

Quantum-readiness conference for central banks and supervisory authorities 12-13 February 2025 Base, Switzerland

List of speakers – 1st Day

Andréa M Maechler



Andréa M Maechler became Deputy General Manager of the BIS on 1 September 2023. Ms Maechler was a member of the Governing Board of the Swiss National Bank (SNB) from 2015 until 2023. At the SNB, she was responsible for the Money Market and Foreign Exchange, Asset Management, Banking Operations and Information Technology portfolios. Prior to joining the SNB, she was Deputy Division Chief in the Global Markets Analysis Division of the International Monetary Fund. She has worked at other international organisations, including the European Systemic Risk Board and the Organisation for Economic Co-operation and Development. She was Chair of the Global Foreign Exchange Committee of central banks from December 2021 to June 2023. Ms Maechler has a PhD and a master's degree in International Economics from the University of California, Santa Cruz, and a Diploma of Higher Studies (DES) in International Relations from the Graduate Institute of International Studies in Geneva, Switzerland.

Alessandra Perrazzelli



Alessandra Perrazzelli is a member of the Joint Directorate of the Insurance Supervisory Authority (IVASS) and also member of the ECB Single Supervisory Mechanism (SSM) Supervisory Board. Member of the Board of Directors of the Bambino Gesù children's hospital in Rome and Visiting Professor at the Polytechnic University of Milan. Previously: Italy Country Manager for Barclays Bank; Head of International Regulatory & Antitrust Affairs for Intesa Sanpaolo Bank; sat on the Boards of Directors of Monte Titoli SpA, A2A and ATM (Azienda Trasporti Milanese). Founder and chair of Valore D, Italian association fostering women's talent in leading roles. Honours Law Degree from the University of Genoa and a Master of Laws from New York University. Member of the New York State Bar. Alumna of the University of Stanford Business School since 2018. Knight in the Order of the Merit of the Italian Republic, since 2021.

Raphael Auer



Raphael Auer is head of the BIS Innovation Hub Eurosystem Centre, which is located in Frankfurt and Paris. Before taking up his current assignment, he was Principal Economist in the BIS's Innovation and Digital Economy and Monetary Policy units. Before that, he was Deputy Head of the International Trade and Capital Flows unit at the Swiss National Bank, a Globalization and Governance Fellow at Princeton School of Public and International Affairs and a junior visiting fellow at the Federal Reserve Bank of New York. Raphael holds a PhD in economics from MIT and is president of the Central Bank Research Association. He has published on topics relating to international macroeconomics, exchange rate pass-through, and digital currencies.

Olivier Lantran



An AI-engineer by training and a 'geek' long before it became fashionable, Olivier Lantran has always been involved in activities deeply related to technological innovation: whether in the design of digital solutions, or by managing projects to modernise information systems in the financial sector. Committed to Banque de France for more than 10 years, he has been at the core of the institution digital transformation projects for 7 years. Creator of the digital acculturation programme for the Banque de France University, his main aim is to promote technological approaches that are user-centred and, more broadly, human-centred. It is this reconciliation between technological contributions, expectations and business use cases that he embodies since 2022 (with the support of some fantastic teams!) as Head of Banque de France innovation center "Le Lab".

Maryam Haghighi



Maryam Haghighi, appointed as the Bank of Canada's Director of Enterprise Data Science and Insights in 2024, is a pioneering force in digital transformation and artificial intelligence in central banking. Having previously built the Bank's Data Science Hub and developed the world's first central bank Quantum Strategy, she now leads teams leveraging advanced analytics to inform policy, operations, and risk management. Her distinguished career includes representing Canada on UN aviation panels, serving as Senior Advisor to Crown Corporations where she spearheaded major data initiatives, and publishing in leading journals.

Cristina Andriani



Cristina Andriani is a manager at Banca d'Italia in the Operations Directorate, where she heads the team supporting all processes related to software delivery, quality, and security. With extensive expertise in code quality and application security, she has gained hands-on experience addressing Post-Quantum Cryptography risks. Cristina is also a co-author of a Banca d'Italia paper exploring the implications and strategies for navigating the quantum challenge within secure financial systems. Prior to joining Banca d'Italia in 2011, she spent 15 years as an IT manager at an international group, a leader in ICT services in Italy. Cristina holds a master's degree in mathematics, with a focus on probability, and has authored several publications in this area.

