



IEEE International Conference
on Quantum Computing
and Engineering – QCE23



2nd Workshop on Quantum in Consumer Technology

IEEE Quantum Week 2023

THURSDAY, SEPTEMBER 21, 2023 - 10:00 – 14:30 Pacific Time (PDT) — UTC-7

This workshop is organized by the [Quantum in Consumer Technology Technical Committee](#) of the [IEEE Consumer Technology Society](#). General Chair: [Rafael Sotelo](#); Quantum-South & Universidad de Montevideo; Uruguay

The workshop consists of two panels.

1. Quantum Technologies for 1 Billion consumers – (10:00 to 11:30 – UTC-7)

Quantum technologies contributed to 1 Billion consumers' discussions with industry consortiums. Our final target is not the development of quantum technologies but contribution over the world by quantum technologies. A lot of consortiums are organized for this purpose. This session consists of a panel of people from several industry consortiums for quantum technologies. The session consists of individual presentations of each panelist, followed by a Q&A panel. All panelists will present their activities on how to contribute to 1B consumers through quantum technologies.

Panel Chair: [Yuichi Nakamura](#); NEC Corporation; Japan

Panelists:

- [Stefan Leichenauer](#); SandboxAQ; USA | QED-C
- [Louise Turner](#); Quantum Algorithms Institute (QAI); British Columbia, Canada | QIC
- [Sylwia Barthel de Weydenthal](#); IQM; Finland | QuIC
- [Yuichi Nakamura](#); NEC Corporation; Japan | Q-star

2. Quantum Computing applied to Finances – (13:00 to 14:30 – UTC-7)

This session brings together practitioners and researchers from Finances and QC to explore how they envision the convergence of both fields. The session consists of individual presentations of each panelist, followed by a Q&A panel.

Panel Chair: [Edoardo Giusto](#); Politecnico di Torino; Italy

Panelists:

- [Catherine Potts](#); D-Wave Systems; USA
- [Davide Corbelleto](#); Intesa Sanpaolo; Italy
- [Ruslan Shayduln](#); JPMorgan Chase & Co.; USA



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Rafael Sotelo (Senior Member, IEEE) is the President and co-founder of [Quantum-South](#). He is the Director of Research at the School of Engineering of [Universidad de Montevideo](#).

He is a member of the Administrative Committee for the IEEE Broadcast Technology Society and a Member-at-Large of the Board of Governors of the IEEE Consumer Technology Society.

Rafael worked in the broadcasting and cable industry for two decades and as a consultant for the Ministry of Industry for nine years. He is a categorized researcher at the National Research System and a fellow of Uruguay's National Academy of Engineering. Sotelo's research areas focus include Optimization with Quantum Computing, Video and Audio Quality Assessment, and Recommender Systems. He is involved in initiatives tending to innovate on pedagogical techniques in Engineering education, promoting entrepreneurship and innovation.

Rafael Sotelo graduated as an Electrical Engineer from Universidad de la República, from Montevideo, Uruguay, and earned an MBA from Universidad de Montevideo, from Montevideo, Uruguay, and a PhD in Telematics Engineering from Universidad de Vigo, from Vigo, Spain.



Yuichi Nakamura received his PhD. from the Graduate School of Information, Production and Systems, Waseda University, in 2007. He joined NEC Corp. in 1988 and he led NEC's research about embedded system design and quantum technologies as a general manager and a vice president of NEC research and development. Currently, he is an executive professional of NEC Corp. He is also a guest professor of Kyushu University, Waseda University, Tokyo University and Osaka University.

Dr. Yuichi Nakamura contributed to manage and lead several innovative projects in signal processing and computing area. Currently, he is a board member of Japanese government quantum innovation meeting, a program officer of Japanese Quantum sensing project and an evaluation committee of several Japanese government grant meetings.

Yuichi Nakamura published more than 40 international conference papers and more than 25 journal papers which are related to above contributions and had many key note talks at major conferences like as ISCAS2019.



Edoardo Giusto Edoardo Giusto, PhD (Member IEEE) obtained the B.S. degree in 2015, M.S. degree in 2017, and PhD degree in 2021 from Politecnico di Torino. He is currently a PostDoctoral Research Assistant at the Department of Control and Computer Engineering at Politecnico di Torino. His research interests include Internet of Things and Quantum Computing.



