

業績リスト

加嶋 健司

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35. Yusuke Umezu, **Kenji Kashima**,
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37. Masaki Inoue, Jun-ichi Imura, **Kenji Kashima**, Takayuki Arai, Kazuyuki Aihara,
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2013 European Control Conf. (ECC), pp. 3264/3269, 2013
 38. Masaki Inoue, Jun-ichi Imura, **Kenji Kashima**, Kazuyuki Aihara,
 “Instability of uncertain large-scale networks,”
9th Asian Control Conference, 2013
 39. **Kenji Kashima**, Toshiyuki Ogawa, Tatsunari Sakurai,
 “Feedback stabilization of non-uniform spatial pattern in reaction-diffusion systems,”
2013 American Control Conf. (ACC), pp. 3759/3764, 2013
 40. Takayuki Ishizaki, Henrik Sandberg, Karl H. Johansson, **Kenji Kashima**, Jun-ichi Imura, Kazuyuki Aihara,
 “Structured model reduction of interconnected linear systems based on singular perturbation,”
2013 American Control Conf. (ACC), pp. 5544/5549, 2013
 41. Masaki Inoue, Jun-ichi Imura, **Kenji Kashima**, Kazuyuki Aihara,
 “Instability criteria for Lur’e systems toward oscillation analysis of uncertain gene networks,”
2013 American Control Conf. (ACC), pp. 4086/4091, 2013
 42. Takayuki Ishizaki, **Kenji Kashima**, Antoine Girard, Jun-ichi Imura, Luonan Chen, Kazuyuki Aihara,
 “Clustering-based H^2 -state aggregation of positive networks and its application to reduction of chemical master equation,”
51st IEEE Conf. Decision and Control (CDC), pp. 4175/4180, 2012
 43. **Kenji Kashima**, Tomohito Oda, Jun-ichi Imura,
 “Control theoretic approach to stationary iterative methods for large-scale Toeplitz-type equations,”
2012 American Control Conf. (ACC), pp. 1500/1506, 2012
 44. Takayuki Ishizaki, **Kenji Kashima**, Jun-ichi Imura, Kazuyuki Aihara,
 “Model reduction of multi-input dynamical networks based on clusterwise controllability,”
2012 American Control Conf. (ACC), pp. 2301/2306, 2012
 45. **Kenji Kashima**, Antonis Papachristodoulou, Frank Allgöwer,
 “A linear multi-agent systems approach to diffusively coupled piecewise affine systems: delay robustness,”
50th IEEE Conf. Decision and Control and European Control Conf., pp. 603/608, 2011
 46. Takayuki Ishizaki, Yukihiro Sakai, **Kenji Kashima**, Jun-ichi Imura,
 “Hierarchical decentralized observer design for linearly coupled network systems,”
50th IEEE Conf. Decision and Control and European Control Conf., pp. 7831/7836, 2011
 47. Takayuki Ishizaki, **Kenji Kashima**, Jun-ichi Imura, Kazuyuki Aihara,
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50th IEEE Conf. Decision and Control and European Control Conf., pp. 7837/7842, 2011
 48. **2011 SICE Annual Conference International Award**
Kenji Kashima, Antonis Papachristodoulou, Frank Allgöwer,
 “Connection profile robustness in a heterogeneous network of piecewise affine FitzHugh-Nagumo models,”
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 49. Tomohito Oda, **Kenji Kashima**, Jun-ichi Imura, Kazuyuki Aihara,
 “Iterative method design for Toeplitz-type linear equations: spatially invariant system perspective,”
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50. Takayuki Ishizaki, **Kenji Kashima**, Jun-ichi Imura, Kazuyuki Aihara,
“Network clustering for SISO linear dynamical networks via reaction-diffusion transformation,”
2011 IFAC World Congress, pp. 5639/5644, 2011
51. Takayuki Ishizaki, **Kenji Kashima**, Jun-ichi Imura, Kazuyuki Aihara,
“Model order reduction for MIMO linear dynamical networks via reaction-diffusion transformation,”
2011 American Control Conf. (ACC), pp. 5019/5024, 2011
52. Takayuki Ishizaki, **Kenji Kashima**, Jun-ichi Imura,
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53. Ahmet Cetinkaya, **Kenji Kashima**, Tomohisa Hayakawa,
“Stability and stabilization of switching stochastic differential equations subject to probabilistic state jumps,”
49th IEEE Conf. Decision and Control (CDC), pp. 2378/2383, 2010
54. Susumu Fujii, Koji Urayama, **Kenji Kashima**, Jun-ichi Imura, Tetsuaki Kurokawa, Shuichi Adachi,
“Machine-based modeling of conveyor-type flowshops with application to scheduling and temperature control in slab reheating furnace,”
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55. Takayuki Ishizaki, **Kenji Kashima**, Jun-ichi Imura, Atushi Katoh, Hiroshi Morita,
