

Graduate Programs on Math, Quantitative Finance and Related

ASSOCIATE PROFESSOR YING CHEN

SOCIETY OF ALGORITHMIC INTELLIGENCE (SoAI)

CENTRE FOR QUANTITATIVE FINANCE, DEPARTMENT OF MATHEMATICS, NATIONAL UNIVERSITY OF SINGAPORE

ASIAN INSTITUTE OF DIGITAL FINANCE, NATIONAL UNIVERSITY OF SINGAPORE

RISK MANAGEMENT INSTITUTE, NATIONAL UNIVERSITY OF SINGAPORE

AFFILIATED WITH



Faculty of Science

Faculty of Arts & Social Sciences



Institute of Operations Research and Analytics

Institute of Data Science

Asian Institute of Digital Finance





Since our founding in 1905, National University of Singapore (NUS) has empowered individuals to achieve their potential and helped to build a nation. Today, our impact extends beyond Singapore, to Asia and the rest of the world.

Impact Highlights (2016 – 2020)

Shaping Future Talent

- 3 Campuses: Kent Ridge, Bukit Timah and Outram
- 15 Colleges, faculties and schools
- 37 University-level research institutes and centres
- 6 Research Centres of Excellence

Shaping Future Solutions

- 60 Bachelor's degrees
- 54 Second majors
- 24 Concurrent degrees
- 35 Joint degrees
- 73 Double degrees

Shaping Future Society

- 174 Master's degrees, Doctoral degrees, Graduate diplomas
- 29.6K Undergraduates
- 15.4K Graduate students
- 2.7K Faculty
- 4.8K Research staff
- 4.7K Executive & professional staff
- 1.2K Administrative staff

Research: In figures

Number of papers published in international journals in CY2024

(including articles, reviews, conference papers, books and book chapters)