Pietro Tiberi



Pietro Tiberi is a manager at the Bank of Italy's Information Technology directorate general where he has worked since 2013 in the Operations directorate. He is the head of the technical support team for the payment systems (Target2, Target2 Securities and TIPS) that the Bank of Italy manages on behalf of the Eurosystem. He previously worked as an engineer at the WIND telecommunications developing monitoring and support systems for mobile and fixed networks. Pietro has a master's degrees in electrical engineering and space physics and has authored scientific publications in the area of space physics, carbon footprint and quantum security in payment systems.

Max Grytz



Max Grytz is Innovation Manager for Quantum Tech at Deutsche Bundesbank. He is part of a team that translates business needs into key technologies like DLT, IoT, quantum computing and a founding member of the Quantum team. He focuses on making quantum computing and quantum encryption applicable for Deutsche Bundesbank. Max works hands-on across the entire innovation pipeline: From ideation and identifying key use-cases, to developing prototypes, writing his own code, and pitching solutions. He holds a Master's degree in Industrial Engineering.

Vasileios Rentoumis



Vasileios Rentoumis is an Innovation Manager for Quantum Computing at the Deutsche Bundesbank and a founding member of the Quantum team. As Innovation Manager, he explores the impact of quantum technologies and their contribution to the Bundesbank's core services in a user-centred way and with well-founded assessments. He helps to identify both the opportunities and the risks of quantum technologies and to prepare the Bank for them. As a project manager, he leads proof of concepts and technology studies with internal and external teams of experts. With a technical background as a software engineer in financial/banking and telecommunications applications, he also uses his skills as a technical lead in projects as required. These innovation projects and PoCs include applications for central banks (macroeconomic modelling using quantum algorithms and quantum coprocessors) and proof of concepts in cybersecurity (post-quantum cryptography and quantum key distribution). In addition, he and the quantum team act as a central point of contact within the Bundesbank and as an external representative of the bank in international committees, networks and with technology partners on topics relating to quantum computing and quantum technologies.

Bill Newhouse



Bill Newhouse co-leads the Migration to Post-Quantum Cryptography (PQC) project at NIST, a collaboration with industry and gov't, which shares insights on practices that will ease the migration to PQC algorithms that are resistant to quantum computer-based attacks. He is active in US Gov't interagency R&D coordination groups. Mr. Newhouse has been with the U.S. Federal government since 1986 focused initially on telecommunications, then information assurance, and now cybersecurity. He studied Electrical Engineering at the Georgia Institute of Technology and has a master's degree from the George Washington University.

Isabelle Noblesse



Isabelle Noblesse has been Swift's Head of Product Security Roadmap & Innovation since 2019, overseeing its Cryptography Centre of Excellence. She leads the company's Post-Quantum Security Readiness Initiative, paving the way for Swift's transition to a quantum-safe future. Prior to this, Isabelle held various leadership positions at Swift, including as head of its Customer Security Programme's Platform Roadmap. Isabelle holds a Masters of Applied Sciences in Electro-Mechanical Engineering from Brussels University.

Mike Silverman



Mike Silverman is the Vice President of Strategy and Innovation at FS-ISAC, the member-driven, not-for-profit organization that advances cybersecurity and resilience in the global financial system. In this role, Mike is involved in FS-ISAC's Post-Quantum Cryptography, Artificial Intelligence Risk, and Cloud Security working groups, as well as leads content creation for FS-ISAC's annual summits. He also coordinates with members on FSSCC's workstream on cloud security and OSSF on Open-Source security.

Mike began his work with artificial intelligence in 1996 and published papers on using AI to theoretically improve the GPS satellite constellation and using AI to detect shifting winds in 1998 and 2002, respectively. He also contributed to the book 97 Things Every Cloud Engineer Should Know in 2020. He received the 2023 FSSCC Momentum Award for his contributions to the industry. Mike holds an MBA from New York University's Stern School of Business and a BSE in Computer Engineering from Tulane University.

Jaime Gómez García



Jaime Gómez García is a recognized expert in telecommunications, blockchain, and quantum technologies, with an extensive professional background within the financial sector. His contributions as a disseminator of quantum technologies and their consequential influence on enterprises, notably within the financial domain, have garnered him recognition as a LinkedIn Quantum Top Voices in 2022 and 2023. Currently, Jaime is Head of Quantum Technologies at Banco Santander, addressing how quantum computing can be leveraged in benefit of the business and how to tackle the quantum threat to cryptography.

