

# KEN KANGYI PENG

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## EDUCATION

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### PhD in Statistics

*Sep 2025*

Simon Fraser University, BC, Canada

Thesis: “Characterizing Stochastic Processes with Applications in Infectious Disease and Sports Analytics”

Supervisors: X. Joan Hu and Tim Swartz

### MSc in Statistics

*May 2022*

Simon Fraser University, BC, Canada

Thesis: “Bayesian Approaches for Critical Velocity Models”

Supervisors: Tim Swartz and Gary Parker

### BSc in Statistics & minor in Mathematics

*May 2020*

Simon Fraser University, BC, Canada

## EXPERIENCE

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### Research

- **Postdoctoral Fellow**

*Sep 2025 - Sep 2026*

University Of Ottawa, Department of Civil Engineering

Supervision: Robert Delatolla

- **Research Assistant**

*May 2021 - Sep 2025*

Simon Fraser University, Department of Statistics and Actuarial Science, Sports Analytics Group

Project: CANSSI CRT “Sports Analytics” & CANSSI CRT “The Application of Statistical Methods to Wastewater Analysis”

Supervision: Tim Swartz and X. Joan Hu

- **Research Assistant**

*Jan 2024 - Sep 2024*

University Of Ottawa, Department of Civil Engineering

Project: CoVaRR-Net Wastewater Surveillance Rapid Response Research Group

Supervision: Robert Delatolla

- **Research Assistant**

*Jan 2022 - May 2023*

University of Waterloo, Department of Statistics and Actuarial Science

Projects: MfPH - NSERC “Emerging Infectious Diseases Modelling Initiative”

Supervision: Charmaine Dean

- **Research Assistant**

*Mar 2020 - May 2021*

Simon Fraser University, Department of Biomedical Physiology and Kinesiology

Supervision: Tim Swartz and David C. Clarke

### Industry and Application Research Experience

- **Co-founder & Chief Data Scientist**

*Jun 2023 - Current*

AccMov Health Inc.

Lead data strategy, collaborate with sports and health scientists to analyze data and drive business insights

- **Sports Analyst** *Jan 2022 - Dec 2023*  
 Stathletes  
 Hockey analytics
- **Co-op Data Scientist** *Oct 2021 - Dec 2021*  
 Public Health Agency of Canada  
 Worked with database of ArriveCAN App
- **Co-op Statistician** *May 2019 - Sep 2019*  
 BC Centre for Excellence in HIV/AIDS  
 Worked with health administrative data
- **Co-op Data Scientist** *May 2018 - Dec 2018*  
 Statistics Canada  
 Worked with Canada's multifactor productivity database & T2 leap linked administrative database

## TEACHING EXPERIENCE

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- **Instructor**  
*Simon Fraser University*  
 STAT 445/645: Applied Multivariate Analysis *Spring 2026*
- **Guest Lecture**  
*Simon Fraser University*  
 STAT 240: Lecture on text data manipulation *Spring 2025*
- **Teaching Assistant**  
*Simon Fraser University*  
 STAT 240: Introduction to Data Science *Spring 2025*  
 STAT 302: Analysis of Experimental and Observational Data *Fall 2023*  
 STAT 830: Statistical Theory I *Fall 2022*  
 STAT 261: Laboratory for Introductory R for Data Science *Fall 2021*  
 STAT 201: Statistics for the Life Sciences *Summer 2021*  
 STAT 380: Introduction to Stochastic Processes *Spring 2021*  
 STAT 203: Introduction to Statistics for the Social Sciences *Fall 2020*  
 STAT 100: Chance and Data Analysis *Fall 2020*
- **Informal Mentoring**  
 Julian Lau — Undergrad (UAlberta), with Profs. Bonita Lee & Lilly Pang *Aug 2025 – Present*  
 Krystal He — MSc (SFU), with Prof. Joan Hu *May 2025 – Present*  
 Riley Isaac — Undergrad & MSc (SFU), with Prof. Joan Hu *May 2024 – Present*

## HONORS AND AWARDS

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Multiple Graduate Fellowships, SFU – Total: \$17,500 CAD	<i>2021–2025</i>
Multiple PhD Research Scholarships, SFU – Total: \$9,122 CAD	<i>2023–2025</i>
SFU Travel and Research Award – \$2,054 CAD	<i>2024–2025</i>
MfPH – Career Networking & Industry Partnership Event Travel Funding – \$1,500 CAD	<i>Fall 2023</i>
Mathematics for Public Health Festival Travel Funding – \$2,000 CAD	<i>Fall 2022</i>
Dr. Gord Sleivert Young Investigator Award – \$500 CAD	<i>Summer 2020</i>
NSERC Undergraduate Student Research Award – \$4,500 CAD	<i>Summer 2019</i>

## RESEARCH PAPERS

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### Papers in Refereed Journals