13,699

Number of new projects launched in FY2024

1,510

Number of new collaborative research projects that took off in FY2024

792

Number of projects completed in FY2024

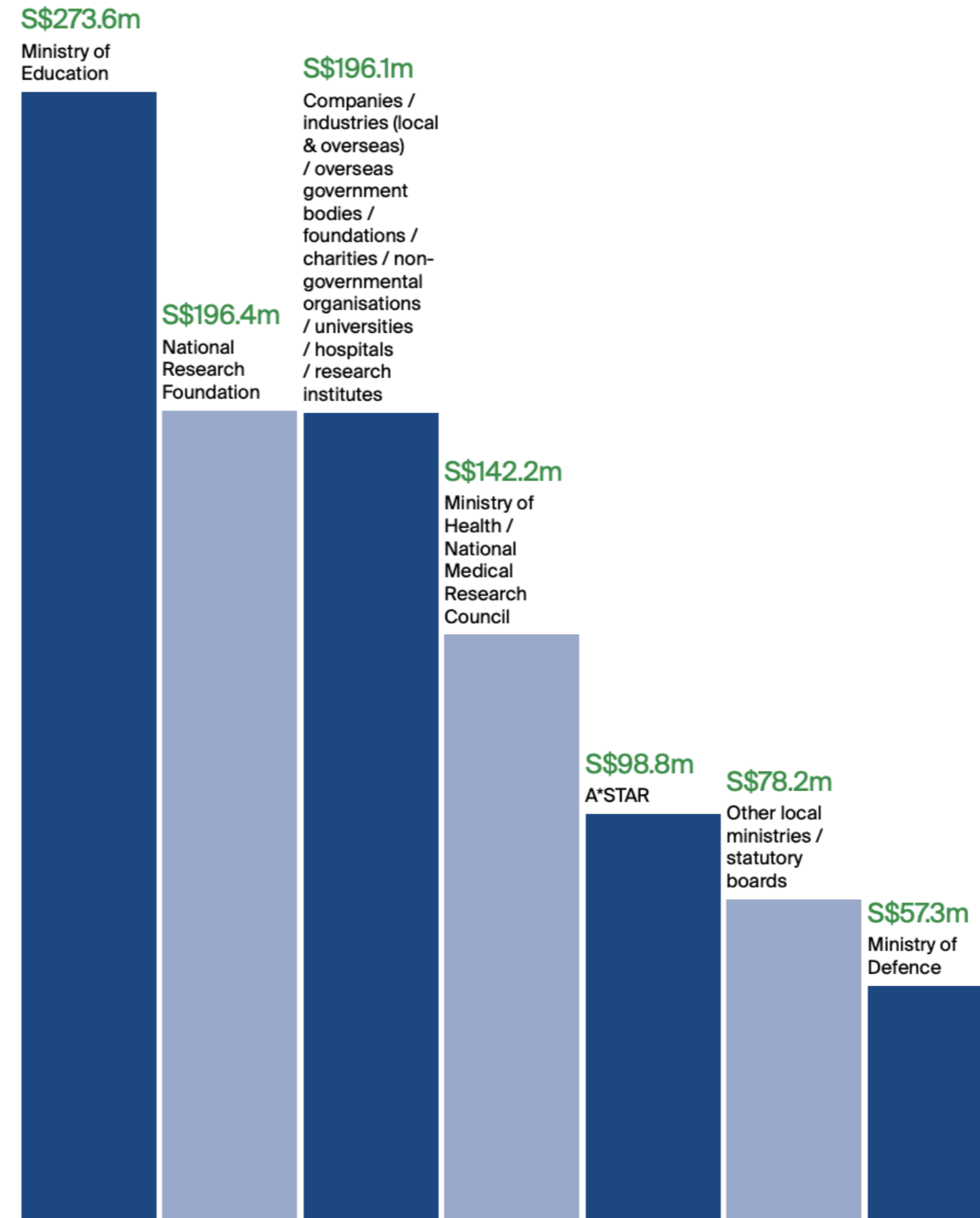
1,499

The figures are accurate as at time of publication.

Research Funding

Total project value awarded by external sources

S\$1.04 billion





NUS leads Asia in the QS World University Rankings by Subject 2026



NUS SUBJECTS IN GLOBAL TOP 10

Civil & Structural Engineering	#2	Anatomy & Physiology	#7
Materials Science	#2	Architecture / Built Environment	#7
Chemical Engineering	#3	Environmental Sciences	#7
Data Science & Artificial Intelligence	#3	Statistics & Operational Research	#7
Electrical & Electronic Engineering	#3	Business & Management Studies	#8
Mechanical, Aeronautical & Manufacturing Engineering	#3	Engineering & Technology*	#8
Social Policy & Administration	#3	Mathematics	#8
Computer Science & Information Systems	#4	Social Sciences & Management*	#8
Geography	#4	Development Studies	#9
History of Art	#5	History	#9
Chemistry	#6	Pharmacy & Pharmacology	#9
Law	#6	Politics & International Studies	#9
Linguistics	#6	Accounting & Finance	#10
Marketing	#6	Communication & Media Studies	#10
Nursing	#6	Sociology	#10



MASTER OF SCIENCE IN

QUANTITATIVE FINANCE

Admission Requirements



- A Bachelor's (Honours) degree or a 4-year Bachelor's degree;
- A candidate whose medium of undergraduate instruction is not English is required to submit TOEFL (with the minimum score of 85 for the internet-based test) or IELTS (with the minimum score of 6.0 overall) score

To Apply



- Tuition fees per programme: Singapore Dollar 54,000 (inclusive of prevailing GST)
- Online via NUS Graduate Admission System: <https://inetapps.nus.edu.sg/GDA2/Home.aspx>
- Early admission applications are accepted from 16 May 2023 to 15 July 2023 for the August 2024 intake
- Regular admission applications are open from 1 October 2023 to 31 January 2024 for the August 2024 intake

Scan the QR code for detailed information about the Programme



Early Offer: For further queries, contact askmath-res@nus.edu.sg or Ms. Shanthi d/o D DEVADAS at matsdd@nus.edu.sg

PHD SCHOLARSHIP

Basic: Full tuition waiver plus 3200/3700 SGD stipend per month before/after PhD Qualifying Examination (on a competitive basis).

Enhanced: There are also various fellowship opportunities with higher stipend (S\$3800, S\$4200)


TO APPLY

Via online portal: <https://inetapps.nus.edu.sg/gda2/home.aspx>

Details available at:

<https://www.math.nus.edu.sg/pg/phd/phd-prospective/>

Deadlines: All required documents to reach us by (tentatively) 15 November/15 May, for admission in the August/January term of the following year



NUS National University of Singapore Faculty of Science

PhD in MATHEMATICS

The Department of Mathematics at NUS has been ranked 1st among Asia Universities and top 20 worldwide in recent QS World University by Subject. The Department offers a diverse and vibrant programme in graduate studies, in fundamental and applied mathematics. Faculty members' research covers all major areas of contemporary mathematics.

The Doctor of Philosophy in Mathematics Programme is designed to provide advanced research training in mathematical sciences. Students enrolled into the programme will have the opportunity to work with prominent researchers in Pure and Applied Mathematics. They will also interact with faculty members and renowned visiting mathematicians at colloquiums and seminars and participate in overseas research attachments and conferences with financial support.

