Chi-Kuang Yeh, PhD

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Assistant Professor – Georgia State University

Department of Mathematics and Statistics
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Research Areas

• Functional data analysis • Statistical machine learning and high-dimensional inference • Dependence modeling • Optimal design of experiments • Applications in biomedical and industrial data, including neuroscience, drug development and finance.

Education

2023 Ph.D. in Statistics, University of Waterloo, ON, Canada
Advisor: Gregory Rice & Joel A. Dubin
Thesis: *Methods in Functional Data Analysis: Forecast Evaluation, Robust Serial Dependence Measures, and a Spatial Factor Copula Model*

2018 M.Sc in Statistics, University of Victoria, BC, Canada
Advisor: Julie Zhou
Thesis: *Optimal Regression Design under Second-order Least Squares Estimator: Theory, Algorithm and Applications*

2016 B.Sc (H.) in Mathematics & Statistics with minor in Computer science, University of Victoria, BC, Canada

Professional Appointment

2025– Assistant Professor, Department of Mathematics and Statistics, Georgia State University, GA, USA.

2024–25 CANSSI Distinguish Postdoctoral Fellow, Department of Mathematics and Statistics, McGill University, QC, Canada.
Mentor: Peijun Sang, Archer Yi Yang, Qihuang Zhang & Celia M.T. Greenwood

2023–24 CANSSI Distinguish Postdoctoral Fellow, Department of Statistics and Actuarial Science, University of Waterloo, ON, Canada.
Mentor: Peijun Sang, Archer Yi Yang, Qihuang Zhang & Celia M.T. Greenwood

2023–25 Associate Postdoctoral Fellow, Mila – Quebec AI Institute, QC, Canada.
Host: Archer Yi Yang

2024 Sessional Instructor, University of Waterloo, ON, Canada.

2018 – Associate Member, Waterloo Health Data Science Lab.
Host: Joel A. Dubin

2019–20 Statistical Consultant, Statistical Consulting and Collaborative Research Unit and the Survey Research Centre, University of Waterloo, ON, Canada.
Director: Martin Lysy

Publications

* FOR JOINT FIRST AUTHORS; + FOR ALPHABETICAL LISTING

Published

Liu, S., **Yeh, C.-K.**, Zhang, X., Tian, Q., & Li, P. (2025). Positive and unlabeled data: Model, estimation, inference, and classification. *Journal of the American Statistical Association.* [LINK].

Yeh, C.-K. & Sang, P. (2025). Variable selection in multivariate functional linear regression. *Statistics in Bioscience*, *17*, 17–34. [LINK].

Yeh, C.-K., Rice, G., & Dubin, J. A. (2023). Functional spherical autocorrelation: A robust estimate of the autocorrelation of a functional time series. *Electronic Journal of Statistics*, *17*, 650–687. [LINK].

Yeh, C.-K., Rice, G., & Dubin, J. A. (2022). Evaluating real-time probabilistic forecasts with application to national basketball association outcome prediction. *The American Statistician*, *76*, 214–223. [LINK].

Yeh, C.-K. & Zhou, J. (2021). Properties of optimal regression designs under the second-order least squares estimator. *Statistical Papers*, *62*, 75–92. [LINK].

Preprints

Kim, M., Rice, G., Zhao, Y., & **Yeh, C.-K.** *FTSgof: White noise and goodness-of-fit tests for functional time series in R.*

Yeh, C.-K. & Zhou, J. *CVXSADes: A stochastic algorithm for constructing exact optimal regression designs.* [LINK].

Yeh, C.-K., Gao, L. L., Wong, W. K., & Zhou, J. *Equivalence theorems and methods for finding optimal designs under multiple optimality criteria, including E-optimality.*

Yeh, C.-K., Wong, W. K., & Zhou, J. *Single and multiple objective optimal designs for group testing experiments.* [LINK].

Software

Yeh, C.-K., Zhou, J. & Hou-Liu, J.. Rpackage "SLSEdesign". [CRAN] [GITHUB]

Kim, M., **Yeh, C.-K.**, Zhao, Y. & Rice, G.. Rpackage "FTSgof". [CRAN] [GITHUB]

Yeh, C.-K., Tian, Q., Liu, S., Li, P. & Zhang, X. Rpackage "PUEM". Upon Request.

