The world’s QUANTUM CYBERSECURITY, NETWORKING & SENSORS event

IQTNYS
INSIDE QUANTUM TECHNOLOGY

OCTOBER 24-26, 2023 | NEW YORK CITY

• 3 Days • 100+ Speakers • 34 Sessions • In-Person

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PASSWORD: guest@wpp

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Start your journey to quantum safe

Quantum computers have the potential to serve as discovery tools for challenging problems, but they also bring security considerations. While cryptographically-relevant quantum computers are still on the horizon, “harvest now, decrypt later” schemes put data at risk today. Therefore, we must plan for a quantum-safe future, today.

IBM is committed to the responsible development of quantum computing and is a leader in Quantum Safe technology. Of the four algorithms selected by the US National Institute of Standards and Technology (NIST) for standardization, three were developed by IBM and our collaborators. And in 2023, we unveiled our Quantum Safe Roadmap, charting a path for the future of post-quantum cryptography.

IBM aims to make this quantum-safe transition as seamless as possible with IBM Quantum Safe Explorer, IBM Quantum Safe Advisor, and IBM Quantum Safe Remediation. These three key technologies will help clients identify, prioritize, and replace old cryptographic schemes with new quantum-safe solutions.

Today, IBM is a trusted industry leader in quantum safe. As part of the GSMA Post-Quantum Telco Network Taskforce, IBM is helping define policy, regulation, and operator business processes for the enhanced quantum-safe protection of telecommunications, for example.

Fully migrating to quantum-safe technology might seem daunting. But it doesn’t have to be, thanks to IBM Quantum Safe.