Overview

Course Structure

- Pass PhD Qualifying Examination within first 24 months;
- Pass English course offered by NUS;
- Pass a prescribed list of courses;
- Maintain minimum Grade Point Average of 3.5 (out of 5.0) ('B' grade on average);
- Complete a thesis and oral defense to the satisfaction of the examination panel;
- Complete the above requirements within 5 years (maximum candidature).

Career Opportunities

- Postdocs and faculty positions at leading universities worldwide including University of Oxford (UK); University of Wisconsin Madison, University of Maryland-College Park; University of Minnesota; (USA); CNRS, INRIA (France); University of Vienna (Austria), Tsinghua University Fudan University (China)
- Research Scientists at leading institutes worldwide such as Chinese Academy of Sciences (China); Temasek Laboratories, A*STAR Institutes such as IHPC, Bioinformatics Institute (Singapore).
- Quantitative Analysts and Risk Managers at leading companies worldwide including ANZ Bank, Barclays, Credit Suisse, Deutsche Bank, DBS Bank, JP Morgan, Nomura, Standard Chartered Bank, UBS AG.

Faculty

- Prominent researchers in major research themes such as Dynamical Systems, Geometry & Topology, Mathematical Logic & Theoretical Computer Science, Representation Theory & Automorphic Forms, Imaging & Vision Science, Mathematical Finance and Mathematical Economics, Numerical Analysis & Scientific Computing, and Optimization.

PhD Scholarship


- Full tuition waiver plus monthly stipend of \$3200/3700 SGD before/after Qualifying Exam.
- There are also various fellowship opportunities with higher stipend (on a competitive basis)


Admission Requirements

- Minimum 4-year Honours degree (or its equivalent) in mathematics or in a related area with strong mathematics training.
- Evaluation criteria include academic records and references, and undergraduate research experiences (if any). Admission is on a competitive basis;
- TOEFL/IELTS for foreign applicants whose native tongue or medium of instruction is not English;
- GRE (general test) for all foreign applicants. For students who have strong academic record, GRE can be waived.

TO APPLY

- Via online portal. Details available at <https://nusgs.nus.edu.sg/programme/phd-mathematics/>
- Deadlines: All required documents to reach us by 15 November/15 May, for admission in the August/January term of the following year.






Department of Mathematics Faculty of Science

Graduate Programmes Department of Mathematics Faculty of Science National University of Singapore

Block S17
10 Lower Kent Ridge Road
Singapore 119076
Tel: +65 6516 2762
Email: ASKMATH-res@nus.edu.sg



NUS National University of Singapore Faculty of Science

MASTER OF SCIENCE IN DATA SCIENCE AND MACHINE LEARNING


Admission Requirements


- A Bachelor's (Honours) degree or a 4-year Bachelor's degree or its equivalent in a quantitative science (e.g. Mathematics, Statistics and Physics), Engineering or Computing Science
- A candidate whose medium of undergraduate instruction is not English is required to submit TOEFL (with the minimum score 85 for the internet-based test) or IELTS (with the minimum score 6.0 overall) score

To Apply

- Tuition fees per programme: Singapore Dollar 51,000 (subject to prevailing GST)
- Online via NUS Graduate Admission System: <https://inetapps.nus.edu.sg/GDA2/Home.aspx>
- Early admission applications are open from 16 May 2023 to 15 July 2023 for the August 2024 intake
- Regular admission applications are open from 1 October 2023 to 31 January 2024 for the August 2024 intake

Scan the QR code for detailed information about the Programme





NUS National University of Singapore Faculty of Science

MASTER OF SCIENCE IN MATHEMATICS

The Department of Mathematics has been ranked 1st among Asia universities and among the top 10 worldwide according to the QS World University Rankings by Subject 2023. The Department offers diverse and vibrant graduate programmes in mathematical sciences. Faculty members' research covers all major areas of contemporary mathematics.

The Master of Science in Mathematics is designed to provide advanced training in mathematical sciences. Students of the programme are expected to acquire advanced knowledge in modern mathematics, including pure and applied mathematics, and in other interdisciplinary areas. This programme lays a solid foundation in mathematics for students to meet the growing demands by industry and to pursue advanced studies such as PhD, in Mathematics.

Overview

Faculty

Career Opportunities


Programme Structure and Candidature


Admission Requirements

- A Bachelor's degree
- A candidate whose medium of undergraduate instruction is not English is required to submit TOEFL (with the minimum score 85 for the internet-based test) or IELTS (with the minimum score 6.0 overall) score.