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56. Takayuki Ishizaki, **Kenji Kashima**, Jun-ichi Imura,
“Distributed parameter modeling and control of electromagnetic molding machine,”
2010 American Control Conf. (ACC), pp. 3512/3517, 2010
57. Ahmet Cetinkaya, **Kenji Kashima**, Tomohisa Hayakawa,
“Stability of stochastic systems with probabilistic mode switching and state jump,”
2010 American Control Conf. (ACC), 4046/4051, 2010
58. **Kenji Kashima**, Reiichiro Kawai,
“An optimization approach to weak approximation of Lévy-driven stochastic differential equations with application to option pricing,”
48th IEEE Conf. Decision and Control (CDC), 3673/3678, 2009
59. Ravi Gondhalekar, Jun-ichi Imura, **Kenji Kashima**,
“Rigorous determination of maximum controlled invariant feasible sets,”
2009 European Control Conf. (ECC), 2821/2826, 2009
60. **Kenji Kashima**, Reiichiro Kawai,
“Polynomial programming approach to weak approximation of Lévy-driven stochastic differential equations with application to option pricing,”
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61. Sompach Kongviwattanakul, **Kenji Kashima**, Jun-ichi Imura,
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62. Gou Nishida, Daiji Ichishima, **Kenji Kashima**, Kenji Fujimoto, Masaki Yamakita, Bernhard Maschke, Ryojun Ikeura,
“Scaling reduction of port-Hamiltonian systems for numerical calculation,”
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63. Kazunori Nishio, **Kenji Kashima**, Jun-ichi Imura,
 “Global feedback stabilization of quantum noiseless subsystems,”
2009 American Control Conf. (ACC), 1499/1504, 2009
64. Kazunori Nishio, **Kenji Kashima**, Jun-ichi Imura,
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66. Kazunori Nishio, **Kenji Kashima**, Jun-ichi Imura,
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67. Kazunori Nishio, **Kenji Kashima**, Jun-ichi Imura,
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68. Hwayeong Yu, **Kenji Kashima**, Jun-ichi Imura,
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69. **Kenji Kashima**,
 “Semi-algebraic problem approach for stability analysis of a class of nonlinear stochastic delay system,”
2008 American Control Conf. (ACC), 5258/5263, 2008
70. **Kenji Kashima**, Kazunori Nishio,
 “Global stabilization of two dimensional quantum spin systems despite estimation delay,”
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71. **Kenji Kashima**,
 “A new expression for the H^2 performance limit based on state-space representation,”
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72. **Kenji Kashima**, Takashi Yamamoto, Yutaka Yamamoto,
 “A Smith-type predictor for non-minimum phase infinite-dimensional plants and its dual structure,”
45th IEEE Conf. Decision and Control (CDC), 4706/4711, 2006
73. Kazunori Nishio, **Kenji Kashima**,
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74. **Kenji Kashima**, Yutaka Yamamoto, Hitay Özbay,
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75. **Kenji Kashima**, Yutaka Yamamoto,
 “General solution to standard H^∞ control problems for a class of infinite-dimensional systems,”
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76. **Kenji Kashima**, Yutaka Yamamoto,
 “On standard H^∞ control problems for systems with infinitely many unstable poles,”
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77. **Kenji Kashima**, Shinjiro Ashida, Yutaka Yamamoto,
“System theory for numerical analysis,”
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78. **Kenji Kashima**, Hitay Özbay, Yutaka Yamamoto,
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16th Int’l Symp. on Mathematical Theory of Networks and Systems (MTNS), WP5-3, 2004
79. **Kenji Kashima**, Yutaka Yamamoto,
“Equivalent characterization of invariant subspaces of H^2 and applications to optimal sensitivity problem,”
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“On the mixed sensitivity optimization problem for stable pseudorotational plants,”
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81. **Kenji Kashima**, Yutaka Yamamoto, Masaaki Nagahara,
“Optimal wavelet expansion via sampled-data control theory,”
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原著・編著書