To learn more about your quantum safe journey, please contact us at ibm.biz/IBMQuantumLearnMore.
<p>| Eastern time | <strong>DAG 1 | TUESDAY, OCTOBER 24</strong> |
|-------------|----------------------------------|
| 9:05 am     | <strong>Conference Opening</strong>           | Speaker: <strong>Kees Eijkel</strong> - Business Development Director, QuTech, Delft University of Technology |
| 9:10 am     | <strong>Conference Keynote: Accelerating Quantum Readiness with Crypto-Agility</strong> | Speaker: <strong>Scott Crowder</strong> - Vice President, Quantum Adoption and Business Development, IBM |
| 9:40 am     | <strong>Forecasts, Funding and Management</strong> |
| 9:55 am - 11:40 am | <strong>Session 1: Future Commercialization of PQC: Beyond NIST</strong> | One of the biggest quantum events in the past year was NIST's selection of PQC algorithms, with the promise of draft standards in 2024. This choice has lowered the barriers to entry in the PQC market and will result in new firms rushing into the market. This session will provide insight on how the PQC market will evolve, with a special focus on which PQC markets and products will take off first. We will explore the evolution of PQC from both the perspective of NIST and from the point of view of the most innovative PQC firms, both large and small. |
| 9:55 am     | <strong>Talk 1.1: Anti-Virus Technology for Quantum Computers</strong> | Speaker: <strong>Jakub Szefer</strong> - Associate Professor, Electrical Engineering, Yale University |
| 10:10 am    | <strong>Panel 1.1: PQC: Evolution of Applications</strong> | Moderator: <strong>Reza Azenderakhsh</strong> - CEO and Founder of PQSecure and Professor at FAU |
|             | <strong>Speakers:</strong> <strong>Skip Sanzeri</strong> - Founder, Board Chair, and COO, QuSecure | <strong>Rafael Misoczki</strong> - Cryptographer, Meta |
| 10:35 am    | <strong>Talk 1.2: Challenges, Complexities and Preparation for PQC Migration</strong> | Speaker: <strong>Chris Hickman</strong> - Chief Security Officer, Keyfactor |
| 10:50 am    | <strong>Talk 1.3: Hardware IPs for PQC and CHIPS Act</strong> | Speaker: <strong>Reza Azenderakhsh</strong> - CEO and Founder of PQSecure and Professor at FAU |
| 11:05 am    | <strong>Special Talk: The Quantum Technology Industry: Market Predictions</strong> | Speaker: <strong>Lawrence Gasman</strong> - President, IQT Research |
| 11:25 am    | <strong>Talk 1.4: The Current State of Quantum Security</strong> | Speaker: <strong>Gina Scinta</strong> - Deputy Chief Technology Officer, Thales Trusted Cyber Technologies |
| 11:40 am - 12:55 pm | <strong>Lunch Break in the Exhibit Hall</strong> |
| 12:55 pm - 2:30 pm | <strong>Session 2: Quantum Cybersecurity Hardware: The Good, the Bad and the Users</strong> | This session focuses on QKD and QRNGs and will be especially concerned with how these two quantum cybersecurity technologies/products can differentiate themselves and succeed in the market. One issue that we will explore is if how QKD chips will expand the quantum cybersecurity business. We will also explore the incorporation of quantum technology into HSMs, an interesting new direction for quantum cybersecurity. We anticipate that the speakers will include both the vendors of quantum cybersecurity hardware and the firms that are considering using them. |
| 12:55 pm    | <strong>Talk 2.1: Why Entropy is more valuable than BITCOIN</strong> | Speaker: <strong>Anthony Lawrence</strong> - Founder and Chief Executive Officer (CEO), VOR Technology and Light Rider |
| 1:10 pm     | <strong>Panel 2.1: Minding The Gap: Corporate Quantum Cybersecurity Actions while we wait for NIST and FIPS</strong> | Moderator: <strong>Michael Redding</strong> - CTO, Quantropi |
|             | <strong>Speakers:</strong> <strong>Wolfgang Rohde</strong> - Director of Research, Digital Manufacturing, Siemens Digital Industries Software | <strong>Carlos Abellán</strong> - Co-Founder and CEO, Quside Technologies S.L. |
| 1:35 pm     | <strong>Talk 2.2: Quantum Random Number Services</strong> | Speaker: <strong>Jose Coello</strong> - Director and Chief Scientific Officer, Crypto Labs Ltd. |</p>
<table>
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<tr>
<th>Eastern time</th>
<th>Event Description</th>
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| 1:50 pm      | Panel 2.2: Simulation, Quantum and Monte Carlo  
**Moderator:** Zhanet Zaharieva - Co-founder and COO, Quantum Dice  
**Speakers:** Annika Möslein - Technical Project Manager, Quantum Dice  
Anton Lebedev - Scientific Assistance and HPC Software Engineer, Hartree Center, Science and Technology Facilities Council (STFC)  
Del Rajan - Quantum Computing Research Scientist, HSBC Lab |
| 2:15 pm      | Talk 2.3: Keep It Simple: Considerations for Enterprise Grade QKD in Real World Environments  
**Speaker:** Nir Bar-Lev - CEO, QuantLR |
| 2:30 pm - 2:50 pm | Afternoon Break and Refreshments in the Exhibit Hall |
| 2:50 pm - 5:10 pm | Session 3: The Case for Quantum: End User Perspectives  
This session will examine the deployment of quantum technology in a variety of key industry sectors: the industries that are proving to be the quantum pioneers. The session will begin with an overview of quantum cyber security deployment in the enterprise and then take a look at quantum in the financial services and materials/pharma sectors. It will conclude with a discussion for in-premises quantum computers and what we might do with them. The story will be told from the perspective of both the quantum technology industry and the end-users themselves. |
| 2:50 pm      | Panel 3.1: The Case for Quantum Cybersecurity in the Enterprise  
**Moderator:** John Prisco - President and Chief Executive Officer, Safe Quantum Incorporated  
**Speakers:** Ramy Shelbaya - Co-founder and CEO, Quantum Dice  
Vince Berk - Chief Revenue and Strategy Officer, Quantum Xchange  
Rima Oueid - Senior Commercialization Executive, United States Department of Energy  
Simon Patkovic - VP, Quantum-Safe Solutions, ID Quantique |
| 3:15 pm      | Panel 3.2: Quantum Computing in Pharma and Materials Science  
**Moderator:** Christopher Bishop - Chief Reinvention Officer, Improvising Careers  
**Speakers:** Zoran Krunic - Sr. Manager Data Science, AMGEN  
Shahar Keinan - CEO, Polaris Quantum Biotech  
Saif Rayyan - Quantum Computational Science Research Manager, IBM |
| 3:40 pm      | Talk 3.1: A Pseudo-Asymmetric Cryptographic Quantum Protocol  
**Speaker:** Lubjana Beshaj - Research Scientist, Army Cyber Institute, Associate Professor, West Point |
| 3:55 pm      | Panel 3.3: Quantum Technology in the Military  
**Moderator:** Anthony Lawrence - Founder and Chief Executive Officer (CEO), VOR Technology and Light Rider  
**Speakers:** Edward Parker - Physical Scientist, RAND Corporation  
Étienne De Montigny - Defense Scientist, Defense Research and Development Canada, Department of National Defense  
Catarina Bastos - Account Manager for Defence, Deimos Engenharia |
| 4:20 pm      | Panel 3.4: Quantum Technology in the Energy Industry  
**Moderator:** Doug Finke - Chief Content Officer, Global Quantum Intelligence  
Managing Editor, Quantum Computing Report  
**Speakers:** Satyam Priyadarshy - Technology Fellow and Chief Data Scientist, Halliburton  
Rozhin Eskandarpour - Founder and CEO, Resilient Entanglement |
| 4:45 PM      | Panel 3.5: Quantum, Training and the Workforce  
**Moderator:** Christopher Bishop - Chief Reinvention Officer, Improvising Careers  
**Speakers:** Olivia Lanes - Global Lead and Manager, Quantum Advocacy, IBM  
Connor Teague - Head of Quantum Computing - Talent Partner, Quantum Futures  
Zizwe Chase - Assistant Professor, Electrical and Computer Engineering, University of Illinois Chicago |
| 5:10 PM      | Special Talk: How a Telecom Quantum-Safe Footprint will Shape the Future  
**Speakers:** Chloe Ryu - Manager, Quantum Americas, SK Telecom  
Simon Patkovic - VP, Quantum-Safe Solutions, ID Quantique |
| 5:45 PM      | Wrap-up Discussion and Highlights for Wednesday |
| 6:00 PM - 7:00 PM | Welcome Reception |
The first commercially available quantum network. Now open to brilliant minds like yours.