To Apply

- Tuition fees per programme: Singapore Dollar 85,000 (subject to 7% GST)
- Online via NUS Graduate Admission System: <https://inetapps.nus.edu.sg/GDA2/Home.aspx>
- Application is open from 15 October 2023 to 15 March 2024
- Scan the QR code for detailed information about the Programme





Department of Mathematics Faculty of Science

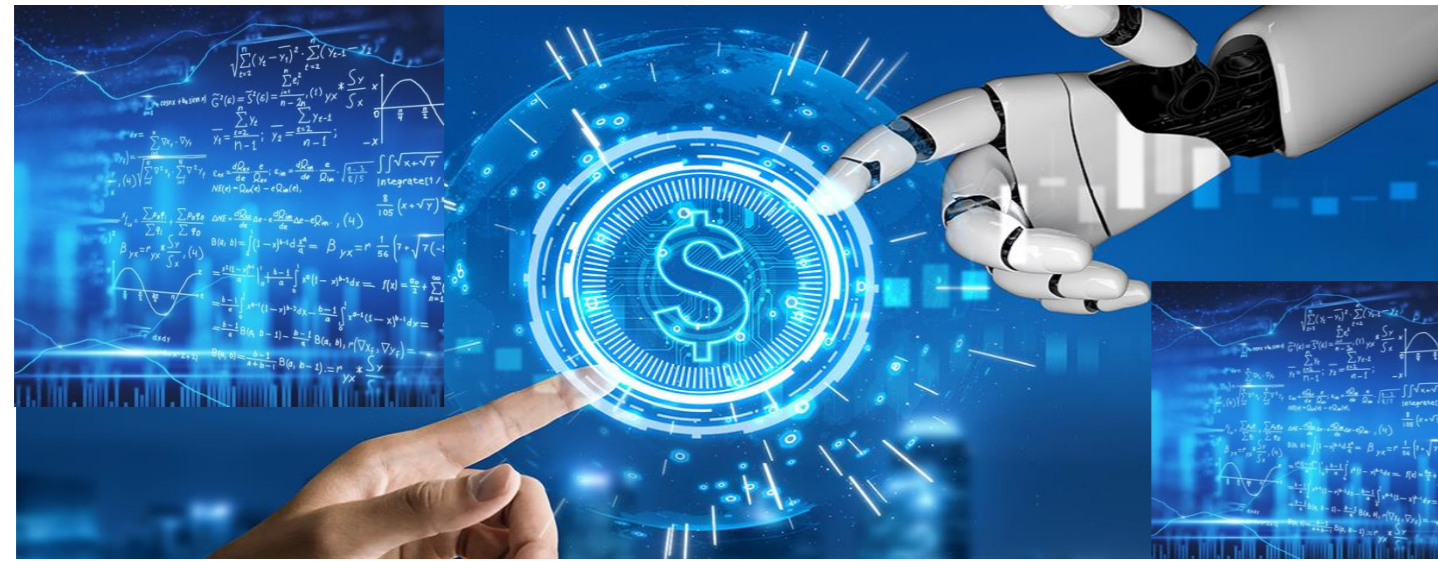
Graduate Programmes Department of Mathematics Faculty of Science National University of Singapore

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10 Lower Kent Ridge Road
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Ying Chen



Centre for Quantitative Finance (CQF)



Since our establishment in April 2012, the Centre for Quantitative Finance at the National University of Singapore (NUS) has focused on advancing knowledge and expertise in the realms of quantitative and computational finance. Our vision is to harness the interdisciplinary strengths from fields such as Mathematics, Data Science, Computer Science, Economics, Finance, and Engineering, solidifying our contribution to the Quantitative Finance Cluster and reinforcing Singapore's position as a global financial nexus.

In the dynamic landscape of finance, profoundly shaped by the advent of artificial intelligence (AI) and digital technologies, CQF is dedicated to pioneering research, advanced education, and strategic industry collaboration in the era of digital and AI-driven finance.

Our Strategic Vision

CQF is built on three foundational pillars, designed to navigate us through the evolving terrain of quantitative finance:

- 1. Innovative Research and Development in Quantitative Finance**
- 2. Education and Skill Development**
- 3. Strategic Industry Collaborations and Services**

QUANTITATIVE FINANCE CONFERENCE 2024

31st July 2024
NUS LT33, S17, Level 2

Xiu Dacheng CHICAGO BOOTH SCHOOL OF BUSINESS	Ulrich Horst HUMBOLDT UNIVERSITY OF BERLIN	Patrick Cheridito ETH ZURICH	Sam Cohen UNIVERSITY OF OXFORD	Dai Min HONG KONG POLYTECHNIC UNIVERSITY
Rama Cont UNIVERSITY OF OXFORD	Samuel Drapeau SHANGHAI JIAOTONG UNIVERSITY	Yan Dolinsky HEBREW UNIVERSITY OF JERUSALEM	Julian Sester NATIONAL UNIVERSITY OF SINGAPORE	Marko Hans Weber NATIONAL UNIVERSITY OF SINGAPORE

