Ruodan Liu

Contact Information

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Employment

9/2024-   Postdoctoral Fellow
          Santa Clara University, USA

Education

5/2024   Ph.D. in Mathematics, State University of New York at Buffalo, USA
          (Department of Mathematics)
          Thesis title: "Dynamic Processes on Networks"
          Thesis supervisor: Prof. Naoki Masuda

5/2013   B.Sc. in Mathematics and Applied Mathematics, Beihang University, China
          (School of Mathematical Sciences)

Award

1/2024   Doctoral Dissertation Fellowship.

Research

1/2023-12/2023   Study of fixation probability in evolutionary dynamics on multilayer networks.

10/2022-2/2023   Data analysis of gender imbalance in the academia in China, Japan, and South Korea
                 in terms of the number of researchers, their career, and citation practice.

1/2022-1/2023   Study of fixation probability in evolutionary dynamics on hypergraphs.

2/2020-1/2022   Analysis of effects of concurrency on epidemic spreading in Markovian temporal
                 networks.

Publications

1. Ruodan Liu and Naoki Masuda.
   Fixation dynamics on multilayer networks.
   SIAM Journal on Applied Mathematics, in press (2024). Preprint: arXiv:2311.16457

2. Ruodan Liu, Masaki Ogura, Elohim Fonseca dos Reis, Naoki Masuda.
   Effects of concurrency on epidemic spreading in Markovian temporal networks.
   European Journal of Applied Mathematics, 35, 3, pp. 430–461 (2024).

3. Kazuki Nakajima, Ruodan Liu, Kazuyuki Shudo, Naoki Masuda.
   Quantifying gender imbalance in East Asian academia: Research career and citation practice.
   Journal of Informetrics, 17, 101460 (2023).

4. Ruodan Liu and Naoki Masuda.
   Fixation dynamics on hypergraphs.
   PLoS Computational Biology, 19, e1011494 (2023).

Oral Presentations

1. Ruodan Liu, Naoki Masuda.
   Fixation probability in evolutionary dynamics on hypergraphs.
   48th Annual New York State Regional Graduate Mathematics Conference. Syracuse, NY, April 1, 2023.

2. Ruodan Liu, Naoki Masuda.
   Fixation probability on hypergraphs.
   NERCCS 2023: Sixth Northeast Regional Conference on Complex Systems. Potsdam, NY, March 22 – 24, 2023.

3. Ruodan Liu, Masaki Ogura, Elohim Fonseca dos Reis, Naoki Masuda.
   Impacts of concurrency on epidemic spreading in Markovian temporal networks.
   NERCCS 2022: Fifth Northeast Regional Conference on Complex Systems. Buffalo, NY, March 30 – April 1, 2022.

4. Ruodan Liu, Masaki Ogura, Elohim Fonseca dos Reis, Naoki Masuda.
   Modeling effects of concurrency on epidemic spreading in Markovian temporal networks.
   Networks 2021: A Joint Sunbelt and NetSci Conference. Online, July 5–10, 2021.

Poster Presentation

1. Ruodan Liu, Masaki Ogura, Elohim Fonseca dos Reis, Naoki Masuda.
   Modeling epidemic spreading in Markovian temporal networks with different degrees of concurrency.
   NERCCS 2021: Fourth Northeast Regional Conference on Complex Systems. Online, March 31 – April 2, 2021.

Teaching

- Winter 2024, Instructor and Teaching assistant of MTH 141 (College Calculus I).

- Spring 2023-Fall 2023, Teaching assistant of MTH 142 (College Calculus II) and MTH 309 (Introduction to Linear Algebra).

- Summer 2023, Instructor and Teaching assistant of MTH 121 (Survey of Calculus and Its Applications I).

- Winter 2023, Instructor and Teaching assistant of MTH 141 (College Calculus I).

- Fall 2022, Teaching assistant of MTH 309.

- Summer 2022, Instructor of MTH 131 (Mathematical Analysis for Management).

- Spring 2020-Spring 2022, Teaching assistant of MTH 241 (College Calculus III) and MTH 309 .

- Fall 2019, Teaching assistant of MTH 121 and MTH 131.

- Spring 2018-Spring 2019, Instructor of MTH 131.

- Fall 2017, Instructor of MTH 121 and MTH 131.

- Spring 2017, Teaching assistant of MTH 121.

- Fall 2013-Spring 2017, and Spring 2023, Tutor at the UB math help center.

- Fall 2013-Fall 2016, Grader.