Now, nothing's stopping you from changing the world. For the first time, walk in and customize a quantum network with a wide range of options to fit your project. And when you arrive at a future-shaping breakthrough, your IP remains yours. For a tour, call Kirk McLemore at 423-648-3375.

quantum.epb.com
### DAY 2 | WEDNESDAY, OCTOBER 25

<table>
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<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>9:05 am</td>
<td>Recap of Yesterday - Plan for Today</td>
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<tr>
<td>9:10 am</td>
<td><strong>Session 4: Emerging Quantum Sensor Technologies: Products and Trends</strong></td>
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<td>If quantum clocks and PAR sensors count, quantum sensors are the most mature of all quantum technologies. However, in the past few years, exciting new applications for quantum sensors have begun to emerge. Quantum sensors in medical imaging remain controversial, but the role of quantum sensors in location-finding services and self-driving vehicles seem assured. We also note that the structure of the quantum sensor industry is changing and becoming an area of interest for some of the largest quantum technology firms. In this session, we discuss the opportunities resulting from all this change. How much revenue potential does the quantum sensor business really have?</td>
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<td>9:10 am</td>
<td><strong>Talk 4.1: Building a Quantum Platform for Sensor Applications</strong></td>
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<td>Speaker: Mathieu Munsch - CEO, Co-Founder, Qnami</td>
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<tr>
<td>9:30 am</td>
<td><strong>Panel 4.1: R&amp;D Directions for Quantum Sensors</strong></td>
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<td>Moderator: Lawrence Gasman - President, IQT Research</td>
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<td></td>
<td>Speakers: David Roy-Guay - Co-Founder and CEO, SBQuantum</td>
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<td>Ravi Kumar - Co-Founder and Chief Technology Officer, Atomionics</td>
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<td>Nardo Manaloto - Managing Partner, Qubits Ventures</td>
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<tr>
<td>10:00 am</td>
<td><strong>Talk 4.2: Future of Quantum - Enhanced Image Sensors</strong></td>
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<td>Speaker: Hoon Kim - Founder and CEO, SeeDevice Inc.</td>
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<td>10:15 am</td>
<td><strong>Talk 4.3: Quantum Sensing at IDQ</strong></td>
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<td>Speaker: Dan Chebot - Quantum Sensing Manager, Americas, ID Quantique</td>
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<td>10:30 am</td>
<td><strong>Women in Quantum Technology</strong></td>
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<td>Moderator: Kenna Hughes-Castleberry - Staff Writer, IQT News</td>
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<td>Speakers: Olivia Lanes - Global Lead and Manager, Quantum Advocacy, IBM</td>
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<td>Maëva Ghonda - Chair, Quantum AI Institute</td>
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<td>Senior Fellow, HQS Quantum Simulations</td>
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<td>Clarice Aiello - Assistant Professor, Quantum Biology Tech (QuBiT) Lab, UCLA</td>
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<tr>
<td>11:00 am</td>
<td><strong>Lunch Break in the Exhibit Hall</strong></td>
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<td>12:15 pm</td>
<td><strong>Session 5: New Directions for Quantum Technology</strong></td>
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<td>This session covers some of the major open issues that will have to be resolved as the quantum technology market takes off. These include relatively technical matters such as quantum cloud, hybrid quantum computing and the ubiquitous quantum supremacy issue. The session will also take a look at the question of whether AI will emerge as a major application in the quantumsphere and how the manufacturing of quantum devices can be expected to improve in the future. The panelists will include some of the leading engineers and strategic thinkers involved with these issue.</td>
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<tr>
<td>12:35 pm</td>
<td><strong>Panel 5.1: Quantum Technology and AI</strong></td>
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<td>Moderator: Lawrence Gasman - President, IQT Research</td>
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<td>Speakers: Tom Lubowe - Product Manager, Quantum Computing Libraries, NVIDIA</td>
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<td>Hrant Gharibyan - Co-founder and CEO, BlueQubit</td>
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<td>Stefan Woerner - Principal Research Scientist, Manager, Quantum Computational Science, IBM</td>
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<td>IBM Quantum, IBM Research Europe – Zurich</td>
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<td>1:10 pm</td>
<td><strong>Talk 5.1: Building the Innovation Flywheel for Quantum Technologies</strong></td>
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<td>Speaker: Stefan Natu - Head of Product Management, Amazon Braket</td>
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<td>1:30 PM</td>
<td><strong>Talk 5.2: Bohr Quantum: A Path to the Quantum Internet</strong></td>
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<td>Speaker: Paul Dabbar - CEO and Co-Founder, Bohr Quantum Technologies</td>
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Quantum Xchange is delivering the future of encryption by enabling full cryptographic visibility, agility, and management.