QUANTITATIVE FINANCE CONFERENCE 2025

31 July - 1 August 2025
National University of Singapore

Time	Venue	Speaker	Title
9:00AM - 9:30AM	Auditorium 1	Ying Chen	Opening Address
9:30AM - 10:00AM	Room A	Speaker A	Title A
	Room B	Speaker B	Title B
	Room C	Speaker C	Title C
10:00AM - 10:30AM		Tea Break	
10:30AM - 12:00PM	Auditorium 1	Keynote Speaker 1	Keynote Title 1
12:00PM - 2:00PM		Lunch	
2:00PM - 3:00PM	Room A	Speaker A	Title A
	Room B	Speaker B	Title B
	Room C	Speaker C	Title C
3:00PM - 4:00PM		Tea Break	
4:00PM - 6:00PM	Room A	Speaker A	Title A
	Room B	Speaker B	Title B
	Room C	Speaker C	Title C
6:00PM		End of Day	

<p>Beatrice Acciaio ETH Zurich, Switzerland Full Professor at ETH Zurich, Executive Secretary of the Bachelier Finance Society and recipient of the Louis Bachelier Prize (2022). Her research spans optimal transport theory and stochastic analysis, and their applications in finance, insurance and economics. She is Associate Editor e.g. in SIFIN, Mathematical Finance, Finance and Stochastics, Annals of Applied Probability, and IJTAF.</p> <p>Personal site</p>	<p>Damir Filipović Ecole Polytechnique Fédérale de Lausanne (EPFL) Swissquote Chair in Quantitative Finance at Ecole Polytechnique Fédérale de Lausanne (EPFL); former faculty member of the University of Vienna, the University of Munich and Princeton University. He is recipient of the Louis Bachelier Prize (2016). His research focus is on quantitative finance and risk management. He serves on several editorial boards and has published extensively in leading journals including Journal of Finance, Journal of Financial Economics, Mathematical Finance, Finance and Stochastics, and the Annals of Applied Probability.</p> <p>Personal site</p>	<p>Steven G. Kou Boston University, USA Allen and Kelli Questrom Professor of Finance at Boston University; former Director of the Risk Management Institute at NUS. His research spans FinTech, quantitative finance, applied probability, and statistics, with extensive publications and recognition including IMS Fellow and major awards.</p> <p>Personal site</p>	<p>Huyên Pham New York University Associate Professor of Finance at New York University; recipient of the Louis Bachelier Prize (2024); recipient of the Louis Bachelier Prize (2024); recipient of the Louis Bachelier Prize (2024); recipient of the Louis Bachelier Prize (2024). Her research spans quantitative finance, applied probability, and statistics, with extensive publications and recognition including IMS Fellow and major awards.</p> <p>Personal site</p>	<p>Nizar Touzi New York University Associate Professor of Finance at New York University; recipient of the Louis Bachelier Prize (2024); recipient of the Louis Bachelier Prize (2024); recipient of the Louis Bachelier Prize (2024); recipient of the Louis Bachelier Prize (2024). His research spans stochastic control, mathematical finance, and probability theory, and he serves as an editor or associate editor for leading journals in these fields.</p> <p>Personal site</p>
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NUS CQF Annual Conference 2026 & QF Program 2026:
4 Lecture series in summer school
Talks in workshop
5 keynotes, 1 panel discussion and 90+ talks at the CQF Annual Conference.

QUANTITATIVE FINANCE SEMINAR SERIES

WHEN AI MEETS WEB3 FOR SUSTAINABLE DIGITAL ECONOMY

Prof. ZHU Fei Da
Associate Professor of Computer Science
Associate Dean, Partnerships & Engagement
School of Computing and Information Systems
Singapore Management University