Yeh, C.-K., Dubin, J.A. & Rice, R. Rpackage "evalRTPF". [GITHUB]

Fellowships

2023–25 CANSSI Distinguish Postdoctoral Fellowship, Canadian Statistical Sciences Institute ($ 70,000 CAD/year)

Awards & Honours

2025 Best Presentation Award, (Bio)Statistics Research and Career Day, McGill University

2021–23 Queen Elizabeth II Graduate Scholarship, Government of Ontario ($ 30,000 CAD)

2020–23 President's Graduate Scholarship, University of Waterloo (UWaterloo) ($ 45,000 CAD)

2022 Statistics and Actuarial Science Best Research Presentation Prize, SAS Research Presentation day, UWaterloo ($ 500 CAD)

2020–21 Ontario Graduate Scholarship, Government of Ontario ($ 15,000 CAD)

2018–21 Mathematics Domestic Doctoral Award, UWaterloo ($ 20,000 CAD)

2018–20 Mathematics Domestic Graduate Scholarship, UWaterloo ($ 12,000 CAD)

2019–22 Statistics & Actuarial Science Chair's Award, UWaterloo ($ 5,000 CAD)

2019 University of Waterloo Graduate Scholarship, UWaterloo ($ 1,000 CAD)

2018 Student Travel Award, Statistical Society of Canada ($ 150 CAD)

2018 Graduate Student Conference Travel Grant, UVic ($ 500 CAD)

2018 CUPE Conference Travel Award, UVic ($ 250 CAD)
2017–18 Faculty of Graduate Studies Scholarship, UVic ($ 6,000 CAD)
2017 Florence and Wallace Wilkinson Memorial Award, UVic ($ 3,370 CAD)
2016 University Scholarship, UVic ($ 4,000 CAD)
2010 Summit Entrance Scholarship, Simon Fraser University ($ 3,500 CAD)

Presentations

Invited

2025 **Robust serial-dependence measure for functional time series**, May 21, Departmental Seminar, Department of Mathematics and Statistcs, Concordia University, QC, Canada.

Positive and unlabeled data: model, estimation, inference, and classification, February 19, Departmental Seminar, Department of Epidemiology, Biostatistics and Occupational Health, McGill University, QC, Canada.

Methods for dependent functional data in biomedical and industrial applications, February 4th, Departmental Colloquium, Department of Mathematics and Statistics, University of South Florida, Tampa, FL, USA.

Methods for dependent functional data in biomedical and industrial applications, January 31st, Departmental Colloquium, Department of Mathematics and Statistics, Georgia State University, Atlanta, GA, USA.

Methods for dependent functional data in biomedical and industrial applications, January 29th, Departmental Colloquium, Department of Mathematical Sciences, University of Texas El Paso, El Paso, TX, USA.

Methods for dependent functional data in biomedical and industrial applications, January 8th, Departmental Colloquium, School of Mathematical and Statistical Sciences, Clemson University, Clemson, SC, USA.

2024 **Methods for dependent functional data in biomedical and industrial applications**, December 4th, Departmental Colloquium, Department of Statistics, University of Missouri, Columbia, MO, USA.

Methods for dependent functional data in biomedical and industrial applications, November 26, Departmental Colloquium, University of Manitoba, Winnipeg, MB, Canada.

Evaluating real-time probabilistic forecasts for sports games outcome prediction, June 8, the Sixth ICSA-Canada Chapter Symposium, Crowne Plaza Niagara Falls-Fallsview, Niagara Falls, ON, Canada.

Mass spectrometry data: a spatial functional data approach, June 5, Statistical Society of Canada annual meeting, Memorial University of Newfoundland, St. John's, NL, Canada.

Robust serial dependence measures of a functional time series, February 23, UVic–PIMS data science seminar series, University of Victoria (UVic) with Online Broadcast, Victoria, BC, Canada.

