At-A-Glance Schedule

Conference on Financial Mathematics and Engineering

June 6–9, 2023 | DoubleTree by Hilton Philadelphia Center City, Philadelphia, Pennsylvania, U.S.

Online Program and Mobile App

The Mobile App and Online Program Schedule contain the most up-to-date information.

Attendees are also encouraged to visit
https://www.siam.org/conferences/cm/program/program-and-abstracts/fm23-program-abstracts
to view the Online Program Schedule and Mobile App details.
A searchable abstract document is also posted.

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https://www.tripbuildermedia.com/apps/siam

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Monday, June 5

4:00 p.m. – 6:00 p.m.
Registration Desk
Overture

Tuesday, June 6

7:30 a.m. – 5:30 p.m.
Registration Desk
Overture

8:30 a.m. – 10:30 a.m.
Concurrent Sessions
MS1 Mean Field Models - Part I of III
Ormandy West/Center
MS2 New Trends in Mean-Field Games and Mean-Field Control Theory
Ormandy East
MS3 From Optimization, Games, Control and Risk Assessment to FinTech - Part I of II
Aria A
MS4 Volatility Modeling - Part I of III
Aria B
MS5 Data Driven Methods in Finance - Part I of III
Concerto A
MS6 Applications of Risk Measures in Finance
Concerto B
MS7 Inference and Calibration based on High-Frequency and LOB Data - Part I of III
Maestro A
MS8 Asset Pricing and Market Microstructure
Maestro B
MS9 Recent Development in Actuarial Science and Related Fields - Part I of II
Minuet

9:30 a.m. – 4:30 p.m.
Exhibit Hall Open
Symphony

10:30 a.m. – 11:00 a.m.
Coffee Break
Symphony

11:00 a.m. – 11:10 a.m.
Welcome Remarks
Ormandy West/Center

11:10 a.m. – 11:55 a.m.
IP1 American Student Loans
Paolo Guasoni, Dublin City University, Ireland
Ormandy West/Center

11:55 a.m. – 1:30 p.m.
Lunch Break *(attendees on their own)*

Tuesday, June 6

1:30 p.m. – 3:30 p.m.
Concurrent Sessions
MS10 Quantitative Issues in Centralised and Decentralised Finance - Part I of III
Ormandy West/Center
MS11 Mean Field Game Models in Finance and Economics
Ormandy East
MS12 Rough Paths and Signature Methods in Finance - Part I of II
Aria A
MS13 Recent Advances in Stochastic Portfolio Theory - Part I of II
Aria B
MS14 Optimal Transport and Applications in Mathematical Finance - Part I of II
Concerto A
MS15 Recent Advances in Fourier Transform Methods for Computational Finance and Insurance - Part I of II
Concerto B
MS16 Inference and Calibration based on High-Frequency and LOB Data - Part II of III
Maestro A
MS17 Systemic Risk and Risk Management in Finance - Part I of II
Maestro B
MS18 Risk Measures Beyond Standard Settings
Minuet

3:30 p.m. – 4:00 p.m.
Coffee Break
Symphony

4:00 p.m. – 4:45 p.m.
IP2 Talk Title TBA - IP Veloso
Manuela Veloso, J.P. Morgan Chase AI Research & Carnegie Mellon University, U.S.
Ormandy West/Center

4:45 p.m. – 5:00 p.m.
Intermission

5:00 p.m. – 7:00 p.m.
PP1 Poster Session and Welcome Reception
Symphony

Wednesday, June 7

8:00 a.m. – 3:15 p.m.
Registration Desk
Overture

8:30 a.m. – 10:30 a.m.
Concurrent Sessions
MT1 Decentralized Finance and Blockchain Technology
Ormandy East
MS19 Mean Field Models - Part II of III
Ormandy West/Center
MS20 Rough Paths and Signature Methods in Finance - Part II of II
Aria A
MS21 Advances in Optimal Control with Applications in Finance - Part I of II
Aria B
MS22 Optimal Transport and Applications in Mathematical Finance - Part II of II
Concerto A
MS23 Climate Risk Modelling and Green Investing - Part I of II
Concerto B
MS24 Inference and Calibration Based on High-Frequency and LOB Data - Part III of III
Maestro A
MS25 Systemic Risk and Risk Management in Finance - Part II of II
Maestro B
MS26 Machine Learning Methods for Finance
Minuet