AI OPTIMIZATION AND FORECASTING ACROSS INDUSTRIES: DIGITAL AND QUANTUM COMPUTING

APRIL 9-10, 2024
14-01-03 SEMINAR ROOM, NUS, SINGAPORE

YING CHEN ASSOCIATE PROFESSOR OF FINANCE AND VICE PRESIDENT OF THE BACHELIER FINANCE SOCIETY	STEFAN LESSMANN ASSOCIATE PROFESSOR OF FINANCE AND VICE PRESIDENT OF THE BACHELIER FINANCE SOCIETY
PAUL ROBERT GRIFFIN ASSOCIATE PROFESSOR OF FINANCE AND VICE PRESIDENT OF THE BACHELIER FINANCE SOCIETY	ARIEL NEUFELD ASSOCIATE PROFESSOR OF FINANCE AND VICE PRESIDENT OF THE BACHELIER FINANCE SOCIETY
RUESONG GENS ASSOCIATE PROFESSOR OF FINANCE AND VICE PRESIDENT OF THE BACHELIER FINANCE SOCIETY	PATRICK FRANK REAGENTROST ASSOCIATE PROFESSOR OF FINANCE AND VICE PRESIDENT OF THE BACHELIER FINANCE SOCIETY
THORSTEN KOCH ASSOCIATE PROFESSOR OF FINANCE AND VICE PRESIDENT OF THE BACHELIER FINANCE SOCIETY	STEFAN WÖRNER ASSOCIATE PROFESSOR OF FINANCE AND VICE PRESIDENT OF THE BACHELIER FINANCE SOCIETY



SOAI EVENT · 2026

IntelligenceX 2026: The Global Quantum×AI Frontier

A flagship three-day Global Quantum×AI Conference jointly organized by the National University of Singapore (NUS) and the Society of Algorithmic Intelligence (SoAI).



September 24-26, 2026 Singapore

AI Trading Hackathon

Hands-On Tutorials

Limited Seats | Deep-Dive | Learn by Building

- Quantum Computing
- Agentic Coding
- AI Algo Trading





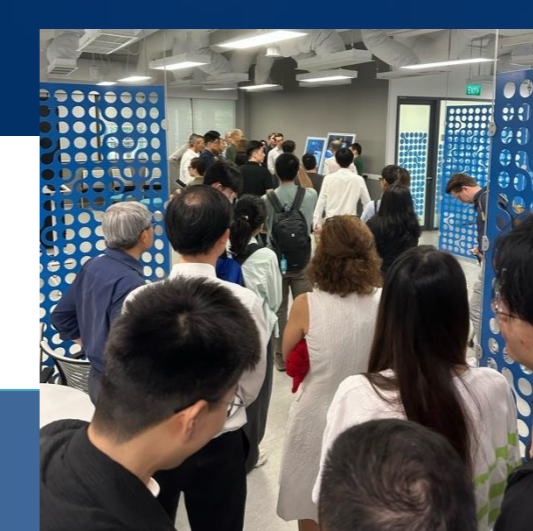
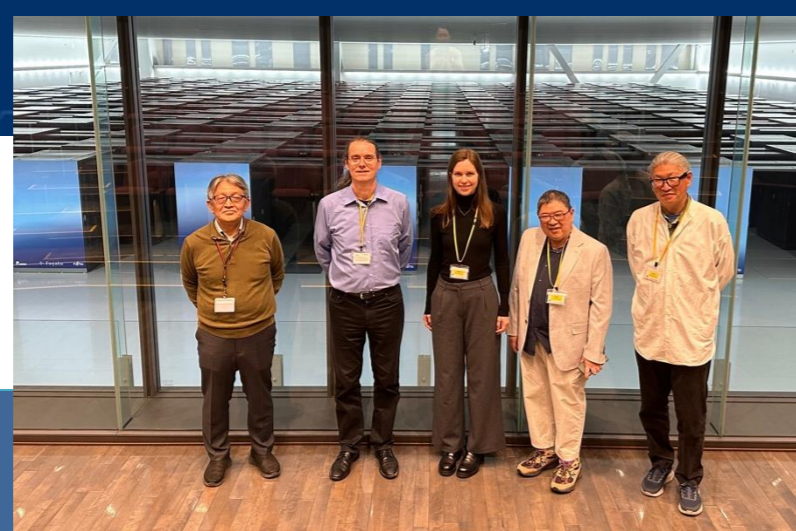
Leading Emerging Technology & Algorithms Research Society

Society of Algorithmic Intelligence

A global community dedicated to advancing the science and practice of intelligent algorithms. We bring together leading minds from academia, industry, and government to explore the frontiers of artificial intelligence, machine learning, and quantum technologies.

[Become a Member →](#)

[Learn More](#)



PUBLIC LECTURE
FUTURE OF MONEY & BUILDING FINANCIAL ECOSYSTEMS
Monday, 10 March 2025
12:00 PM - 12:50 PM
NUS, LT 51, Level 1,
Stephen Riady Centre
MR. NAVEEN MALLELA
Guest Speaker
Global Co-Head of Kinexys
J.P. Morgan's blockchain
JOIN US FOR TO DISCOVER HOW:
• CBDCs ARE MODERNIZING MONETARY SYSTEMS
• DEPOSIT TOKENS ARE RESHAPING DIGITAL BANKING
• SHARED LEDGER-BASED SECURE, INTEROPERABLE FINANCIAL NETWORKS
SCAN HERE TO REGISTER