Brian Ritchot



Brian Ritchot graduated with a degree in Computer Science from the University of Manitoba in Winnipeg Canada. His first exposure to cyber security was as a student working for the province of Manitoba Information Protection Centre (a Security Operations team providing security services). This early exposure led to a career of learning, spending nearly 15 years working for the Government of Canada's national cryptologic agency. He held various IT and cyber related positions, playing a key role in the development of Canada's national cyber security strategy and finishing his public service career as the Director of Information Security. In 2016 Brian moved to Basel Switzerland, joining the BIS as a senior security specialist. He completed the Chief Information Security Officer program at Heinz College / Carnegie Mellon University in 2018. For the last four years he led the Bank's IT Infrastructure and Operations team, focused on delivering resilient operational technologies in a hybrid cloud environment. In October 2024 he returned to his roots as the Head of Corporate Security and the Cyber Resilience Coordination Centre.

Fern Watson



Fern Watson holds a PhD in Quantum Computing from Imperial College and is the Manager of Emerging Tech and Research at the Financial Conduct Authority (FCA). In this role, she manages a team responsible for identifying and researching novel technologies that are impacting on the financial services sector, and using foresight methodologies to provide a basis for colleagues to think about how this might change in the future to inform our policy making or early regulatory thinking.

Filipe Beato



Filipe Beato is a cybersecurity expert specializing in strategy, transformation, and innovation across public-private sectors. As a Lead, Centre for Cybersecurity at the World Economic Forum, Filipe leads and oversees cyber resilience and frontier technology across multiple industries aiming to address systemic challenges. Filipe has over 10 years of experience helping organizations shape global cyber and digital strategies by combining strong technical expertise with business acumen. He holds a PhD in Applied Cryptography, an MSc in Computer Science, and a BSc in Computer Engineering.

Mike Alonso



Mike Alonso is Head of tokenisation at the Swiss Centre of the BIS Innovation Hub. His background is in product and technology with a focus on DLT-based systems. He has designed, developed and deployed several products in the crypto ecosystem.

Christophe Laforge



Christophe Laforge is an expert in statistical physics with a Ph.D. from Université de Namur, Belgium. With over two decades of experience in the banking sector, Christophe has broad professional expertise including risk management, derivatives trading, quantitative analysis, internal audit, and finance. Currently serving as a Senior Quantitative Analyst and AI Specialist at the Bank for International Settlements (BIS), Christophe has held various senior positions, including Head of Finance Operations and Head of Product Control and Systems. Christophe is proficient in quantitative modelling, programming, and business operations, with a strong focus on deep learning, reinforcement learning, and the potential of quantum computing. Christophe is known for his passion for learning and exploring science most profound questions, which has led to numerous advanced certifications.

List of speakers – 2nd Day

Andras Valko



Andras Valko is a senior technical leader with a focus on high-tech innovation. Since 2023 he is with the Bank for International Settlements, where his current role is Deputy Head of the Innovation Hub Eurosystem Centre. Prior to joining the BIS, he was an executive-level manager at SBAB Bank (Sweden) with a responsibility for data, analytics, and AI. Before that, he had held various leadership positions within agile software development, strategic product management, business development, and applied research. Andras holds a Ph.D. in computer science, an M.Sc. in electrical engineering, and a B.Sc. in economics.

Hong Xiang



Prof. Hong Xiang is a distinguished member of the Program Committee for ETSI Quantum Safe Cryptography and serves on the Technology Committee for China's cryptography industry standards. He earned his PhD from the University of Alberta, Canada. His expertise and contributions are highly recognized both internationally and nationally, positioning him at the forefront of advancements in cryptographic technologies

Klaus Löber



Klaus Löber is the Chair of the CCP Supervisory Committee (CCP SC) at ESMA, which was established in 2020 by the European Market Infrastructure Regulation (EMIR). The CCP SC has a mandate in respect of EU CCPs as well as those third-country CCPs that have been recognised under EMIR. This includes responsibilities towards a resilient clearing ecosystem in the EU, ensuring supervisory convergence, monitoring and supervising CCPs, as appropriate, in view of the risks that they may pose to the EU financial system. He is also chairing the ESMA CCP Policy Committee contributing to the EU Single Rule Book in the area of CCPs. Prior to this role, Mr. Löber was the Head of Oversight of the European Central Bank in charge of the oversight of financial market infrastructures, payments instruments and schemes. Earlier positions include the Head of Secretariat of the Committee on Payments and Market Infrastructures, the global standard setting body in the area of payments, clearing and settlement as well as positions in the European Commission, Deutsche Bundesbank and private practice. Mr. Löber regularly publishes on financial markets legal, regulatory and infrastructure issues and lectures at universities.