1. **Peng, K. K.**, Dean, C. B., Delatolla, R., & Hu, X. J. “Learning associations of COVID-19 hospitalizations with wastewater viral signals by Markov modulated models.” *Epidemics*: 100840 (2025).
2. Hegazy, Nada, **Peng, K. K.**, et al. “Variability of Clinical Metrics in small population communities drive perceived wastewater and environmental surveillance data quality: Ontario, Canada-wide study.” *ACS ES&T Water* (2025).
3. **Peng, K. K.**, Hu, X. J. & Swartz, T. B. “On the time of corner kicks in soccer: an analysis of event history data.” *Computational Statistics* (2024).
4. **Peng, K. K.**, Brodie, R. T., Swartz, T. B., & Clarke, D. C. “Bayesian inference of the impulse-response model of athlete training and performance.” *International Journal of Performance Analysis in Sport*, 1-16 (2023).
5. **Peng, K. K.**, Renouf, E. M., Dean, C. B., Hu, X. J., Delatolla, R., & Manuel, D. G. “An exploration of the relationship between wastewater viral signals and COVID-19 hospitalizations in Ottawa, Canada.” *Infectious Disease Modelling* (2023).
6. **Peng, K. K.**, Clarke, D. C., Swartz, T. B. “Bayesian approaches for critical velocity modelling of data from intermittent efforts”. *International Journal of Sports Science & Coaching* (2022).

### Papers under Review

7. **Peng, K. K.**, Delatolla, R., Hu, X. J., Renouf, E. & Dean C. B. “Joint Modeling of Two Stochastic Processes, with Application to Learning Hospitalization Dynamics from Wastewater Viral Concentrations.” Submitted. Available at: <https://arxiv.org/abs/2601.07977>.
8. **Peng, K. K.**, Hu, X. J. & Swartz, T. B. “Modeling Event Dynamics by Self-Exciting Processes with Random Memory.” Submitted. Available at: <https://arxiv.org/abs/2601.07980>.
9. Wen, J., **Peng, K. K.**, et al. “Site-specific wastewater-based surveillance in early detection of COVID-19 new cases and prediction of mass testing outcomes in long-term care facilities.” Submitted. (Statistical consultation)
10. Zhao, X., **Peng, K. K.**, Graham, R. B. “Seasonal Variations in Biomechanical Performance Among Female Varsity Soccer Players.” Submitted. (Statistical consultation)

## PRESENTATIONS

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### Invited Presentations

- 2026 The 7th ICSA-Canada Chapter Symposium: Applications of functional data, time series data, and stochastic processes  
*Scheduled*
- 2026 Conference on Econometrics and Statistics: Sports analytics (Special Invited Session)  
*Scheduled*
- 2025 Conference on Econometrics and Statistics: Infectious disease modeling  
*Tokyo, Japan*
- 2025 International Conference on Statistics and Data Science: Environmental modelling  
*Vancouver, BC, Canada*
- 2025 WNAR of the International Biometric Society: Novel models of survival data  
*Whistler, BC, Canada*

- 2025 Lifetime Data Science: Recent advances in life history data analysis with multi-state models  
*Brooklyn, NY, US*
- 2024 Joint Statistical Meetings: Newly developed point process models for repeated events  
*Portland, Oregon, US*
- 2024 WNAR of the International Biometric Society of the International Biometric Society: Sparse modeling for biomedical data  
*Fort Collins, Colorado, US*
- 2023 WNAR of The International Biometric Society: Statistics in biosciences  
*Anchorage, Alaska, US*
- 2022 BIRS-CMO: Statistical challenges in the identification, validation, and use of surrogate markers  
*Banff International Research Station. Remote*

### Other Presentations

- 2023 Fields MfPH - Career Networking and Industry Partnership Event, The Fields Institute  
*Toronto, ON, Canada*
- 2023 North America Machine Learning, Optimization and Statistics Symposium, poster presentation  
*Vancouver, BC, Canada*
- 2022-2023 Colloquium on Mathematics for Public Health, The Fields Institute  
*Remote*
- 2022 Mathematics for Public Health Festival (MfPHest), Poster presentation, The Fields Institute  
*Toronto, ON, Canada*
- 2021 Canadian Statistical Sciences Institute collaborative research teams showcase event  
*Remote*
- 2021 Statistical Society of Canada annual meeting, Poster presentation  
*Remote*
- 2020 The SPort INnovation Summit, recipient of the Dr. Gord Sleivert Young Investigator Award  
*Remote*

## ACADEMIA ACTIVITIES

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### Leadership

- **Organizer & Chair**, Invited session at 2026 EcoSta: *Statistical modeling for environmental surveillance* 2026
- **Co-organizer**, BIRS 5-day workshop: *Advances in Statistical Methodology for the Analysis of Wastewater Data* 2026
- **Co-organizer & Chair**, Invited session at 2025 EcoSta: *Innovative statistical approaches in wastewater-based epidemiology: Recent developments and applications* 2025
- **Lab Meeting Coordinator**, Dr. Joan Hu's Lab 2024–2025

**Paper Referee**

- Computational Statistics
- Canadian Journal of Statistics
- Statistical Theory and Related Fields
- BMC Medical Research Methodology
- Journal of Hospital Infection

**Others**

- **Volunteer**, Vancouver, International Conference on Statistics and Data Science *2025*
- **Program Assistant**, Vancouver, Cascadia Symposium on Statistics in Sports *2023–2024*
- **Volunteer**, Vancouver, North America Machine Learning, Optimization and Statistics Symposium *Summer 2023*
- **Next Generation Member**, The Fields Institute for Research in Mathematical Sciences, Mathematics for Public Health (MfPH) program *2022–2024*