With products and services from Quantum Xchange, existing IT infrastructures, SASE, and managed networks are future-proof and quantum-ready.

- **CipherInsights™**: Discover, catalogue, and prioritize cryptographic risk and remediation with CipherInsights™
- **PHIQ TX™**: Deploy affordable, crypto-agile, and quantum-safe solutions with Phio TX™
- **PHIQ M**: Manage your cryptographic infrastructure holistically and through policy with Phio M.

- **Continuously** monitor network traffic for cryptographic risk
- **Avoid** performance costs and latency issues
- **Eliminate** single points of failure in cryptography
- **Protect** your network infrastructure from future attacks
- **Meet** regulatory requirements with ease

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DAY 2 | WEDNESDAY, OCTOBER 25 continued

1:45 PM
Spotlight: IBM's Practical Success with Smaller QCs: The Nature Paper
Speaker: Sarah Sheldon - Senior Manager, Quantum Theory and Capabilities, PRSM, IBM

2:00 PM
Panel 5.2: Perspectives on Manufacturing Hardware
Moderator: Celia Merzbacher - Executive Director, Quantum Economic Development Consortium (QED-C)
Speakers: John Levy - Co-founder and CEO, Seeqc
Javad Shabani - Associate Professor of Physics / Director, Center for Quantum Information Physics (CQIP), NYU

2:25 PM - 2:45 PM
Afternoon Break and Refreshments in the Exhibit Hall

Quantum Technology Adoption

2:45 PM - 4:10 PM
Session 6: New Directions for Regulation and Policy
The policy environment for quantum is diverse and evolving. In this Session we will bring together topics such as government funding, export controls and national security matters. Speakers will include government executives and policy experts as well as representatives of private firms with special regulatory responsibilities. This session will also take a look at quantum regulation outside of the US.

2:45 PM
Panel 6.1: US Quantum Policy: National Programs and Funding
Moderator: Lawrence Gasman - President, IQT Research
Speakers: Paul Dabbar - CEO and Co-Founder, Bohr Quantum Technologies
Jonah Force Hill - Head of U.S. Federal Business Development & Government Affairs, Xanadu

3:10 PM
Talk 6.1: Transitioning the U.S. Government to Quantum Safe Cryptography: What We've Learned So Far
Speaker: Nick Polk - Sr. Advisor to the Federal Chief Information Security Officer, White House Office of Management & Budget

3:25 PM
Talk 6.2: Quantum Information Science at the Air Force Research Laboratory
Speaker: Michael Hayduk - Deputy Director, Information Directorate, Air Force Research Laboratory

