Stanford

Markus Pelger

Associate Professor of Management Science and Engineering

Curriculum Vitae available Online

CONTACT INFORMATION

- **Administrator**

  Mathew Gonzales - Administrative Associate

  Email mattgonz@stanford.edu

Bio

BIO

Markus Pelger is an Associate Professor of Management Science & Engineering at Stanford University and a Chambers Faculty Scholar in the School of Engineering. He is also a Research Associate at the National Bureau of Economic Research. His research focuses on understanding and managing financial risk. He develops mathematical financial models and statistical methods, analyzes financial data and engineers computational techniques. His research is divided into three streams: machine learning solutions to big-data problems in empirical asset pricing, statistical theory for high-dimensional data and stochastic financial modeling.

Markus' work has appeared in the Journal of Finance, Review of Financial Studies, Journal of Financial Economics, Management Science, Journal of Econometrics and Journal of Applied Probability. He is an Associate Editor of Management Science, Operations Research, the Journal of Econometrics, Digital Finance and Data Science in Science. His research has been recognized with several awards, including the Utah Winter Finance Conference Best Paper Award, the Best Paper in Asset Pricing Award at the SFS Cavalcade, the Dennis Aigner Award of the Journal of Econometrics, the Bates-White Prize for the Best Paper at the Society for Financial Econometrics Conference, the Crowell Memorial Prize, the International Center for Pension Management Research Award, the CAFM Best Paper Award and the IQAM Research Award. He has been invited to speak at hundreds of world-renowned universities, conferences and investment and technology firms. He has been a consultant or advisor to investment institutions, governmental agencies and supranational organizations.

Markus received his Ph.D. in Economics from the University of California, Berkeley. He has two Diplomas in Mathematics and in Economics, both with highest distinction, from the University of Bonn in Germany. He is a scholar of the German National Merit Foundation and he was awarded a Fulbright Scholarship, the Institute for New Economic Thinking Prize, the Eliot J. Swan Prize and the Graduate Teaching Award at Stanford University. Markus is a founding organizer of the Advanced Financial Technology Laboratories and the AI & Big Data in Finance Research Forum. He is affiliated with the National Bureau of Economic Research, Stanford Institute for Computational and Mathematical Engineering, the Stanford Institute for Human-Centered Artificial Intelligence, Stanford Data Science and the Stanford Woods Institute for the Environment.

ACADEMIC APPOINTMENTS

- Associate Professor, Management Science and Engineering
- Member, Institute for Computational and Mathematical Engineering (ICME)

HONORS AND AWARDS

- Chambers Faculty Scholar in the School of Engineering, Stanford (2024)
- Bates-White Prize, Society for Financial Econometrics (SoFiE) (2023)
- Crowell Memorial Prize, PanAgora (2022)
- Best Paper IQAM Research Award, IQAM Institute (2022)
- ICPM Research Award, International Center for Pension Management (2022)
- Best Paper Award, Hong Kong Conference for Fintech, AI and Big Data in Business (2022)
- Dennis Aigner Award, Journal of Econometrics (2021)
- AQR Capital Insight Award Finalist, AQR (2021)
- Best Paper in Asset Pricing Award, SFS Cavalcade (2020)
- Best Paper Award, Utah Winter Finance Conference (2020)
- Best Paper Award, Asia-Pacific Financial Markets Conference (2020)
- CQA Academic Paper Competition, Chicago Quantitative Alliance (2020)
- Graduate Teaching Award, Stanford University (2019)
- Reid and Polly Anderson Faculty Fellow, Stanford University (2015)
- Eliot J. Swan Prize, Department of Economics, UC Berkeley (2012)
- Outstanding Graduate Student Instructor Award, UC Berkeley (2011)
- Institute for New Economic Thinking (INET) Prize in Economic History, UC Berkeley (2011)
- Scholarship of the German Academic Exchange Service, DAAD (2009)
- Fulbright Scholarship, Institute of International Education (2007)
- Scholarship of the German National Academic Foundation, Studienstiftung (2004-2009)

PROGRAM AFFILIATIONS

- Stanford SystemX Alliance

PROFESSIONAL EDUCATION

- Ph.D., UC Berkeley , Economics (2015)
- Diplom, University of Bonn , Mathematics (2012)
- Diplom, University of Bonn , Economics (2009)

LINKS

- Personal Website: https://people.stanford.edu/mpelger/

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

His research focuses on understanding and managing financial risk. He develops mathematical financial models and statistical methods, analyzes financial data and engineers computational techniques. His research is divided into three streams: machine learning solutions to big-data problems in empirical asset pricing, statistical theory for high-dimensional data and stochastic financial modeling.