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2. **Kenji Kashima**, Yasuyuki Kawamura and Jun-ichi Imura,
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4. 加嶋 健司 【ゲストエディタ】 ,
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総説・学術資料等

1. 加嶋 健司,
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2. 佐々木 智丈, 加嶋 健司,
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3. 加嶋 健司,
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4. 岸田 昌子, 加嶋 健司,
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DOI: 10.11499/sicejl.55.350
5. 大木 健太郎, 加嶋 健司,
“確率的な現象とその多様な捉え方,”
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6. 加嶋 健司, 河合 玲一郎,
“レビー過程—白色雑音の一般化,”
システム/制御/情報, Vol. **55**, Issue 12, pp. 505/512, 2011
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招待講演

1. **Kenji Kashima**,
“Guided Self-Organization in Engineering and Science,”
Keynote Speech by 2016 SICE Takeda Award Winner, Tsukuba, Japan, 2016
 2. **Kenji Kashima**,
“Selective Pattern Formation of Reaction-Diffusion Systems,”
9th Workshop on Control of Distributed Parameter Systems, Beijing, China, 2015
 3. **Kenji Kashima**,
“Smith-Predictor type Structure for a Class of Infinite-Dimensional Systems: Optimal Control and Performance Limitation Formula,”
Semi-Plenary Talk in *19th. Int’l Symp. on Mathematical Theory of Networks and Systems (MTNS)*, Budapest, Hungary, 2010
-
1. 加嶋 健司,
“大規模ネットワークの可制御性,”
電子情報通信学会 2017 年ソサイエティ大会, 2017
 2. 加嶋 健司,
“モデル低次元化の基礎理論と研究動向,”
第 59 回システム制御情報学会研究発表講演会, チュートリアル講演, 大阪, 2015
 3. 加嶋 健司,
“線形系の合意形成と反応拡散系におけるパターン形成,”
第 56 回システム制御情報学会研究発表講演会, 招待講演, 京都, 2012
 4. 加嶋 健司,
“動的システムの空間構造：均質性とスケーラビリティ,”
第 12 回制御部門大会, パイオニア賞受賞記念講演, 奈良, 2012

5. 加嶋 健司,
“非線形制御理論にもとづく量子制御系の解析・設計,”
動的システムの情報論 (9) 「大自由度非線形系の制御：生体現象を例にして」(統計数理研究所共同研究集会), 東京, 2009
6. 加嶋 健司,
“量子力学系のフィルタリングと制御,”
第 2 回制御理論ワーキングセミナー (計測自動制御学会中部支部主催), 名古屋, 2008
7. 加嶋 健司
“量子力学系のフィルタリングと制御,”
第 52 回システム制御情報学会研究発表講演会, 招待講演, 京都, 2008

学術・学内活動等

受賞歴

1. 2016. 計測自動制御学会 論文賞 武田賞
2. 2015. 計測自動制御学会 論文賞
3. 2014. システム制御情報学会 学会賞 産業技術賞
4. 2014. システム制御情報学会 学会賞 論文賞
5. 2013. 計測自動制御学会 制御部門大会賞
6. 2012. システム制御情報学会 学会賞 論文賞
7. 2012. 計測自動制御学会 制御部門 パイオニア賞
大規模系・分布定数系のシステム制御理論とその応用に関する一連の研究に対して
8. 2011. SICE Annual Conference International Award
9. 2010. 計測自動制御学会 論文賞
10. 2010. Humboldt Research Fellowship for Experienced Researchers - Alexander von Humboldt Foundation (Germany)
Working Title "Control Theoretic Approach to Spatially Distributed Dynamics and Stochasticity in Systems Biology"
11. 2008. 計測自動制御学会 制御部門大会賞
12. その他
 - 2012 大阪大学総長奨励賞
 - 2012 American Control Conference - Best Presentation Award
 - 2011 大阪大学総長による表彰
 - 2007 システム制御情報学会 学会賞奨励賞
 - 2006 計測自動制御学会 学術奨励賞研究奨励賞