9:30 a.m. – 4:30 p.m.
Exhibit Hall Open
Symphony

10:30 a.m. – 11:00 a.m.
Coffee Break
Symphony

11:00 a.m. – 11:15 a.m.
SIAG/FME Early Career Prize Ceremony
West/Center

11:15 a.m. – 12:00 p.m.
IP3 Sequential Statistics by Trading: E-processes and Coordinated Traders
Martin Larsson, Carnegie Mellon University, U.S.
Ormandy West/Center

12:00 p.m. – 1:30 p.m.
Lunch Break *(attendees on their own)*

1:30 p.m. – 2:15 p.m.
IP4 Entropic Optimal Transport
Marcel Nutz, Columbia University, U.S.
Ormandy West/Center

2:15 p.m. – 2:45 p.m.
Coffee Break
Symphony

2:45 p.m. – 4:45 p.m.
Concurrent Sessions
MS27 Mean Field Models - Part III of III
Ormandy West/Center

Wednesday, June 7

MS28 Recent Advances in Fourier Transform Methods for Computational Finance and Insurance - Part II of II
Ormandy East
MS29 From Optimization, Games, Control and Risk Assessment to FinTech - Part II of II
Aria A
MS30 Volatility Modeling - Part II of III
Aria B
MS31 Equilibria with Heterogeneous Information
Concerto A
MS32 Climate Risk Modelling and Green Investing - Part II of II
Concerto B
MS33 Interest Rate Models and Efficient Simulation in Modern Risk Management
Maestro A
MS34 Algorithmic Trading and Inventory Management - Part I of II
Maestro B
MS35 Reinforcement Learning: From Single Agent to Multiple Agents
Minuet

4:45 p.m. – 5:00 p.m.
Intermission

5:00 p.m. – 6:00 p.m.
SIAG/FME Business Meeting
Complimentary beer and wine will be served.
Ormandy West/Center

Thursday, June 8

8:00 a.m. – 3:00 p.m.
Registration Desk
Overture

8:30 a.m. – 10:30 a.m.
Concurrent Sessions
MT2 Signature Methods in Finance
Ormandy West/Center
MS36 Controls and Games with Applications in Financial and Energy Markets - Part I of II
Ormandy East
MS37 Recent Advances in Stochastic Portfolio Theory - Part II of II
Aria A
MS38 Volatility Modeling - Part III of III
Aria B
MS39 Data Driven Methods in Finance - Part II of III
Concerto A
MS40 Quantitative Issues in Centralised and Decentralised Finance - Part II of III
Concerto B
MS41 High Dimension Low Sample Size Statistical Estimation - Part I of II
Maestro A
MS42 Financial Equilibrium and Market Microstructure
Maestro B
MS43 Interest Rate Modeling
Minuet

9:30 a.m. – 4:30 p.m.
Exhibit Hall Open
Symphony

10:30 a.m. – 11:00 a.m.
Coffee Break
Symphony

11:00 a.m. – 11:45 a.m.
IP5 Functional Expansions and Path Dependent Options
Bruno Dupire, Bloomberg LP, U.S.
Ormandy West/Center

11:45 a.m. – 12:15 p.m.
Information and Feedback for SIFIN
Ormandy West/Center

11:45 a.m. – 1:15 p.m.
Lunch Break *(attendees on their own)*

1:15 p.m. – 2:00 p.m.
IP6 Optimal Bubble Riding in a Large Population
Ludo Tangpi, Princeton University, U.S.
Ormandy West/Center