Ryan Chan



Ryan Chan is the Chief Information Security Officer at the Hong Kong Monetary Authority (HKMA), where he is responsible for developing and implementing the organization's cybersecurity strategy and initiatives. With extensive experience in the field, his expertise encompasses a broad range of security domains, including Information Security Management, Cloud Security, IT Risk Management, and more. Prior to joining the HKMA, Ryan held the position of Chief Information Security Officer at a leading virtual bank, where he was responsible for overseeing the development and implementation of technology governance and cybersecurity frameworks. He also served as Executive Director IT, with a focus on establishing cybersecurity strategies and leading various IT teams.

Ryan is committed to sharing his knowledge and expertise to support the development of robust cybersecurity and IT risk management practices across the industry. He values collaboration and is dedicated to working with others to identify and address emerging threats, and to develop effective solutions.

Angela Dupont



Angela Dupont is an International Innovation Expert with 20 years of experience in the banking industry. She is currently an adviser of the Eurosystem Centre of the Bank for International Settlements Innovation Hub. She is leading a cyber security project on quantum-proofing the financial system. Prior to this role she has been working at the ACPR (The French Prudential Supervision and Resolution Authority) specialising on Fintechs. Before that she has been a team leader in different departments of Banque de France, including in a credit rating department.

Mrs. Angela Dupont holds an Executive MBA from ESSEC Business School and a Master's degree of banking. She is a member of Le Club de Paris des Directeurs de l'Innovation.

Baltazar Rodriguez



Baltazar Rodriguez is a seasoned technology and innovation expert who currently serves as the Technology and Innovation Advisor at the Bank for International Settlements' Toronto Innovation Hub, where he helps develop strategic direction and integrates advanced functionalities within the financial ecosystem. His extensive career includes roles as a blockchain and fintech educator at prestigious institutions like the Instituto Tecnológico Autónomo de México and ISDI, as well as over eight years at IBM where he served as Client Technical Leader and member of the Hybrid Cloud Tiger Team. As Chief Technology Officer for SAT, Mexico's Internal and External Revenue Service, he led major initiatives including the National Digital Signature Infrastructure and Electronic Fiscal Invoice. Throughout his career, Rodriguez has demonstrated consistent excellence in driving digital transformation, developing innovative solutions, and providing technological leadership across various sectors.

Alejandro Montblanch



Alejandro R.-P. Montblanch is currently leading the quantum communications and quantum networking efforts at HSBC, one of the largest financial institutions in the world. In this role, he has completed the first connection of a financial institution to the London commercial quantum network and has pioneered the use of quantum key distribution for FX trading. Previously, he was a postdoc at QuTech (Delft, NL) experimentally developing the Quantum Internet, after having completed a PhD as a Marie-Curie scholar at the University of Cambridge (Cambridge, UK) on novel, atomically thin platforms for quantum networks, including a scholar visit to Harvard.

William Zhang



William Zhang is Technology and Innovation Adviser at the Bank for International Settlements (BIS) Innovation Hub - Nordic Centre, where he provides technical leadership to the centre's projects and initiatives, with a focus on the security, resilience, and integrity of future financial systems. Before joining the BIS, he led the security architecture team at The World Bank Group (WBG), where his team was responsible for security architecture design and assessment of technology platforms and business solutions, as well as security related topics in WBG's Innovation Lab. Before joining the WBG, William worked at The Vanguard Group in various capacities, including user experience design, emerging technology research, system architecture, and information security. William received his BS and MS degrees from Peking University, and his Ph.D. from the University of Maryland, all in computer science.

Christian d'Orival



Christian d'Orival - Chief Revenue Officer, member of CryptoNext Security Management Committee since March 2022. Christian, a 35+ years executive veteran, runs marketing, business development and revenue operations. He has engaged over the last years CryptoNext in multiple PQC projects with most influential public and private finance market organizations in Europe, MEA and US. Christian is former President of Luceor Wimesh Systems, Chief Operating Officer at Deny All and Emea Enterprise Director at Juniper Networks. Christian holds an Engineer degree from ISEP Paris.

Sarah McCarthy



Sarah McCarthy is a quantum-secure cryptography specialist with a focus on practical solutions for current and future communications networks. As Cryptographic Strategist at evolutionQ, she drives the development of quantum-safe network solutions and raises awareness about the importance of preparing for the quantum computing era. This is supported by her Research Associate role at the Institute for Quantum Computing (IQC), part of University of Waterloo, which allows her to keep in touch with the progression of quantum-safe solutions, from theory to deployment. Sarah earned her PhD from Queen's University Belfast and then completed a Postdoctoral Fellowship at IQC.