外部資金獲得実績

研究代表者

1. 平成 30～令和 3 年度科学研究費補助金 基盤研究 (B)
「確率可制御性縮約による機械学習援用制御手法の可解釈性獲得」
2. 平成 26～29 年度科学研究費補助金 基盤研究 (B)
「確率ゆらぎと相互作用し機能する制御系の設計論：不変測度解析と応用」
3. 平成 26～28 年度科学研究費補助金 挑戦的萌芽研究
「大規模非負システム制御理論に基づく映像投影システムの設計論」
4. 2011 年度 Humboldt Research Fellowship for Experienced Researchers from the Alexander von Humboldt Foundation (Germany)
"Control Theoretic Approach to Spatially Distributed Dynamics and Stochasticity in Systems Biology"

5. 平成 21～24 年度科学研究費補助金 若手研究 (A)
「確率制御の新展開: レヴィ過程の制御と数理ファイナンスへの応用」
6. 平成 18～20 年度科学研究費補助金 若手研究 (B)
「性能限界の解析に基づく制御系における情報伝達遅延の最適化」
1. 平成 28～30 年度 トヨタ自動車様 (共同研究費)
2. 平成 25～26 年度 新日鐵住金様 (共同研究費)
3. 平成 20 年度～ 住友重機械工業様 (共同研究費・奨学寄付金)

研究分担者

1. 平成 30～令和 2 年度科学研究費補助金 挑戦的研究 (萌芽) (代表者: 岩井大輔)
「適応的焦点多重化による立体プロジェクションマッピングの輻輳調節矛盾解決」
2. 平成 25～27 年度科学研究費補助金 基盤研究 (C) (代表者: 櫻井 建成)
「生物を模倣した時空間秩序変数を持つネットワーク構造の理解と応用」
3. 平成 24～26 年度科学研究費補助金 基盤研究 (B) (代表者: 大塚 敏之)
「大規模非線形時空間パターン制御の実時間最適化アルゴリズムと応用」
4. 平成 22～23 年度科学研究費補助金 挑戦的萌芽研究 (代表者: 井村 順一)
「外部環境に開いたオープン制御系の設計理論の創成」
5. 平成 21～25 年度最先端研究開発支援プログラム (中心研究者: 合原 一幸)
「複雑系数理モデル学の基礎理論構築とその分野横断的科学技術応用」
6. 平成 20～22 年度科学研究費補助金 基盤研究 (B) (代表者: 井村 順一)
「遺伝子発現ネットワークのためのモデリング・解析・制御」
7. 平成 18～20 年度科学研究費補助金 萌芽研究 (代表者: 井村 順一)
「遺伝子発現ネットワークの可制御性解析」

主な学会活動

- 2017- Associate Editor of IEEE Trans. Automatic Control
- 2011- Associate Editor of Conference Editorial Board, IEEE Control Systems Society
- 2014- Associate Editor of Asian Journal of Control
- 2014- Member of Program Committee of SIAM Conference on Control & its Applications
- 2017-2018 Local Arrangements Chair of SICE Annual Conference 2018
- 2016-2017 Secretary, IEEE Control Systems Society Kansai Chapter
- 2014-2015 Treasurer, IEEE Control Systems Society Kansai Chapter
- 2019- 計測自動制御学会 機械学習と調和する制御理論 調査研究会 (主査) <http://dml.sice-ctrl.jp/>
- 2017-2018 計測自動制御学会 モデルベース制御における機械学習とダイナミクスの融合 調査研究会 (副主査)
- 2014- 計測自動制御学会 制御部門 学術委員会 ([2015-2016] 幹事, [2014,2017] 副幹事)