2:00 p.m. – 2:30 p.m.
Coffee Break
Symphony

2:30 p.m. – 4:30 p.m.
Concurrent Sessions
CP1 Microstructure and Execution
Ormandy West/Center
CP2 Neural Network Numerics
Ormandy East
CP3 Rough and Stochastic Volatility
Aria A
CP4 Contagion Risks
Aria B
CP5 Model Free Methods and Ambiguity Aversion
Concerto A
CP6 Games
Concerto B
CP7 Numerical Approximations
Maestro A
CP8 Optional Stopping and Path Dependence
Maestro B
CP9 Jump Models
Minuet

Thursday, June 8

4:30 p.m. – 5:00 p.m.
Intermission

5:00 p.m. – 6:00 p.m.
PD1 The Next Decade of Quantitative Finance - Likely Challenges and Directions
Ormandy West/Center

6:00 p.m. – 8:00 p.m.
SIFIN Editorial Board Meeting/Dinner
Rhapsody

Friday, June 9

8:00 a.m. – 3:00 p.m.
Registration Desk
Overture

8:30 a.m. – 10:30 a.m.
Concurrent Sessions
CP10 BSDEs
Ormandy West/Center
CP11 Reinforcement Learning and GANS
Ormandy East
CP12 Mean Field Analysis
Aria A
CP13 Portfolio Selection
Aria B
CP14 Volatility Models
Concerto A
CP15 Simulation Schemes
Concerto B
CP16 Economic Models
Maestro A
CP17 Consumption and Income
Maestro B
CP18 Valuation and Modelling
Minuet

9:30 a.m. – 3:00 p.m.
Exhibit Hall Open
Symphony

10:30 a.m. – 11:00 a.m.
Coffee Break
Symphony

11:00 a.m. – 11:45 a.m.
IP7 Actuarial Modeling of Cyber Risk
Caroline Hillairet, ENSAE-Paris, CREST, France
Ormandy West/Center

11:45 a.m. – 1:15 p.m.
Lunch Break *(attendees on their own)*

SIAG/FME Conference Paper Prize Session
Ormandy West/Center

Friday, June 9

1:15 p.m. – 2:00 p.m.
IP8 Green Monetary Policy
Matheus Grasselli, McMaster University, Canada
Ormandy West/Center

2:00 p.m. – 2:05 p.m.
Closing Remarks
Ormandy West/Center

2:05 p.m. – 2:35 p.m.
Coffee Break
Symphony

2:35 p.m. – 4:35 p.m.
Concurrent Sessions
MS44 Quantitative Issues in Centralised and Decentralised Finance - Part III of III
Ormandy West/Center
MS45 Controls and Games with Applications in Financial and Energy Markets - Part II of II
Ormandy East
MS46 Recent Developments in Forward-Backward Stochastic Differential Equations (FBSDEs)
Aria A
MS47 Advances in Optimal Control with Applications in Finance - Part II of II
Aria B
MS48 Data Driven Methods in Finance - Part III of III
Concerto A
MS49 Recent Development in Actuarial Science and Related Fields - Part II of II
Concerto B
MS50 High Dimension Low Sample Size Statistical Estimation - Part II of II
Maestro A
MS51 Algorithmic Trading and Inventory Management - Part II of II
Maestro B

Key to abbreviations
CP = Contributed Presentation Session
IP = Invited Plenary Speaker
MS = Minisymposium
MT = Minitutorial
PD = Panel Discussion
PP = Poster Session
SP= Special Lecture