3:40 PM
Talk 6.3: White House NSM-10 and How it will Affect the Private Sector in 2024
Speaker: Konstantinos Karagiannis - Director, Quantum Computing Services, Protiviti

3:55 PM
Talk 6.4: Reauthorizing the National Quantum Initiative
Speaker: Paul Stimers - Partner, Public Policy & Regulation Group, Holland & Knight

Forecasts, Funding and Management

4:10 PM
Special Panel: Quantum Technology Executive Roundtable
This special panel comprises CTOs and CEOs from some of the leading quantum technology firms. They will discuss the “big picture” in quantum technology including such matters as product roadmaps, key business challenges, the role of government funding, recruitment, etc.
Moderator: Lawrence Gasman - President, IQT Research
Speakers: Bob Sutor - Chief Quantum Advocate, Infleqtion
Noel Goddard - CEO, Qunnect
Gina Scinta - Deputy Chief Technology Officer, Thales Trusted Cyber Technologies
Mark Solomon - Vice President, IonQ

4:45 PM - 5:35 PM
Special Session: Quantum Investment Outlook: VCs and the Future
This session will look at the role of venture capitalists in the quantum technology sector. What sectors of quantum technology will they investing in and what do they see as reasonable time frames for profitability? This special session will include some of the most active VCs in the quantum sector.

4:45 PM
Discussion: The Future of Venture Capital in the Quantum Sector
Speakers: Ton van 't Noordende - Managing Director, QDNL Participations
William Zeng - Partner, Quantonation

5:10 PM
Panel 1: How VCs make Quantum Sector Investments
Moderator: Ton van 't Noordende - Managing Director, QDNL Participations
Speakers: Francesco Ricciuti - VC Associate, Runa Capital
Mark Danchak - Managing Partner, General Innovation Capital
Damien Petty - Partner, Morpheus Ventures

5:35 PM
Wrap-up Discussion and Highlights for Thursday
Find all you need for the full hardware and networking stack in Delft

In Delft, a vibrant ecosystem of companies, orbiting around quantum technology institute QuTech – a collaboration between TU Delft and TNO – has taken root.

As members of the Quantum Delft community, these tech leaders are providing the world with leading quantum computer technology and solutions for inherently safe quantum networks.

At IQT New York, we are delighted to showcase:

QuantWare is the leading supplier of quantum processors.
QuantWare provides increasingly powerful and affordable quantum processors to organizations around the world, enabling them to build quantum computers for 1/10th the cost of competing solutions. Committed to an open architecture approach, QuantWare develops technology that will massively scale the number of qubits in a single processor, to create processors that can perform useful quantum computation in the near term.

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Single Quantum was established as the first European company manufacturing and commercializing superconducting single photon detectors.

The unique combination of unparalleled detection efficiency and time resolution is what makes their superconducting detectors the ideal choice for more than 200 academic and industrial labs all over the world for quantum communication, cryptography, infrared fluorescence spectroscopy, laser ranging and many other applications.

singlequantum.com

Qblox is a leading provider of scalable and modular qubit control electronics, supporting academic and industrial labs worldwide.

The Qblox control stack – Cluster – combines key technologies for qubit control and readout with a modular solution for different qubit technologies. Qblox continues to innovate hardware and software that is device agnostic, sophisticated, and scalable to support operations on hundreds, and in the future thousands, of qubits.