2023 **Functional spherical autocorrelation: robust autocorrelation estimation of a functional time series**, July 17th, 64th ISI World Statistics Congress, Ottawa, ON, Canada.

Functional spherical autocorrelation: a robust estimate of the autocorrelation of a functional time series, March 8, Institution of Statistics Seminar, Academia Sinica, Taipei, Taiwan.

Contributed

2025 **Evaluating Real-Time Probabilistic Forecasters for Sports Games Outcome Prediction** (***Best presentation award***), May 9, (Bio)Statistics Research and Career Day, McGill University, QC, Canada.

2024 **Positive and unlabeled data: model, estimation, inference, and classification**, September 10, CANSSI Quebec's Postdoc Day 2024, Concordia University, QC, Canada.

2023 **Functional spherical autocorrelation: robust autocorrelation estimation of a functional time series**, August 7, Joint Statistical Meetings, Toronto, ON, Canada.

Functional spherical autocorrelation: robust autocorrelation estimation of a functional time series, May 29, Statistical Society of Canada annual meeting, Carleton University, Ottawa, ON, Canada.

2022 **Functional spherical autocorrelation: a robust estimate of the autocorrelation of a functional time series**, October 15, Third Waterloo Student Conference in Statistics, Actuarial Science and Finance, ON, University of Waterloo (UWaterloo), Canada.

Projection based model validation and identification methods for functional time series, June 2, Statistical Society of Canada Annual Meeting, Virtual.

Projection based model validation and identification methods for functional time series, March 11, Statistics and Actuarial Science Virtual Research Presentation Day, UWaterloo, ON, Canada.

2021 **Evaluating real-time updated probabilistic forecasts with application to National Basketball Association outcome prediction**, June 10, Statistical Society of Canada Annual Meeting, Virtual.

Evaluating real-time updated probabilistic forecasts with application to National Basketball Association outcome prediction (***Best presentation award***), February 5th, Statistics and Actuarial Science Virtual Research Presentation Day , UWaterloo, ON, Canada.

Evaluating the performance of continuously updated probabilistic forecasts with application to National Basketball Association, January 20, Student Seminar Series, Department of Statistics and Actuarial Science, UWaterloo, ON, Canada.

2020 **Evaluating probabilistic dorecasts with an application in National Basketball Association**, Health Data Science Lab, UWaterloo, ON, Canada.

2019 **Properties of optimal regression designs under second-Order least squares estimator**, Waterloo Student Conference in Statistics, Actuarial Science and Finance, UWaterloo, ON, Canada.

Current and past research conducted on freely available multi-center (eICU) and single-center (MIMIC's) databases for critical care research, Health Data Science Lab, UWaterloo, ON, Canada.

2018 **Properties of optimal regression designs under second-order least squares estimator** (***SSC Student travel award***), Sixth Canadian Statistics Student Conference, McGill University, QC, Canada.

Optimal regression designs under the second-order least squares estimator, Joint Statistical Meetings, Vancouver downtown, BC, Canada.

2017 **On particle swarm optimization algorithm to solve statistical problems**, Department of Mathematics and Statistics, UVic, BC, Canada.

Teaching Experience

Instructor – Georgia State University

STAT 8670–Computational Methods in Statistics (2025 Fall)
STAT 8691–Graduate Research in Statistics (2025 Fall)

Instructor – University of Waterloo

Probability (2024 Winter).

Course codeveloper - University of Victoria

Data Science (2018 Spring)

Guest Lecturer - University of Victoria

"Introduction to R Markdown and LaTeX" in Stat 353 Applied Linear Regression, Host: Laura L.E. Cowen (2017 Fall).

Tutorial Instructor

University of Waterloo

Statistics (2019 Spring & Winter).

University of Victoria

Data Science (2018 Spring), **Calculus I – Pathway/ESL** (2017 Fall).