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Dr. Stefan Leichenauer is the Vice President of Engineering and lead scientist at SandboxAQ. Stefan joined the Sandbox team at Alphabet as its first employee to bring AI and Quantum technologies to real-world applications, initiating all of the projects that have become the SandboxAQ product portfolio. He recruited teams of engineers and scientists to further develop the SandboxAQ products and became head of Research and Engineering, overseeing all of their projects. Today he drives all product development at SandboxAQ. Stefan is also the bridge between the engineering and business/strategy divisions of SandboxAQ and works closely with the partnerships team to craft external engagements. Stefan received his Ph.D. in Physics from UC Berkeley, and has held positions in Physics at UC Berkeley and Caltech as a leading researcher. He maintains a close connection with academia through the SandboxAQ PhD Residency and Postdoc programs.



Quantum Algorithms

Louise Turner is the CEO of the Quantum Algorithms Institute in British Columbia, Canada. QAI supports the growth of jobs and companies in BC's burgeoning quantum computing sector.

Louise is an expert in economic development and creating the right conditions for the adoption of technology and innovation. Louise's began her career as a fast track civil servant in the British government. Moving into industry, she led Mergers and Acquisitions for Canadian networking company, Newbridge Networks Corporation, and was Director of Business Development for BC-based telecom start-up, Abatis Network Systems. Louise has led a number of initiatives in health innovation in Canada and was the President of the Premier's Technology Council in British Columbia, providing insight into the needs of growing tech companies for the BC government. Support for early technology development and adoption occurs at the intersection between government, academia and industry and

Louise is uniquely equipped to take on this role. Louise has an MBA from the Cranfield School of Management in the UK and is an executive coach, board advisor and angel investor.



Sylwia Bartel de Weydenthal is a marketing leader and visionary at the forefront of shaping the future of business, technology, and inclusive leadership. With a passion for innovation, a dedication to diversity, and an entrepreneurial spirit, she is a sought-after speaker and thought leader. Sylwia believes in the convergence of business, technology, and human engagement. Her career spans prominent roles at industry giants like Meta (formerly Facebook), Danone, Heineken, and The Coca-Cola Company. At Meta, she excelled as a Client Partner for Central and Eastern Europe, consistently delivering exceptional growth for clients across FMCG, Retail, Telco, Tech, and more. Her ability to drive digital transformation and successful marketing strategies earned her recognition as a C-suite leader among clients' CEOs and CMOs. Sylwia's entrepreneurial venture into deep tech IQM Quantum Computers Company in Helsinki, Finland, exemplifies her versatility and determination to excel in diverse domains. A staunch advocate for diversity and inclusion,

Sylwia has pioneered the introduction of the Diversity, Equality & Inclusion Chapter for Central & Eastern Europe, fostering an environment where everyone feels valued and appreciated. Her leadership extends to organizations like Lean In Polska and Women FBRG, where she played a pivotal role in advancing gender equality and social justice. She excels in leading diverse and inclusive teams, translating various perspectives into strategies that thrive in challenging markets. Her ability to forge enduring partnerships, from the C-suite to the front lines, underscores her leadership prowess.

With a Master's degree in American Studies from the University of Warsaw, specializing in American Business and Economics, postgraduate studies in coaching, and Facebook Certified Digital Marketing Associate certification, Sylwia possesses a wealth of knowledge and expertise in the tech marketing landscape.



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Dr. Catherine Potts is a sales engineer at D-Wave Quantum Inc., where she works with customers to identify how D-Wave's technology can help optimize their business. She has a doctorate in applied mathematics with a focus on machine learning and imaging problems. Her background also includes building applications for different quantum computing modalities including quantum annealing, gate-based, and photonic systems.



Davide Corbelletto Born in Italy at the very beginning of the 80's, between the Generation X and the Millennials, Davide is a mathematician with 18 years of professional experience in computer science. Before joining Intesa Sanpaolo Group in 2016, Davide previously worked for almost 12 years as a technical advisor for several international firms, banks, and insurance companies. He has developed strong capabilities in managing digital transformation projects mainly focused on designing reliable data architecture, promoting cloud computing adoption, and conceiving scalable machine learning solutions. Starting from 2020 he deals with Quantum Computing within the brand-new dedicated Competence Center in the Group Technology Area.



Ruslan Shaydulin is a quantum algorithms researcher at the Global Technology Applied Research center at JPMorgan Chase. Ruslan's research centers on applying quantum algorithms to classical problems, with a focus on optimization and machine learning. Prior to joining JPMorgan Chase, Ruslan was a Maria Goeppert Mayer fellow at Argonne National Laboratory.