2017-2018 計測自動制御学会 会誌出版委員会
2017-2018 計測自動制御学会 関西支部 庶務幹事
2015-2018 計測自動制御学会 代議員
2014-2018 計測自動制御学会 制御部門 国際委員会
2013-2014 計測自動制御学会 制御部門 制御理論部会（[2014] 幹事）
2012, 2018 システム制御情報学会 研究発表講演会 実行委員会
2012-2013 システム制御情報学会 編集委員会
2011-2012 計測自動制御学会関西支部 運営委員会
2009-2010 計測自動制御学会 制御部門 制御理論部会
2008-2009 計測自動制御学会 制御部門 事業委員会

アウトリーチ活動

初等・中等教育活動歴

1. 出張講義 兵庫高校 (兵庫県) 2017/12/20
2. SSH マスツアー 講演 大手前高校 (大阪府) 2016/10/09
3. 京都大学 ELCAS 基盤コース後期 数理工学 実習指導 2015/1-3

新聞・雑誌等

1. 『京大と JST、風力発電の出力変動が電力系統へ及ぼす影響の評価手法を開発』 日本経済新聞 オンライン版 2018/05/31

セミナー

- INRIA (France)
- Stuttgart University (Germany)
- Twente University (Netherland)
- Oxford University (U.K.)
- Bilkent University (Turkey)

その他

1. 「機械学習と調和する制御理論」講演, トヨタ自動車株式会社 東富士研究所 2019/3/18

学内委員会（現職のみ）

1. 人を対象とする研究倫理小委員会 委員長 2018/04/01～2019/03/31
2. 工学部情報学科数理工学コース カリキュラム委員会 副委員長 2018/04/01～2019/03/31
3. 工学部情報学科 教務委員 2017/04/01～2018/03/31
4. 工学部情報学科数理工学コース 副教務委員 2016/04/01～2017/03/31
5. その他 情報学研究科 各種委員会 委員（基盤整備委員会, 財務委員会, 評価WG, 情報セキュリティ作業委員会, 計算機小委員会 など）

講義担当（現職のみ）

- 制御システム特論（情報学研究科）
 - － 制御理論と応用数学（関数解析, グラフ理論, 最適化, 確率解析）
- 現代制御論（工学部4回生）
 - － 現代制御理論
- 信号とシステム（工学部4回生）
 - － 信号処理基礎, グラフ信号処理, スパースモデリング
- 線形制御理論（工学部3回生）
 - － 古典制御理論
- 数理工学セミナー（工学部3回生）（2016-2018）
 - － 少人数ゼミナール形式の授業
- ILAS セミナー（全学1回生）（2016）
 - － 少人数ゼミナール形式の授業

指導学生の受賞・助成（現職着任以降）

1. 伊藤 海斗: 一般財団法人丸文財団 国際交流助成（2018/12）
2. 清水 一浩: 計測自動制御学会関西支部 支部長賞（2018/01）
3. 山本 一輝: 第61回システム制御情報学会研究発表講演会 学生発表賞（2017/05）, 計測自動制御学会制御部門 研究奨励賞（2019/03）
4. 池田 卓矢: 第13回 IEEE 関西支部 学生研究奨励賞（2016/01）, 公益財団法人 NEC C&C 財団 2016年度 C&C 若手優秀論文賞（2016/12）, 計測自動制御学会関西支部 支部長賞 奨励賞（2017/01）
5. 長澤 雄二: 第60回システム制御情報学会研究発表講演会 学生発表賞（2016/05）, 計測自動制御学会制御部門 学術奨励賞 研究奨励賞（2017/02）
6. 塚本 潤: 計測自動制御学会関西支部・システム制御情報学会 若手研究発表会 優秀発表賞（2015/01）, 計測自動制御学会関西支部 支部長賞（2016/01）, 計測自動制御学会制御部門 研究奨励賞（2017/03）
7. 奥村 悠太: 計測自動制御学会関西支部・システム制御情報学会 若手研究発表会 最優秀発表賞（2015/01）,
8. 井上 大輔: 計測自動制御学会制御部門 研究奨励賞（2014/03）
9. 梅津 佑介: 計測自動制御学会制御部門 研究奨励賞（2014/03）, 計測自動制御学会 論文賞 武田賞（2016/9）