Teaching Assistant

University of Waterloo

Applied Linear Models (2022 Fall, 2020 Fall & Spring), **Sampling Theory and Practice** (2022 Winter), **Applied Probability** (2021 Fall & Spring) **Forecasting** (2021 Winter & Fall, 2019 Spring), **Experimental Design** (2018 Fall), **Statistics** (2018 Fall, 2019 Winter & Spring), **Theoretical Time Series** (2021 Winter), **Mathematical Statistics** (2019 Winter).

University of Victoria

Statistics for Life Sciences I (2018 Summer, 2014 Fall), **Data Science** (2018 Spring), **Finite Mathematics** (2018 Spring), **Calculus I – Pathway** (2017 Fall, 2015 Spring), **Calculus for Social and BIological Science** (2017 Spring, 2015 Fall), **Introductory to Probability and Statistics I**

(2016 Fall), **Calculus II** (2015 Fall), **Logic and Foundation** (2014 Fall).

Other - University of Victoria

2017 **Teaching Assistant Conference Certificate**, Learning and Teaching Centre (LTC), UVic
2017 **Teaching Assistant ProD Certificate**, LTC, UVic
2017 **Teaching Fundamental Certificate**, LTC, UVic.

Langara College

2012–13 **Math & Stats Activity Centre (MSAC)**, Math tutor, Langara College, Vancouver, BC, Canada.

Mentoring

2025– **Zilong Zhang**, PhD student in Statistics, Georgia State University, USA
2025– **Wenpu Ma**, PhD student in Statistics, Georgia State University, USA (co-supervisor: Gengsheng Qin)
2023– **Mengqi Xu**, PhD Student in Statistics (Biostatistics), UWaterloo, Canada.
2023–24 **Tatiana Krikella**, PhD Candidate in Statistics (Biostatistics), UWaterloo, Canada. Next Position: CANSSI distinguish postdoctoral fellow. [interview]

Service and Outreach

Organizing and Volunteer service

2026 **The Seventh ICSA-Canada Chapter Symposium** (Scheduled), Session Organizer, McGill University, QC, Canada.
2023–24 **Transfer Learning reading group**, Co-organizer, UWaterloo, Canada.
2024 **The Sixth ICSA-Canada Chapter Symposium**, Volunteer, Crowne Plaza Niagara Falls-Fallsview, Niagara Falls, ON, Canada.
The Statistics Society of Canada Annual Meeting, Student poster judge, St. John's, Newfoundland and Labrador, Canada.
The Twelfth Annual Canadian Statistics Student Conference, Judge, St. John's, NL, Canada.
2023 **Fourth Waterloo Student Conference in Statistics, Actuarial Science and Finance**, Judge, UWaterloo, ON, Canada.
2020–23 **Student Seminar Series**, Organizer, Departmental Statistics and Actuarial Science, UWaterloo, ON, Canada.
2022 **Third Waterloo Student Conference in Statistics, Actuarial Science and Finance**, Organizing Committee and Session chair, UWaterloo, ON, Canada.
2022 **ASA Datafest**, Mentor, American Statistical Association, UWaterloo, ON, Canada.
2020 **Second Waterloo Student Conference in Statistics, Actuarial Science and Finance**, Organizing Committee and session chair, UWaterloo, ON, Canada.
2019 **First Waterloo Student Conference in Statistics, Actuarial Science and Finance**, Organizing Committee and session chair, UWaterloo, ON, Canada.
2018 **ICSA Booth at Joint Statistical Meeting**, Volunteer, Vancouver, BC, Canada.

Graduate Student Thesis Committee

2025 **Sihan Jia**, PhD Candidate specialized in Biostatsitics. Supervisor: Gengsgeng Qin, Georgia State University

Journal Referee

2025 Canadian Journal of Statistics, Journal of Computational and Graphical Statistics, Journal of Nonparametric Statistics, Entropy
2024 The American Statistician, Statistical Papers

2023 Computational Statistics & Data Analysis, The American Statistician
2022 TEST

Membership

2018– Statistical Society of Canada
2018– International Chinese Statistical Association
2018– American Statistical Association
2018– Western North American Region of the International Biometric Society
2019– Eastern North American Region of the International Biometric Society

Media Coverage

2023 CANSSI Distinguish Postdoctoral announcement

Reference

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