

EDUCATION

- Maastricht University** 2023-2025
PhD in Statistics, Department of Data Analytics and Digitalisation, School of Business and Economics
• Thesis Topic: Bayesian Optimal Choice Designs Using Simulated Annealing
• Supervisor: Prof. Roselinde Kessels
- KU Leuven** 2021-2023
Master of Statistics and Data Sciences, Faculty of Science
• Thesis Topic: Color Preference of Fruit Flies: A Choice Experiment Approach
• Supervisor: Prof. Peter Goos and Dr. Bart De Ketelaere
- Beijing Normal University** 2017-2021
Bachelor of Accounting, Business School
• Thesis Topic: The Impact of Cognition on Learning from Failure: A Grounded Theory Approach
• Supervisor: Prof. Wenzhou Wang

RESEARCH EXPERIENCE

- University of Calgary** 2026-Present
PIMS Postdoctoral Fellow
• Supervisor: Prof. Rob Deardon
- University of Calgary** 2025-2026
Visiting Researcher
• Research Topic: Population memory mechanisms in behavioural change epidemic models
• Supervisor: Prof. Rob Deardon and Prof. Lorna Deeth
- King Abdullah University of Science and Technology** 2022-2023
Research Intern
• Research Topic: Stability analysis of gradient-based methods for compositional optimization
• Supervisor: Prof. Di Wang

PUBLICATIONS

Published articles

1. **Y. Mao**, R. Kessels, T.C. van der Zanden (2025). “Constructing Bayesian optimal designs for discrete choice experiments by Simulated Annealing.” *Journal of Choice Modelling*, 55, 100551. <https://doi.org/10.1016/j.jocm.2025.100551>.
2. **Y. Mao**, R. Kessels (2025). “Optimal designs for mixture choice experiments by simulated annealing.” *Chemometrics and Intelligent Laboratory Systems*, 257, 105305. <https://doi.org/10.1016/j.chemolab.2024.105305>.
3. **Y. Mao**, R. Kessels, and R. Mee (2025). “Beyond Randomization: Design and Analysis of Discrete Choice Experiments in the Presence of Profile Order Effects Within Choice Sets.” *Applied Stochastic Models in Business and Industry*, 41(5), e70043. <https://doi.org/10.1002/asmb.70043>.
4. **Y. Mao**, R. Deardon, and L.E. Deeth (2026). “Memory mechanisms for behavioural change in Bayesian individual-level spatial epidemic models.” *Infectious Disease Modelling*, 11(4), 1536–1553. <https://doi.org/10.1016/j.idm.2026.05.008>.
5. **Y. Mao**, R. Deardon, and L.E. Deeth (2026). “Identifying memory mechanisms in Bayesian models of behavioural change during epidemics.” *Epidemics*, 56, 100927. <https://doi.org/10.1016/j.epidem.2026.100927>.

Submitted articles

1. **Y. Mao**, B. Li, M. Gan, J. Qian. “Between the Lines: Understanding Employee Preferences for AI Usage Guidelines through Discrete Choice Experiments.” Under review for *International Journal of Human-Computer Interaction* (revision requested).
2. B. Li, **Y. Mao**, W. Niu, J. Qian. “What Drives Employees’ Choices in AI Training: Modeling Employees’ Preferences for Artificial Intelligence Training via a Discrete Choice Experiment.” Under review for *Human Resource Development Quarterly* (revision requested).
3. **Y. Mao**, B. Lopman, K. Koelle, M. S. Y. Lau. “Subtype Dynamics Reveal Horizon-Dependent Structure in Influenza Predictability.” Under review for *Journal of The Royal Society Interface*. Preprint at doi:10.64898/2026.05.28.26354347.

