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CONTACT INFORMATION

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PERSONAL

Born	18 July, 1995
Citizenship	Japan
Language	Japanese

HOMEPAGE

https://www2.math.kyushu-u.ac.jp/~yuichi.goto/

EDUCATION

April 2014 - March 2018	B.S. Department of Mathematics School of Education Waseda University, Japan (Supervisor: Yoshiharu Mita) Thesis: *Robustness of Higher Order Crossings Estimator.*
April 2018 - March 2019 (early graduation)	M.S. Department of Pure and Applied Mathematics Graduate School of Fundamental Science and Engineering Waseda University, Japan (Supervisor: Masanobu Taniguchi) Thesis: *Asymptotic Theory based on Binary Time Series.*
April 2019 - March 2021 (early graduation)	D.S. Department of Pure and Applied Mathematics Graduate School of Fundamental Science and Engineering Waseda University, Japan (Supervisor: Masanobu Taniguchi) Thesis: *Asymptotic Theory of Statistical Inference for Binary Time Series and Count Time Series and Its Applications*

POSITION

April2019 -- March 2021	Research Fellow-DC1, Japan Society for the Promotion of Science
April 2021 -- March 2022	Assistant professor, Department of Applied Mathematics, School of Fundamental Science and Engineering Waseda University
April 2022 -- present	Assistant professor, Faculty of Mathematics, Kyushu University
April 2023 – present	Visiting Researcher,

Graduate School of Economics and Management, Tohoku University

GRANTS

April 2019 -- March 2021	Grant-in-Aid for JSPS Fellows (19J20060), 2,100,000 JPY
October 2021 -- March 2023	Grant-in-Aid for Research Activity Start-up (21K20338), 2,340,000 JPY
April 2023 -- March 2026	Grant-in-Aid for Scientific Research (23K16851), 4,550,000 JPY

EDITORS

January 2023 -- present Associate editor for *"Journal of Statistical Theory and Practice"*

AWARDS

March 25, 2021 Azusa Ono Memorial Award *"Discriminant analysis based on binary time series"*

April 2023, Institute of Mathematical Statistics New Researcher Travel Award

RESEARCH INTERESTS

Mathematical statistics; Time series analysis; Asymptotic theory;
Spectral density; Binary time series; Laplace & Copula spectra;
Integer-valued time series; Analysis of variance

RESEARCH VISIT

May. 7, 2019 -- July 7, 2019	Université Libre de Bruxelles, Prof. Marc Hallin
Sep. 23, 2022 – Oct. 16, 2022	University of Maryland, Prof. Benjamin Kedem
Mar. 21, 2023 -- May 21, 2023	Université Libre de Bruxelles, Prof. Thomas Verdebout
Mar. 5, 2024 -- May 24, 2024 (scheduled)	University of Maryland, Prof. Benjamin Kedem
Mar. 2025 (scheduled)	University of Toronto, Prof. Stanislav Volgushev

RESEARCH INVITATION

Sep. 7, 2022 – Sep. 15, 2022	Université Libre de Bruxelles, Prof. Marc Hallin
Jan. 12, 2024—Jan. 17, 2024	Université Libre de Bruxelles, Prof. Marc Hallin

MEMBERSHIPS

Mathematical Society of Japan

Japan Statistical Society

Institute of Mathematical Statistics

TEACHING

2021 春学期

基礎の数学	創造 経営 1
数学 A2	基幹 1 (4)
基礎の数学	先進 電生 1 (1)

2021 秋学期

数学 A2　　　　基幹 1 (4)
現代数学演習　　基幹 数学 2
C プログラミング 基幹 (2)
C プログラミング 基幹 (4)

2022 春学期
統計的推定・検定の基礎

2022 秋学期
統計学のための数学の基礎

2023 秋学期
数理統計学 2 コマ 歯学部+薬学部向け、理学部向け

PUBLICATIONS

Accepted papers

[11] Xu, X., Yijiong, Z., Chen. Y., Y. Liu, Goto, Y., and Taniguchi, M. Long memory modelling to Covid-19 pandemic count series, to appear in *Stat. Sin.* https://doi.org/10.5705/ss.202022.0148