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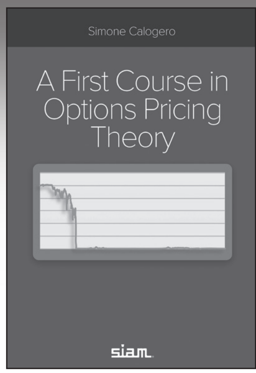
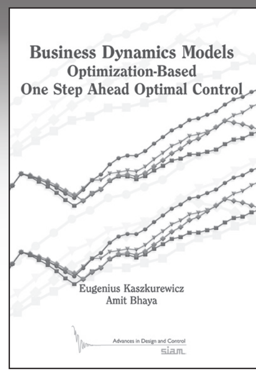
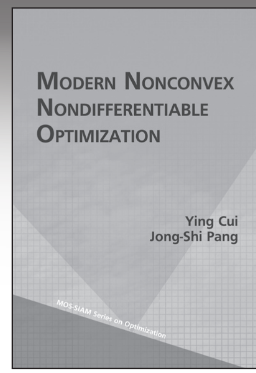
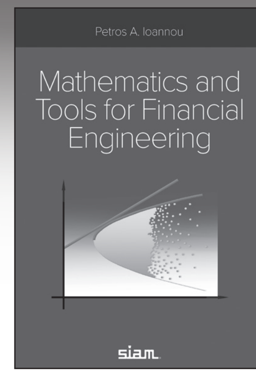
New from SIAM in Financial Math









A First Course in Options Pricing Theory

Simone Calogero

Options pricing theory utilizes a wide range of advanced mathematical concepts, making it appealing to mathematicians, and it is regularly applied at financial institutions, making it indispensable to practitioners. The emergence of artificial intelligence in the financial industry has led to further interest in mathematical finance and has increased the demand for literature on this subject that is accessible to a large audience. This book presents a self-contained introduction to options pricing theory and includes a complete discussion of the required concepts in finance and probability theory.

2023 · xii + 286 pages · Softcover · 9781611977639 • List $79.00 · SIAM Members $55.30 · OT192

Business Dynamics Models
Optimization-Based One Step Ahead Optimal Control

Eugenius Kaszkurewicz and Amit Bhaya

This book introduces optimal control methods, formulated as optimization problems, applied to business dynamics problems. It includes solutions that provide a rationale for the use of optimal control and guidelines for further investigation into more complex models, as well as formulations that can also be used in a so-called flight simulator mode to investigate different complex scenarios. The text offers a modern programming environment (Jupyter notebooks in JuMP/Julia) for modeling, simulation, and optimization, and Julia code and notebooks are provided on a website for readers to experiment with their own examples.

2022 · xxii + 184 pages · Softcover · 9781611973301 • List $89.00 · SIAM Members $62.30 · DC40

Modern Nonconvex Nondifferentiable Optimization

Ying Cui and Jong-Shi Pang

Starting with the fundamentals of classical smooth optimization and building on established convex programming techniques, this research monograph provides a foundation and methodology for modern nonconvex nondifferentiable optimization by providing readers with theory, methods, and applications of nonconvex and nondifferentiable optimization in statistical estimation, operations research, machine learning, and decision making. A comprehensive and rigorous treatment of this emergent mathematical topic is urgently needed in today's complex world of big data and machine learning. This book takes a thorough approach to the subject and includes examples and exercises to enrich the main themes, making it suitable for classroom instruction.

2021 · xx + 756 pages · Hardcover · 9781611976731 • List $119.00 · SIAM Members $83.30 · MO29

Mathematics and Tools for Financial Engineering

Petros A. Ioannou

This book presents an overview of fundamental concepts in mathematics and how they are applied to basic financial engineering problems, with the goal of teaching students to use mathematics and engineering tools to understand and solve financial problems. Part I covers mathematical preliminaries and Part II addresses financial topics ranging from low- to high-risk investments. Based on lectures for a master's program in financial engineering given by the author over 12 years at the University of Southern California, it contains numerous examples and problems, establishes a strong general mathematics background and engineering modeling techniques in a pedagogical fashion, and covers numerical techniques with applications to solving financial problems using different software tools.

2021 · xvi + 268 pages · Softcover · 9781611976755 • List $79.00 · SIAM Members $55.30 · OT176

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