Teaching

COURSES

2025-26

- Blockchain Technologies & Entrepreneurship: MS&E 447 (Win)
- Investment Science: MS&E 245A (Aut)
- Senior Project: MS&E 108 (Win)

2024-25

- Blockchain Technologies & Entrepreneurship: MS&E 447 (Win)
- Financial Statistics: MS&E 349 (Spr)
- Investment Science: MS&E 245A (Aut)
- Senior Project: MS&E 108 (Win)

2023-24

- Blockchain Technologies & Entrepreneurship: MS&E 447 (Spr)
- Financial Statistics: MS&E 349 (Spr)
- Investment Science: MS&E 245A (Aut)
- Senior Project: MS&E 108 (Win)

2022-23

- Financial Statistics: MS&E 349 (Win)
- Investment Science: MS&E 245A (Aut)
- Senior Project: MS&E 108 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Elliot Epstein, Alec Madayan, Shahab Mousavi

Doctoral Dissertation Advisor (AC)

Enrica Archetti, Junting Duan, Aldis Elfarsdottir, Xueye Ping, Adam Rebei, Rose Wang, ZHENGJI YANG

Master's Program Advisor

Bocheng Dai, Puyang Du, Ramsey Gordon, Sandra Ha, Lei Liu, Andrew Nguyen, Joseph Thoral, Donovan Torres, Erica Zhao, Erica Zhou, Yuteng Zhuang, yanling li

Doctoral (Program)

Andrew Caosun, David Dai, Julien Maire, Yingjian Pan

Publications

PUBLICATIONS

- **Forest through the Trees: Building Cross-Sections of Stock Returns** *JOURNAL OF FINANCE*
  Bryzgalova, S., Pelger, M., Zhu, J.
  2025
- **Target PCA: Transfer learning large dimensional panel data** *JOURNAL OF ECONOMETRICS*
  Duan, J., Pelger, M., Xiong, R.

2024; 244 (2)

- **Missing Financial Data** *REVIEW OF FINANCIAL STUDIES*
  Bryzgalova, S., Lerner, S., Lettau, M., Pelger, M.
  2024
- **Comment on: Eigenvalue Tests for the Number of Latent Factors in Short Panels** *JOURNAL OF FINANCIAL ECONOMETRICS*
  Pelger, M.
  2023
- **Machine-learning the skill of mutual fund managers** *JOURNAL OF FINANCIAL ECONOMICS*
  Kaniel, R., Lin, Z., Pelger, M., Van Nieuwerburgh, S.
  2023; 150 (1): 94-138
- **Large dimensional latent factor modeling with missing observations and applications to causal inference?** *JOURNAL OF ECONOMETRICS*
  Xiong, R., Pelger, M.
  2023; 233 (1): 271-301
- **Deep Learning in Asset Pricing** *MANAGEMENT SCIENCE*
  Chen, L., Pelger, M., Zhu, J.
  2023
- **Discussion of "Text Selection" by Bryan Kelly, Asaf Manela, and Alan Moreira** *JOURNAL OF BUSINESS & ECONOMIC STATISTICS*
  Pelger, M.
  2021; 39 (4): 880-882
- **Interpretable Sparse Proximate Factors for Large Dimensions** *JOURNAL OF BUSINESS & ECONOMIC STATISTICS*
  Pelger, M., Xiong, R.
  2021
- **State-Varying Factor Models of Large Dimensions** *JOURNAL OF BUSINESS & ECONOMIC STATISTICS*
  Pelger, M., Xiong, R.
  2021
- **TextGNN: Improving Text Encoder via Graph Neural Network in Sponsored Search**
  Zhu, J., Cui, Y., Liu, Y., Sun, H., Li, X., Pelger, M., Yang, T., Zhang, L., Zhang, R., Zhao, H., ACM
  ASSOC COMPUTING MACHINERY.2021: 2848-2857
- **Estimating latent asset-pricing factors** *JOURNAL OF ECONOMETRICS*
  Lettau, M., Pelger, M.
  2020; 218 (1): 1–31
- **Understanding Systematic Risk: A High-Frequency Approach** *JOURNAL OF FINANCE*
  Pelger, M.
  2020
- **Factors That Fit the Time Series and Cross-Section of Stock Returns** *REVIEW OF FINANCIAL STUDIES*
  Lettau, M., Pelger, M.
  2020; 33 (5): 2274–2325
- **ON THE EXISTENCE OF SURE PROFITS VIA FLASH STRATEGIES** *JOURNAL OF APPLIED PROBABILITY*
  Fontana, C., Pelger, M., Platen, E.
  2019; 56 (2): 384–97
- **Large-dimensional factor modeling based on high-frequency observations**
  Pelger, M.
  ELSEVIER SCIENCE SA.2019: 23–42
- **Large-dimensional factor modeling based on high-frequency observations** *Journal of Econometrics*
  Pelger, M.

2018

- **Factors that Fit the Time-Series and Cross-Section of Stock Returns** *Working paper*
  Lettau, M., Pelger, M.
  2018
- **State-Varying Factor Models of Large Dimensions** *Working paper*
  Pelger, M., Xiong, R.
  2018
- **Interpretable Sparse Proximate Factors for Large Dimensions** *Working paper*
  Pelger, M., Xiong, R.
  2018
- **Change-Point Testing and Estimation for Risk Measures in Time Series** *Working paper*
  Fan, L., Glynn, P., Pelger, M.
  2018
- **Contingent Capital, Tail Risk, and Debt-Induced Collapse** *Review of Financial Studies*
  Chen, N., Glasserman, P., Nouri, B., Pelger, M.
  2017
- **Optimal Stock Option Schemes for Managers** *Review of Managerial Science*
  Chen, A., Pelger, M.
  2013
- **New Performance-Vested Stock Option Schemes** *Applied Financial Economics*
  Chen, A., Pelger, M., Sandmann, K.
  2013
- **Contingent Convertible Bonds: Pricing, Dilution Costs and Efficient Regulation** *Working paper*
  Pelger, M.
  2012