[10] Fujimori, K., Goto, Y., Liu, Y., and Taniguchi, M. (2023) "Sparse principal component analysis for high-dimensional stationary time series", *Scand. J. Stat.,* **50**(4) 1953--1983 https://doi.org/10.1111/sjos.12664

[9] Goto, Y., Kley, T., Van Hecke, R., Volgushev, S, Dette, H., Hallin, M. (2022) "The integrated copula spectrum" *Ann. Statist.* **50**(6) 3563-3591., https://doi.org/10.1214/22-AOS2240

[8] Goto, Y., Suzuki, K., Xu, X., and Taniguchi, M. (2023). "Tests for the existence of group effects and interactions for two-way models with dependent errors", *Ann. Inst. Statist. Math.,* **75**(3) 511--532, https://doi.org/10.1007/s10463-022-00853-3

[7] Goto, Y., Arakaki, K., Liu, Y., and Taniguchi, M. (2023). "Homogeneity tests for one-way models with dependent errors under correlated groups" *TEST,* **32**(1) 163--183 https://doi.org/10.1007/s11749-022-00828-9

[6] Goto, Y. (2023). "Tests for a Structural Break for Nonnegative Integer-Valued Time Series" In: Liu, Y., Hirukawa, J., Kakizawa, Y. (eds) *Research Papers in Statistical Inference for Time Series and Related Models*. Springer, Singapore. https://doi.org/10.1007/978-981-99-0803-5_7

[5] Goto, Y., Kaneko, T., Kojima, S., and Taniguchi, M. (2022). "Likelihood ratio processes under nonstandard settings", *Theory Probab. Appl.* **67** (2) 246-260, https://doi.org/10.4213/tvp5453

[4] Goto, Y., and Fujimori, K., (2022) "Test for conditional variance of integer-valued time series", *Stat. Sin.* **32** (4) 2241-2263, https://doi.org/10.5705/ss.202020.0357

[3] Goto, Y., (2020). "Estimation of trigonometric moments for circular distribution of MA(p) type by using binary series", *Sci. Math. Jpn.*, e-2020 33 2020-2 (in Editione Electronica), https://doi.org/10.32219/isms.84.1_39

[2] Goto, Y., and Taniguchi, M. (2020). "Discriminant analysis based on binary time series", *Metrika*, **83** 569-595, https://doi.org/10.1007/s00184-019-00746-1

[1] Goto, Y. and Taniguchi, M. (2019). "Robustness of zero crossings estimator", *J. Time Ser. Anal.,* **40** 815-830, https://doi.org/10.1111/jtsa.12463

Books

Goto, Y., Nagahata, H., Taniguchi, M., Monti, A.C., and Xu, X. (2023) "*ANOVA with Dependent Errors*", SpringerBriefs in Statistics. Springer, https://doi.org/10.1007/978-981-99-4172-8

Submitted papers

・Goto, Y., Zhang, X,, Kedem, B., and Chen, S. "Residual spectrum applied in brain functional connectivity", https://doi.org/10.48550/arXiv.2305.19461

・Goto, Y. and Fujimori K. "A test for counting sequences of integer-valued autoregressive models", https://doi.org/10.48550/arXiv.2307.10276

・Kawamoto, K., Goto, Y., and Tsukuda, K. "Spectral clustering algorithm for the allometric extension model"
https://doi.org/10.48550/arXiv.2309.06264

・Boucher,
M., Francq, C., Goto, Y., and Verdebout, T. "On runs tests for directional data and their local and asymptotic optimality properties"

Working papers

・Frequency domain approach to detect relevant change, (with Liu, Y., and Taniguchi, M.)

