 8, pp. 6824-6837 (2018)
73. Tomonori Sadamoto, Aranya Chakraborty, Takayuki Ishizaki, Jun-ichi Imura, Dynamic modeling, stability, and control of power systems with distributed energy resources, *IEEE Control Systems Magazine*, Vol. 39, No. 2, pp. 34-65 (2019)
74. Hampei Sasahara, Takayuki Ishizaki, Tomonori Sadamoto, Taisuke Masuta, Yuzuru Ueda, Hideharu Sugihara, Nobuyuki Yamaguchi, Jun-ichi Imura, Damping performance improvement for PV-integrated power grids via retrofit control, *Control Engineering Practice*, Vol. 84, pp.92-101 (2019)

75. Youngchae Cho, Takayuki Ishizaki, Nacim Ramdani, Jun-ichi Imura, Box-based temporal decomposition of multi-period economic dispatch for two-stage robust unit commitment, *IEEE Transactions on Power Systems*, Vol. 34, No. 4, pp. 3109-3118 (2019)
76. Takayuki Ishizaki, Takahiro Kawaguchi, Hampei Sasahara, Jun-ichi Imura, Retrofit control with approximate environment modeling, *Automatica*, 107, pp. 442-453 (2019)
77. Md Abdus Samad Kamal, Makito Oku, Tomohisa Hayakawa, Jun-ichi Imura, Kazuyuki Aihara, Early detection of a traffic flow breakdown in the freeway based on dynamical network markers, *International Journal of ITS Research*, pp. 1-16 (2019)
78. A.S.M. Bakibillah, Md Abdus Samad Kamal, Chee Pin Tan, Tomohisa Hayakawa, Jun-ichi Imura, Event-driven stochastic eco-driving strategy at signalized intersections from self-driving data, *IEEE Transactions on Vehicular Technology*, Vol. 68, Issue 9, pp. 8557-8569 (2019)
79. Masakazu Koike, Takayuki Ishizaki, Nacim Ramdani, Jun-ichi Imura, Optimal scheduling of storage batteries and power generators based on interval prediction of photovoltaics -monotonicity analysis for state of charge-, *IEEE Control Systems Letters (L-CSS)*, Vol. 4, No. 1, pp. 49-54 (2020)
80. Kengo Urata, Masaki Inoue, Takayuki Ishizaki, Jun-ichi Imura, Performance improvement via iterative connection of passive systems, *IEEE Transactions on Automatic Control*, Vol. 65, Issue 3, pp. 1325-1332 (2020)
81. Md Abdus Samad Kamal, Tomohisa Hayakawa, Jun-ichi Imura, Development and evaluation of an adaptive traffic signal control scheme under a mixed-automated traffic scenario, *IEEE Transactions on Intelligent Transportation Systems*, Vol. 21, Issue 2, pp. 590-602 (2020)
82. Takashi Nakakuki, Jun-ichi Imura, Finite-time regulation property of DNA feedback regulator, *Automatica*, Vol. 114, 108826, regular paper (2020)
83. Takayuki Ishizaki, Masakazu Koike, Nobuyuki Yamaguchi, Yuzuru Ueda, Jun-ichi Imura: Day-ahead energy market as adjustable robust optimization: spatio-temporal pricing of dispatchable generators, storage batteries, and uncertain renewable resources. *Energy Economics*, 91C, 104912 (2020)
84. Tomonori Sadamoto, Aranya Chakraborty, Jun-ichi Imura, Fast online reinforcement learning control using state-space dimensionality reduction, *IEEE Transactions on Control of Network Systems*, in press (2021)
85. Takayuki Ishizaki, Hampei Sasahara, Masaki Inoue, Takahiro Kawaguchi, Jun-ichi Imura: Modularity-in-Design of Dynamical Network Systems: Retrofit Control Approach. *IEEE Transactions on Automatic Control*, regular, in press (2021)
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