Bahman Angoshtari

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RESEARCH INTERESTS

stochastic optimal control, financial and actuarial mathematics.

EMPLOYMENT

Assistant Professor, University of Miami, Coral Gables, USA, Aug. 2020 – present.

Research Associate, University of Washington, Seattle, USA, Aug. 2017 – Jun. 2020.

Postdoctoral Assistant Professor, University of Michigan, Ann Arbor, USA, Sep. 2014 – Jul. 2017.

Postdoctoral Fellow, The Chinese University of Hong Kong, Hong Kong, Jan. 2014 – Aug. 2014.

EDUCATION

University of Oxford, UK, D.Phil. in Mathematics, Oct. 2009 – Feb. 2014.
Thesis: "Stochastic modeling and methods for portfolio management in cointegrated markets."
Advisor: Professor Thaleia Zariphopoulou.

University of Twente, the Netherlands, M.Sc. in Applied Mathematics, Sep. 2007 – Aug. 2009.

Sharif University of Technology, Iran, B.Sc. in Industrial Engineering, Oct. 2000 – Aug. 2004.

PUBLICATIONS

Under review:

"Optimal consumption under loss-averse multiplicative habit-formation preferences," with Xiang Yu and Fengyi Yuan, available at arXiv:2406.20063 (last update: June 2024).

Published:

11. Angoshtari, B., and S. Duan, "Rank-Dependent Predictable Forward Performance Processes," *Probability, Uncertainty and Quantitative Risk*, 9(2):181–218, 2024.

10. Angoshtari, B., E. Bayraktar, and V. R. Young, "Optimal Consumption under a Habit-Formation Constraint: the Deterministic Case," *SIAM Journal on Financial Mathematics*, 14(2):557–597, 2023.

9. Angoshtari, B., "Predictable forward performance processes in complete markets," *Probability, Uncertainty and Quantitative Risk*, 8(2):141–176, 2023.

8. Angoshtari, B., E. Bayraktar, and V. R. Young, "Optimal Investment and Consumption under a Habit-Formation Constraint," *SIAM Journal on Financial Mathematics*, 13(1):321–352, 2022.

7. Angoshtari, B., T. Zariphopoulou, and X. Zhou, "Predictable Forward Performance Processes: The Binomial Case," *SIAM Journal on Control and Optimization*, 58(1):327–347, 2020.

6. Angoshtari, B. and T. Leung, "Optimal Trading of a Basket of Futures Contracts," *Annals of Finance*, 16(2):253–280, 2020.

5. Angoshtari, B., E. Bayraktar, and V. R. Young, "Optimal Dividend Distribution Under Drawdown and Ratcheting Constraints on Dividend Rates," *SIAM Journal on Financial Mathematics*, 10(2):547–577, 2019.

4. Angoshtari, B. and T. Leung, "Optimal Dynamic Basis Trading," *Annals of Finance*, 15(3):307–335, 2019.

3. Angoshtari, B., E. Bayraktar, and V. R. Young, "Optimal investment to minimize the probability of drawdown," *Stochastics*, 88(6):946-958, 2016.

2. Angoshtari, B., E. Bayraktar, and V. R. Young, "Minimizing the probability of lifetime drawdown under constant consumption," *Insurance: Mathematics and Economics*, 69:210–223, 2016.

1. Angoshtari, B., E. Bayraktar, and V. R. Young, "Minimizing the expected lifetime spent in drawdown under proportional consumption," *Finance Research Letters*, 15:106–114, 2015.

UNPUBLISHED WORK

"Optimal Insurance to Minimize the Probability of Ruin: Inverse Survival Function Formulation," with V. R. Young, available at arXiv:2012.03798 (last update: Dec. 2020)

"On the market-neutrality of optimal pairs-trading strategies", available at arXiv:1608.08268 (last update: Aug. 2016)

Angoshtari, B. (2013): "Stochastic modeling and methods for portfolio management in cointegrated markets", D.Phil. Thesis, University of Oxford, U.K.

Angoshtari, B. (2009): "On utility of wealth maximization". M.Sc. Thesis, University of Twente: The Netherlands.

GRANTS

Simons Foundation's Travel Support for Mathematicians, $42K, 2022–2027.

PhD STUDENTS

1. Shida Duan (August 2022– present).

TALKS (invited and contributed)

2024   8th Eastern Conference on Mathematical Finance, University of Toronto, Toronto, Sep. 2024

1st INFORMS Conference on Financial Engineering and FinTech, Hong Kong Polytechnic University, Hong Kong, Aug. 2024

12th Bachelier World Congress, Rio de Janeiro, July 2024

37th New England Statistics Symposium, University of Connecticut, Storrs, May 2024

2023   7th Eastern Conference on Mathematical Finance, North Carolina State University, Raleigh, Oct. 2023

AMS Southeastern Sectional Meeting, Georgia Institute of Technology, Atlanta, Mar. 2023

Mathematical Finance, Control and Optimization seminars, University of Connecticut, Feb. 2023

Joint Mathematics Meetings, Boston, Jan. 2023

2022   Department of Mathematics Colloquium, Wichita State University, Oct. 2022

2021   Mathematical Finance Seminar (virtual), Florida State University, Tallahassee, Nov. 2021

SIAM Conference on Financial Mathematics and Engineering (virtual), Jun. 2021

AMS Spring Eastern Sectional Meeting (virtual), Mar. 2021

Stochastic Finance Seminars (virtual), University of Warwick, Coventry, Feb. 2021

2020   Financial Mathematics Seminar (virtual), University of Michigan, Ann Arbor, Nov. 2020.

2019   Financial Mathematics Seminar, University of Michigan, Ann Arbor, Dec. 2019.

Department of Mathematics Colloquium, University of Miami, Coral Gables, Dec. 2019

Department of Mathematics Colloquium, California State University, Fullerton, Dec. 2019

INFORMS annual meeting, Seattle, Oct. 2019.