・A subsampling-based test to detect interregional differences among small-sample time series in marine study (with Solvang, H.K., Taniguchi, M.)

・Parametric spectrum for noncausal and noninvertible heavy-tailed time series (with Hideaki, N.)

・Optimal Testing for Random Individual Effects and Serial Dependence in Large n Small T Panels (with Bennala, N., Paindaveine, D., Hallin, M.,)

TALKS

Domestic Symposiums

2023 Dec. 28 "Residual spectrum: Brain functional connectivity detection beyond coherence", (with Zhang, X., Kedem, B., Chen, S.),
数学と脳科学の連携に向けたワークショップ ポスター発表

2023 Sep. 29—Oct. 1 "Test for the existence of the residual spectrum with application to brain functional connectivity detection", (with Zhang, X., Kedem, B., Chen, S.), Innovative developments in theory and methodology regarding various issues in statistical science and related fields, Niigata Univ.

2023 Sep. 20--23 "Test for the existence of residual spectrum", (with Zhang, X., Kedem, B., Chen, S.), Mathematical Society of Japan Autumn Meeting 2023, Tohoku Univ.

2023 Sep. 1--2 "Test for the existence of residual spectrum", (with Zhang, X., Kedem, B., Chen, S.), Kyoto Seminar, Kyoto Research Park

2022 Dec. 3 "Likelihood Ratio Processes under Non-Standard Settings", (with T. Kaneko, S. Kojima, M. Taniguchi) Waseda mini-workshop, Recent development on time series analysis and related topics, Waseda Univ.

2022 Sep. 13—16 "Integrated copula spectrum with applications to tests for time-reversibility and tail symmetry", (with Kley, T., Hecke, R. V., Volgushev, S, Dette, H., Hallin, M.), Mathematical Society of Japan Autumn Meeting 2022, Hokkaido Univ. Special lecture

2022 Apr. 15 "time series analysis related to spectra", Statistics Seminar, Kyushu Univ.

2022 Mar. 28—31 "Tests for the existence of group effects and interactions for two-way models with dependent error", (with Xu, X., Suzuki., K., and M. Taniguchi) Mathematical Society of Japan Spring Meeting 2022. Saitama Univ.

2021 Sep. 14—17 "Homogeneity tests for one-way models with dependent errors", (with K. Arakaki, Y. Liu, and M. Taniguchi), Mathematical Society of Japan Autumn Meeting 2021. Online

2021 Mar. 14—17 "Test for conditional variance of integer-valued time series", (with K. Fujimori) Mathematical Society of Japan Autumn Meeting 2021. Online

2021 Sep. 5—9 "計数時系列に対する条件付き分散の検定", (with K. Fujimori), Japan Joint Statistical Meeting 2021. Online

2021 Sep. 5—9 "従属誤差を持つ一元配置モデルにおける均一性の検定", (with K. Arakaki, Y. Liu, and M. Taniguchi), Japan Joint Statistical Meeting 2021. Online

2021 Mar. 15-18 "Likelihood Ratio Processes under Non-Standard Settings", (with T. Kaneko, S. Kojima, M. Taniguchi) Mathematical Society of Japan Spring Meeting 2021. Online

2020 Sep. 22-25 "Distribution Free Tests for Structural Break of Counting Processes", Mathematical Society of Japan Autumn Meeting 2020. Online

2020 Sep. 8-12 "Distribution Free Tests for Structural Break of Counting Processes", Japan Joint Statistical Meeting 2020. Online

2020 Mar. 16-19 "Parameter Estimation of Circular Distribution of MA(p) Type based on Binary Series", Mathematical Society of Japan Spring Meeting 2020. Nihon University.

2019 Sep. 17-20 "Kolmogorov-Smirnov Tests for Laplace Spectral Density Kernels", (with M. Hallin, and M. Taniguchi), Mathematical Society of Japan Autumn Meeting 2019, Kanazawa University.