Chaired by A/P Chen Ying and Dr Wang P

Overseas Enrichment Opportunities

ETH zürich

FinsureTech <HUB>



ETH Zurich Fintech & Quantum Finance Workshop 2025

Preliminary Announcement for NUS

DMATH

ETH Zurich Fintech & Quantum Finance Workshop 2025

Dates: June 19–21, 2025 (optional session on June 23)

Location: ETH Zurich Main Campus, Switzerland

Fee: 2,000 CHF (includes tea breaks, lab visits, ETH certificate)

Focus Areas:

- Quantum foundations and economic implications
- Quantum machine learning in finance
- Advanced machine learning applications
- ETH quantum lab visits and startup tours

ETH Zurich Fintech & Quantum Finance Workshop 2025

Dear Participant

The ETH Zürich Fintech & Quantum Finance Workshop is a dynamic and immersive program dedicated to exploring the cutting-edge innovations in financial technology in Switzerland. Join us for a week of insightful lectures, hands-on case work, and engaging sessions with leading companies and startups in the fintech industry!

About

Academic Lead: Prof. Patrick Cheridito, Academic Director FinsureTech Hub,
Executive Lead: Bastian Bergmann, Executive Director, FinsureTech Hub
Date: June 19 - 21, + June 23 optional (preliminary)
Location: ETH Zurich Main Campus
Fee: 2000 CHF, incl. Coffee & Lunch Breaks, Lab Visits Access
Certificate: ETH Certificate of Participation
Registration: Follow this [Link](#)

Agenda

Day 1: **Quantum Foundations & Business Models**
Day 2: **Quantum Machine Learning & Innovation Tour**
Day 3: **Machine Learning for Finance**
Day 4: **Machine Learning for Finance - Hands-on Session**

Expert Lectures:

Lectures delivered by world-renowned academics and industry leaders. Gain insights into the latest trends, challenges, and opportunities in the fintech landscape.

Company and Startup Sessions:

Engage with some of the most exciting companies and startups in the fintech space from Switzerland. Hear firsthand from entrepreneurs and industry professionals about their journeys, the challenges they've overcome, and their visions for the future. These sessions offer invaluable networking opportunities and the chance to see cutting-edge fintech solutions in action.

Note: Travel, accommodation, and personal expenses are to be covered by par-

Agenda

(Wednesday 18 June - Arrival)

Day 1 - Thursday, 19 June, 9.15 - 17.00
Quantum Foundations & Business Models

We begin with a foundational introduction to quantum mechanics, including key concepts like qubits, entanglement, and the limits of classical computing. In the afternoon, we pivot to the strategic: how quantum technology disrupts traditional computational barriers, and what that means for business, policy, and society. A key message: understanding quantum's economic logic is as essential as grasping the physics.

Day 2 - Friday, 20 June 9.15 - 17.00
Quantum Machine Learning & Innovation Tour

In the morning, we explore the emerging landscape of Quantum Machine Learning in Finance, examining hybrid quantum-classical systems and the principles that make quantum-enhanced learning possible. This session explains why financial institutions are increasingly investing in quantum readiness. The afternoon features insights into ETH Zurich's quantum research initiatives, followed by guided ETH quantum lab visits and startups to see cutting-edge quantum technology and applications in action.

Day 3 - Saturday, 21 June, 9.15 - 17.00
Machine Learning for Finance

We wrap up with a focused workshop on the latest advances in machine learning applications for finance. Topics include asset pricing, credit risk, trading algorithms, and generative models. With a mix of expert talks, this session is designed for researchers and practitioners aiming to integrate modern ML tools into financial practice.

Day 4 - Monday, 23 June (optional), 9.15 - 17.00
Machine Learning for Finance - Hands-on Session

We continue with workshop exploring other topics in machine learning and finance and spending more time on hands-on sessions.

Ying Chen



Overseas Learning Opportunities



MODAL Berlin Algorithmic Intelligence Workshop 2025

Dates: June 22–26

Location: Forschungscampus MODAL, Zuse Institute Berlin & Technische Universität Berlin & Freie Universität Berlin

Fee: €1,500 (includes tea breaks, company visits, MODAL certificate)

Focus Areas:

- AI, ML & optimization for industrial and financial applications
- Hands-on modelling (MIP, heuristics, TSP)
- Industry visits with partners like Siemens, Deutsche Bank, JP Morgan
- Optional session on algorithmic trading strategies



MODAL Berlin 2025 Algorithmic Intelligence Workshop



Dear Participant

We are pleased to announce a collaborative workshop in Berlin titled Algorithmic Intelligence, hosted by Research Campus MODAL Academy in partnership with Technische Universität Berlin, Freie Universität Berlin und Zuse Institute Berlin.