Marco Brenner



Marco Brenner works as a Program Executive at IBM Quantum in Switzerland, with a special focus on cryptography and state-of-the-art data protection solutions to support confidentiality and compliance. He works as part of IBM Research on innovative solutions and is responsible for their implementation with businesses around the globe. Marco holds a Master's degree from ETH Zurich in Computer Science with a specialization in Cryptography and Information Security, and an MBA from Henley Management College/University of Reading.

Fabio Keller



Fabio Keller is part of IBM Technology and is specialized on Digital Assets (including CBDCs), Confidential Computing and Quantum Safe Infrastructure. He worked many years in Business and Technology Consulting in the Finance Sector as well as client executive in the account management team of a global Tier 1 Bank. He has great passion for innovation and collaboration.

Nicola Rustignoli



Nicola Rustignoli is the co-CEO of the SCION Association, an industry consortium dedicated to advancing SCION, a secure and reliable Internet architecture. Prior to this role, he worked in the network security industry and served as a research assistant with the Network Security Group at ETH Zürich, where he contributed to The Complete Guide to SCION and several research projects.

Adrian Perrig



Adrian Perrig is a Professor at the Department of Computer Science at ETH Zürich, Switzerland, where he leads the network security group. He is also a Distinguished Fellow at CyLab, and an Adjunct Professor of Electrical and Computer Engineering at Carnegie Mellon University. From 2002 to 2012, he was a Professor of Electrical and Computer Engineering, Engineering and Public Policy, and Computer Science (courtesy) at Carnegie Mellon University. From 2007 to 2012, he served as the technical director for Carnegie Mellon's Cybersecurity Laboratory (CyLab). He earned his MS and PhD degrees in Computer Science from Carnegie Mellon University, and spent three years during his PhD at the University of California at Berkeley. He received his BSc degree in Computer Engineering from EPFL. He is a recipient of the ACM SIGSAC Outstanding Innovation Award. Adrian is an ACM and IEEE Fellow. Adrian's research revolves around building secure systems - in particular his group is working on the SCION secure Internet architecture.

Burkhard Jour



Burkhard Jour combines a strong engineering background covering embedded software and hardware with 30+ years of experience in sales, project management, system design and software development in the areas of real-time control, telecommunications, and security solutions. Based on his engineering competencies, Burkhard has developed and given multiple trainings and authored dozens of white papers. Over the course of the last two years, this includes 30+ PQC introductions and trainings, ranging from 30 minutes introductions to two hours detailed training sessions, to audiences with various knowledge levels. He has further authored or co-authored four comprehensive white papers on PQC topics in 2024, including "The Financial Market's Transition to Post-Quantum Cryptography" and "Post-Quantum Secure Boot for Processors and FPGAs".

Luke Mather



Dr Luke Mather holds a PhD in Applied Cryptography from the University of Bristol, UK. He has 10+ years of experience designing secure systems in embedded systems, IoT and enterprise environments. His interests include side-channel analysis and applications of cryptography, with a focus on secure and efficient implementations of cryptographic protocols and primitives.

Ben Packman



Ben has 6 yrs experience specifically in the Post-Quantum Cryptography (PQC) market, having started working with PQShield founder, Dr Ali El Kaafarani, on day 2 of the business back in 2018 and helped lead the company through its involvement with all PQC schemes announced by NIST to date.

Ben leads PQShield's global expansion through sales and partner growth across multiple vertical markets, advising customers on their migration to PQC, alongside taking a lead role in briefing both the government and the supply chain on the quantum threat.

A strategic leader and natural problem solver with a proven track record of delivering innovative, creative and successful commercialisation and G2M across a diverse range of business areas, both domestically and internationally. 30+ yrs experience in technology, health, media, and telecoms, as well as advising multiple startups in the UK tech space .

Cecilia Skingsley



Cecilia Skingsley has served as Head of the BIS Innovation Hub since September 2022, where she sits on the BIS's Executive Committee. Her prior experience includes serving as First Deputy Governor of the Riksbank (2019-2022) and Deputy Governor (2013-2019), during which time she chaired the BIS's Committee on Payments and Market Infrastructures Future of Payments Working Group and held key positions with the ECB and European Systemic Risk Board. Before joining the Riksbank, she worked as Chief Economist at Swedbank (2007-2013), served as Head of Financial Market Section at Dagens Industri (2000-2007), and was a Macro Analyst at ABN Amro Bank (1998-2000). Skingsley holds a degree in economics and political science from Stockholm University, a financial analyst degree from SSE Executive Education, and studied journalism at Poppius School of Journalism in Stockholm.