2019 Mar. 17-20 "Bivariate asymptotic theory of nonparametric estimation based on binary time series", Mathematical Society of Japan Spring Meeting 2019. Tokyo Institute of Technology.

2018 Sep. 24-27 "Asymptotic theory and robustness of zero crossings estimator", (with M. Taniguchi), Mathematical Society of Japan Autumn Meeting 2018, Okayama University.

2018 Sep. 24-27 "Discriminant analysis based on binary time series", (with M. Taniguchi), Mathematical Society of Japan Autumn Meeting 2018, Okayama University.

2018 Mar. 4 "Robustness of higher order crossings estimator", (with M. Taniguchi), Japan Statistical Society 12th Spring Meeting Poster Session, Waseda University.

International Symposiums

2024 Jan. 4—7 "Integrated copula spectrum with applications to tests for time-reversibility and tail symmetry" (with Kley, T., Hecke, R. V., Volgushev, S, Dette, H., Hallin, M.), Asia-Pacific Rim Meeting, The University of Melbourne

2023 Dec. 18—21 "Test for the existence of the residual spectrum with application to brain functional connectivity detection", (with Zhang, X., Kedem, B., Chen, S.), 2023 IMS International Conference on Statistics and Data Science (ICSDS), Centro Cultural de Belém, Lisbon

2023 Nov. 30 "Test for the existence of the residual spectrum with application to brain functional connectivity detection", (with Zhang, X., Kedem, B., Chen, S.) Data Science Workshop, Tohoku University.

2023 Sep. 4 "Test for the existence of the residual spectrum with application to brain functional connectivity detection", (with Zhang, X., Kedem, B., Chen, S.), Innovative developments in theory and methodology regarding various issues in statistical science and related fields, Niigata University, Station South Campus Tokimate

2023 Sep. 4 "Test for the existence of residual spectrum", (with Zhang, X., Kedem, B., Chen, S.), Statistics Seminar, Kyoto Research Park

2023 May 17 "Integrated copula spectrum with applications to tests for time-reversibility and tail symmetry", (with Kley, T., Hecke, R. V., Volgushev, S, Dette, H., Hallin, M.), Waseda-Kyoto Seminars, Belgium

2023 May 8-10 Integrated copula spectrum with applications to tests for time-reversibility", (with Kley, T., Hecke, R. V., Volgushev, S, Dette, H., Hallin, M.), Poster, Statistical Foundations of Data Science and their Applications, Aonference in celebration of Jianqing Fan's 60th Birthday, Princeton Univ., U.S.

2023 Apr. 13 "The existence and uniqueness of lagged spectrum" (with Zhang, X., Kedem, B., Chen, S.) SEMINAIRE ECONOMETRIE DE LA FINANCE ET DE L'ASSURANCE, CREST, France

2023 Apr. 1—03 "The existence and uniqueness of lagged spectrum" (with Zhang, X., Kedem, B., Chen, S.)
Bolzano-Waseda Workshop on Statistics & Time Series analysis,
Hotel Oswald, Selva di Val Gardena, Italy

2023 Mar. 28--29 "A subsampling-based test to detect interregional differences among small-sample time series in marine study" (with Solvang, H.K., Taniguchi, M.)
IMR-Waseda Workshop, Advances in pragmatic computational methodologies for fish stock assessment, human impact, and environmental factor on marine ecosystems,
Institute of Marine Research, Bergen, Pynten, IMR, Norway.

2023 Feb. 9--11 "The existence and uniqueness of lagged spectrum" (with Zhang, X., Kedem, B., Chen, S.)
Kanazawa Seminar, Hotel Kanazawa

2023 Jan. 19 "Integrated copula spectrum with applications to tests for time-reversibility and tail symmetry", (with Kley, T., Hecke, R. V., Volgushev, S, Dette, H., Hallin, M.),
Data Science Workshop, Tohoku University.