This high-level, hands-on gathering will explore the use of advanced mathematical modelling, machine learning, and quantum-inspired algorithms to tackle real-world industrial challenges. Participants will engage directly with leading academic researchers and industry professionals working on cutting-edge solutions in optimization, hybrid AI, and quantum applications.

More than just a technical event, this workshop is an opportunity to learn from experts, collaborate on real-world problems, and embrace emerging technologies in a fun, friendly, and highly connected environment!

About

Date: 22-26 June 2025
Location: Forschungscampus MODAL @ ZIB Berlin & Industry Partner Sites
Fee: €1,500
Certificate: MODAL Certificate of Participation

Agenda

- Day 1: Welcome & Networking (Poster Presentations)
- Day 2: Interactive AI, Machine Learning & Optimization
- Day 3: AI Modelling & Optimization in Action
- Day 4: Industry Day
- Day 5: Algorithmic Trading in Action (To be Confirmed)

About Modal:
The Research Campus MODAL is one of ten national research campuses funded by the German Federal Ministry of Education and Research (BMBF). It represents a unique ecosystem where cutting-edge theory meets critical industrial demand. Established by Zuse Institute Berlin (ZIB) and Freie Universität Berlin, and in partnership with 12 leading companies, MODAL enables researchers from academia and industry to collaborate in joint labs to solve complex, high-impact optimization problems. Core applications include railway and gas transport, as well as information-based medicine.

Note: Travel, accommodation, and personal expenses are to be covered by participants.

Agenda

Day 1 - Sunday, 22 June
Welcome & Networking (Poster Presentations)

The workshop kicks off with an engaging evening of networking, poster presentations, and community building. Participants will have the chance to connect with fellow researchers, practitioners, and industry leaders in a relaxed setting—sharing ideas, previewing ongoing work, and setting the tone for a week of collaborative learning and innovation.

Day 2 – Monday, 23 June
Interactive AI, Machine Learning & Optimization

Day 2 features a series of high-impact talks and panel discussions on real-world applications of AI, machine learning, and optimization across diverse industries. Hear directly from experts at Lufthansa Systems, Open Grid Europe, Siemens, FICO, Gurobi, JP Morgan, Commerz Bank, Delivery Hero, IVU, Deutsche Bank, Optiver Google, Nvidia, and IBM, as they share how algorithmic intelligence is driving innovation in transport, energy, finance, and beyond. This is a rare opportunity to learn from top voices shaping the future of intelligent systems.

Day 3 – Tuesday, 24 June
AI Modelling & Optimization in Action

This hands-on day offers a deep dive into modern optimization and AI techniques. Through practical exercises and interactive coding, participants will learn to model and solve mixed-integer programs, explore cutting planes, pre-solving, primal heuristics, and branching strategies. One highlight includes solving a version of the famously hard Traveling Salesman Problem (TSP)—which, as The Washington Post reported in 2018, would take a classical laptop 1,000 years to solve for just 22 cities—within milliseconds using advanced modelling strategies, demonstrating the surprising power of classical solvers in a world increasingly focused on quantum computing. With applications stretching from algorithmic optimizers to mathematical discovery, this tutorial blends rigorous theory with practical insight, equipping participants with tools for both industrial and research innovation.

Day 4 – Wednesday, 25 June
Industry Day

This day is dedicated to on-site visits with leading industrial partners, offering participants a rare behind-the-scenes look at how AI, optimization, and quantum technologies are being applied in real-world operations. Engage directly with engineers, data scientists, and decision-makers, gain firsthand

insights into practical challenges and solutions, and explore opportunities for future collaboration and innovation.

Day 5 – Thursday, 26 June
Algorithmic Trading in Action (To be Confirmed)

This hands-on session blends theory, expert insights, and practical coding to equip participants with the skills to design and implement high-performance Python trading algorithms. No prior finance background is needed as we explore the foundations of financial markets, options theory, and trading strategies. Participants will build and test real-world strategies, including dual listing arbitrage to exploit order book inefficiencies, and a fully automated options market-making system that accounts for risk and adverse selection. Whether you're new to trading or refining your edge, this session offers an engaging entry into the world of algorithmic finance.

Scan the QR code to register.



Forschungscampus MODAL
c/o Zuse Institute Berlin
Takustrasse 7
G-14195 Berlin

Contact:
aws2025@zib.de

We don't just want our students to succeed; we want them to lead.

Whether that's in the capacity of distinguished professors or researchers, visionary senior executives in the industry, or as innovative entrepreneurs disrupting the status quo, we are dedicated to empowering our students to make substantial contributions in their respective fields.