4. **Y. Mao**, R. Kessels. “Simulated Annealing for Model-Robust Partial Profile Choice Designs with Simultaneous Optimization.” Under review for *Statistics in Medicine*. Preprint at arXiv:2604.04294.
5. **Y. Mao**, R. Deardon. “Neural Posterior Estimation for Spatial Individual-Level Epidemic Models.” Under review for *PLOS Computational Biology*. Preprint at arXiv:2605.29180.
6. **Y. Mao**, H. Du. “Data Mixing as Mixture Experiment: Response Surface Methodology and Optimal Design for Large Language Model Pretraining.” Under review for *RSS: Data Science and Artificial Intelligence*.
7. **Y. Mao**, B. Li. “Choosing the Future of Learning: Assessing Preferences for Educational GPTs through a Discrete Choice Experiment.” Under review for *Computers & Education: Artificial Intelligence*.
8. **Y. Mao**, B. Li, S. Chen, M. Gan, J. Qian. “Let’s Chat about Chatbots: Exploring User Preferences for E-commerce Customer Service Chatbots through a Discrete Choice Experiment.” Under review for *Behavior & Information Technology*.
9. B. Li, **Y. Mao**, Y. Zhang, W. Niu, J. Qian. “Coding Their Choices: Assessing Student Preferences for Statistical Software through a Discrete Choice Experiment.” Under review for *Journal of Computing in Higher Education*.

FUNDING

1. ENBIS Knowledge Fund: “Optimal designs for mixture choice experiments by Simulated Annealing” (500 €), 09/2024.
2. University Fund Limburg — SWOL research grant: “Choosing the Future of Learning: Assessing Preferences for Educational GPTs through a Discrete Choice Experiment” (7,500 €), 06/2024-06/2025
3. OpenAI researcher access grant: “Exploring Consistency in Health Care Preferences Between Large Language Models and Humans: A Discrete Choice Experiment” (compute credits 5,000 \$), 06/2024-06/2025.

QUALIFICATION

Certificate in Problem-based Learning (PBL) and Tutor Training

Maastricht University, 2024

TEACHING EXPERIENCE

Courses

R Functions and Libraries (EBS1009)

Instructor, Maastricht University

Writing a Master’s Thesis Proposal (EBS4047)

Instructor, Maastricht University

Research Methodology

Guest Instructor, Beijing Normal University

Workshops

Introduction to Discrete Choice Experiments

Instructor, Maastricht University

Master Thesis Supervision

Aida Jurinovics

Supervisor, Maastricht University

Dimitris Kotsanitis

Supervisor, Maastricht University

Yimo Zhang

Supervisor, Maastricht University

Jari Meenhuis

Supervisor, Maastricht University

Sujing Chen

Supervisor, Maastricht University

Hassan Haroon Ur Rashid

Supervisor, Maastricht University

Magda Arvelos da Costa

Supervisor, Maastricht University

Elizabteh Platzer

Supervisor, Maastricht University

Swen Claessens

Thesis Committee Member, Maastricht University

Leon Reiss

Thesis Committee Member, Maastricht University

Levi Kroezen

Thesis Committee Member, Maastricht University

Rafke Vaessen

Thesis Committee Member, Maastricht University

Sytse Roelofs

Thesis Committee Member, Maastricht University

Stef Demandt

Thesis Committee Member, Maastricht University

Wouter van Santbrink

Thesis Committee Member, Maastricht University

Léon Scheunert

Thesis Committee Member, Maastricht University

CONFERENCE ACTIVITY

1. Second International Workshop on Choice Modelling, Leuven, Belgium (September 2023) “Color Preference of Fruit Flies: A Choice Experiment Approach”.
2. 26th International Conference on Computational Statistics (COMPSTAT), Giessen, Germany (August 2024) “Constructing Bayesian optimal designs for discrete choice experiments by Simulated Annealing”.
3. 24th annual conference of the European Network for Business and Industrial Statistics (ENBIS), Leuven, Belgium (September 2024) “Optimal designs for mixture choice experiments by Simulated Annealing”.
4. Joint ORBEL - NGB conference on Operations Research, Maastricht, Netherlands (January 2025) “Interacting with Uncertainty: An integrated simulated annealing algorithm for model-robust choice designs with partial profiles”.
5. Annual Meeting of the Statistical Society of Canada, Hamilton, Canada (May 2026) “Identifying Memory Mechanisms in Bayesian Models of Behavioural Change during Epidemics”.

ACADEMIC SERVICE

Peer reviewer

Computers in Human Behavior, Chemometrics and Intelligent Laboratory Systems, Journal of Research in Personality, Epidemics