2022 Oct. 8--9 "Homogeneity tests for one-way models with dependent errors under correlated groups",
(with K. Arakaki, Y. Liu, and M. Taniguchi),
Bologna-Waseda Time Series Workshop, University of Bologna

2022 Oct. 5--7 "Integrated copula spectrum with applications to tests for time-reversibility and tail symmetry", (with Kley, T., Hecke, R. V., Volgushev, S, Dette, H., Hallin, M.), Rome-Waseda Time Series Symposium, Tor Vergata University of Rome

2022 Sep. 29 "Integrated copula spectrum with applications to tests for time-reversibility and tail symmetry", (with Kley, T., Hecke, R. V., Volgushev, S, Dette, H., Hallin, M.), Statistics Seminar, University of Maryland.

2022 June. 4-6 "Discriminant analysis based on binary time series" with M. Taniguchi, The 5th International Conference on Econometrics and Statistics, Ryukoku University.

2022 Mar. 10-12 "Tests for the existence of group effects and interactions for two-way models with dependent errors", (with Suzuki. K., Xu, X., and M. Taniguchi), Otsu Seminar "Recent Developments in Time Series and Related Topics" In honor of Professor Masanobu Taniguchi on the occasion of his retirement, Biwako Hotel.

2022 Mar. 7-9 "Homogeneity tests for one-way models with dependent errors under correlated groups", (with K. Arakaki, Y. Liu, and M. Taniguchi), Waseda International Symposium "Topological Data Science, Causality, Analysis of Variance & Time Series" dedicated to Professor Taniguchi's retirement, Waseda University.

2021 Nov. 18 "Hypothesis tests for one- and two-way models with dependent errors", (with Arakaki, K., Suzuki, K, Liu, Y., Xu, X., and M. Taniguchi) Data Science Workshop, Tohoku University.

2021 Mar. 19-23 "Tests for a structural break and conditional variance of count time series", (with K. Fujimori), Waseda Cherry Blossom Workshop on Topological Data Science, Waseda University.

2021 Feb. 25-27 "Likelihood Ratio Processes under Non-Standard Settings", (with T. Kaneko, S. Kojima, M. Taniguchi), Waseda International Symposium ""Topological Data Science, Causality & Time Series Analysis", Waseda University.

2020 Nov. 26 "Tests for a structural break and conditional variance of count time series", (with K. Fujimori), Data Science Workshop, Tohoku University.

2020 Feb. 28 "Parameter Estimation of Circular Distribution of MA(p) Type based on Binary Series", Waseda International Symposium "Topological Data Science, Causality & Time Series Analysis", Waseda University.

2019 Dec. 26 "Parameter Estimation of Circular Distribution of MA(p) Type based on Binary Series", Waseda Seminar on Time Series & Statistics, Waseda University.

2019 Oct. 31 "Kolmogorov-Smirnov Tests for Laplace Spectral Density Kernels",

(with M. Hallin, and M. Taniguchi),
Data Science Workshop, Tohoku University.

2019 Sep. 14-16 "Kolmogorov-Smirnov Tests for Laplace Spectral Density Kernels", (with M. Hallin, and M. Taniguchi), Problems related to statistical science in various fields, Niigata University.

2019 Jul. 19 "Report on My Visit to Brussels" & "Kolmogorov-Smirnov Tests for Laplace Spectral Density Kernels", (with M. Hallin, and M. Taniguchi), Waseda Seminar on Time Series & Statistics, Waseda University.

2019 Feb. 28- Mar. 2 "Asymptotic theory of nonparametric estimation based on binary time series", Kinosaki Seminar "Data Science & Causality", Blue Ridge Hotel.

2019 Feb. 25-27 "Discriminant analysis based on binary time series", (with M. Taniguchi), Waseda International Symposium "Introduction of General Causality to Various Data & its Applications", Waseda University.

2018 Oct. 22-24 "Robustness of zero crossing Estimator", (with M. Taniguchi), Waseda International Symposium "Introduction of General Causality to Various Data & its Innovation of the Optimal Inference", Waseda University.