2nd Biennial Meeting of SIAM Pacific Northwest Section, Seattle, Oct. 2019.

Applied Mathematics: The Next 50 Years, University of Washington, Seattle, June 2019.

2018   The 9th Western Conference on Mathematical Finance, University of Southern California, Los Angeles, Nov. 2018.

INFORMS annual meeting, Phoenix, Nov. 2018.

SIAM annual meeting, Portland, July 2018.

Department of Mathematics, Worcester Polytechnic Institute, Worcester, Mar. 2018.

2017   Department of Applied Mathematics CFRM Seminar, University of Washington, Seattle, Feb. 2017.

Department of Math. and Stats. Colloquium, Georgetown University, Washington D.C., Jan. 2017.

2016   SIAM Conference on Financial Mathematics & Engineering, Austin, Nov. 2016.

Financial/Actuarial Seminar, University of Michigan, Ann Arbor, Nov. 2016.

AMS Spring Southeastern Sectional Meeting, University of Georgia, Mar. 2016.

2015   Financial/Actuarial Seminar, University of Michigan, Ann Arbor, Nov. 2015.

2014   Financial/Actuarial Seminar, University of Michigan, Ann Arbor, Sep. 2014.

Applied Mathematics Colloquium, Illinois Institute of Technology, Chicago, Feb. 2014.

The Chinese University of Hong Kong, Hong Kong, Jan. and Mar. 2014.

2012   The Oxford-Man Institute Internal Seminar, Oxford, Jan. 2012.

2011   The Man Investments Quant Forum, Oxford, Aug. 2011.

Mathematical and Computational Finance Group internal Seminar, Mathematical Institute, Oxford, Feb. 2011.

The Oxford-Man Institute Internal Seminar, Oxford, Feb. 2011.

TEACHING

University of Miami

MTH 721 - "*Stochastic Differential Equations (PhD topic course)*"	Fall 23
MTH 224 - "*Introduction to Probability and Statistics*"	Fall 21, 22, Spring 23, 24
MTH 648 - "*Stochastic Calculus with Application to Finance*"	Spring 21
MTH 645 - "*Optimization Methods*"	Fall 20, 21, 24
MTH 647 - "*Introduction to Mathematical Finance*"	Fall 20, 23
MTH 692&693 - "*Topics in Mathematics (ML in Finance)*"	Fall 20, 21

University of Washington

CFRM 521 - "*Machine Learning for Finance*"	Spring 2018, 2019, 2020
CFRM 505 - "*Monte Carlo Methods in Finance*"	Winter 2020
CFRM 502 - "*Financial Data Science*"	Winter 2018, 2019, 2020
CFRM 420 - "*Introduction to Computational Finance and Financial Econometrics*"	Summer 2018
CFRM 410 - "*Probability and Statistics for Computational Finance*"	Winter 2019

University of Michigan

Math 526 - "*Discrete Space Stochastic Processes*"	F2014, W2015, W2016
Math 472 - "*Numerical Methods with Financial Applications*"	F2015
Math 425 - "*Introduction to Probability*"	S2017
Math 423 - "*Mathematics of Finance*"	F2016, W2017
Math 115 - "*Calculus I*"	F2014

SERVICE

Journal reviewing: Annals of Finance; Applied Mathematics and Optimization; Applied Mathematical Finance; Decisions in Economics and Finance; Finance and Stochastics; Frontiers of Mathematical Finance; Insurance: Mathematics and Economics; Journal of Optimization Theory and Applications; Mathematics and Financial Economics; Mathematical Control and Related Fields; Mathematical Finance; Mathematical Methods of Operations Research; Mathematics of Operations Research; Operations Research Letters; Quantitative Finance; Scandinavian Actuarial Journal; SIAM Journal on Control and Optimization; SIAM Journal on Financial Mathematics; Stochastic Models.

● Organized a minisymposium entitled *"Advances in stochastic control with financial applications"* at the 12th Bachelier World Congress, Rio de Janeiro (July 2024).

● Organized the *"Mathematical Finance Seminar"* at the department of Mathematics, University of Miami, Coral Gables, (Spring 2024).

● Organized a session on *"Stochastic Control and Optimal Portfolio Choice"* in SIAM Annual Meeting, Portland (July 2018).

● Member of MSMF (M.Sc in Mathematical Finance) Steering Committee (August 2020–present).

AWARDS AND MEMBERSHIPS

Institute of Mathematical and Statistical Innovations, University of Chicago; long program visiting scholar, April-May 2022.

The Oxford-Man Institute scholarship and student membership, 2009 − 2013; associate membership, 2014 − Dec. 2016.

Award for the best M.Sc. thesis in the faculty of Electrical Engineering, Mathematics and Computer Science, University of Twente, 2010.

Huygens Scholarship, awarded by the Dutch Ministry of Education, Culture and Science (OCW), $2007 - 2009$.

Valedictorian Graduate from the Department of Industrial Engineering, Sharif University of Technology, 2004.

NON-ACADEMIC EMPLOYMENT

Intern, The Oxford-Man Institute of Quantitative Finance, Oxford, UK, Spring 2013.

Intern, Man Research Laboratory, Oxford, UK, Summer 2012.