qblox.com

qutech.nl/IQTNY

Presented by Quantum Delft and QuTech.
### DAY 3 | THURSDAY, OCTOBER 26

<table>
<thead>
<tr>
<th>Eastern time</th>
<th>Event</th>
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<tbody>
<tr>
<td>9:00 am</td>
<td>Recap of Yesterday - Plan for Today</td>
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<tr>
<td>9:05 AM</td>
<td><strong>Diamond Networking Keynote: Practical Distribution of Useful Entanglement</strong></td>
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<tr>
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<td>Speaker: Mehdi Namazi - Co-Founder and Chief Science Officer, Qunnect Inc.</td>
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<tr>
<td>9:30 AM - 11:55 AM</td>
<td><strong>Session 7: Quantum Networking Markets: Towards the Quantum Internet</strong></td>
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<td>This session will emphasize the business reasons for building networks. The panels will answer the question — why build quantum Internets in the first place; what applications will it support? The session will also deal with the technology of quantum networking — notably repeaters. The speakers for this session will include leading thinkers in the quantum networking space, as well as executives from the leading firms developing quantum networking products.</td>
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<tr>
<td>9:30 AM</td>
<td><strong>Session Keynote: Quantum Networking Markets: Towards the Quantum Internet</strong></td>
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<td>Speaker: Andrew Shields - Head of Quantum Technology, Toshiba Europe</td>
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<tr>
<td>9:50 AM</td>
<td><strong>Talk 7.1: Quantum Networking at Stony Brook and Brookhaven</strong></td>
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<td>Speaker: Eden Figueroa-Barragan - Associate Professor at Stony Brook University and Joint Appointment at Brookhaven National Laboratory</td>
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<tr>
<td>10:05 AM</td>
<td><strong>Panel 7.1: Quantum Repeaters: Short-To Medium-Term Prospects</strong></td>
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<td>Moderator: Robert Broberg - Visiting Scholar, University of Pennsylvania</td>
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<td>Speakers: David Levonian - Sr. Research Scientist, Quantum Networking, AWS</td>
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<td>Michael Wood - Chief Marketing Officer (CMO), Aliro Quantum</td>
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<td>Stephanie Simmons - Founder and Chief Quantum Officer, Photonic</td>
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<tr>
<td>10:30 AM</td>
<td><strong>Panel 7.2: Quantum Network Vendors and Integrators</strong></td>
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<td>Moderator: Denis Mandich - CTO, Qrypt</td>
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<td>Speakers: Poolad Iman - Founder and CEO, Icarus Quantum Inc.</td>
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<td>Willemijn Uilhoorn - Application Scientist, Qblox</td>
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<tr>
<td>10:55 AM</td>
<td><strong>Talk 7.2: Quantum Networks: An Enabling Technology</strong></td>
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<td>Speaker: Yoann Jestin - CEO and co-founder, Ki3 Photonics</td>
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<tr>
<td>11:10 AM</td>
<td><strong>Talk 7.3: Quantum Networking with Diamond Color Centers</strong></td>
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<td>Speaker: Hyeongrak (Chuck) Choi - Postdoctoral Associate, Massachusetts Institute of Technology</td>
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<td>11:25 AM</td>
<td><strong>Talk 7.4: The Quantum Internet Toolbox</strong></td>
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<td>Speaker: Gerhard Rempe - Director, Max Planck Institute of Quantum Optics</td>
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<td>11:40 AM</td>
<td><strong>Talk 7.5: Multi-Technology Approaches to Enterprise Quantum Security</strong></td>
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<td>Speaker: Denis Mandich - CTO, Qrypt</td>
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<tr>
<td>11:55 AM - 1:10 PM</td>
<td><strong>Lunch Break in the Exhibit Hall</strong></td>
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<td>1:10 PM - 2:50 PM</td>
<td><strong>Session 8: Quantum Networking</strong></td>
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<td>More on the extraordinary opportunities that are beginning to present themselves in quantum networking with talks on the latest standards, trials and equipment from the most knowledgeable experts in the field.</td>
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<td>1:10 PM</td>
<td><strong>Talk 8.1: Advances in Quantum Networking</strong></td>
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<td>Recent progress Quantum Computing space has driven interest and resources into both Post-Quantum Cryptography as well as Quantum Networking technologies, in both commercial and government markets. We will discuss late-breaking developments on the Quantum Networking side, including innovative new architectures, such as the DARPA QuANET program, new methods for entanglement sharing, quantum link authentication and novel approaches to secret key sharing.</td>
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<td>Speaker: Wil Oxford - Founder and CEO, Anametric</td>
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<td>1:30 PM</td>
<td><strong>Talk 8.2: A Survey of Quantum Networking Testbeds</strong></td>
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<td>Speaker: Robert Broberg - Visiting Scholar, University of Pennsylvania</td>
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<td>1:50 PM</td>
<td><strong>Talk 8.3: Quantum Networking and High-Performance Computing</strong></td>
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<td>Speaker: Deborah Berebichez - Founder &amp; CEO, Solve For You</td>
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By adopting Quantum Key Distribution, organisations can protect their communication infrastructure from today’s vast array of cyber-threats, as well as those of tomorrow. Already, hackers are using techniques such as harvest and decrypt, where data is scraped and stored today with the aim of decrypting it once they have the capability to do so through advances with supercomputers, the realisation of a quantum computer, or the discovery of new techniques for cryptanalysis. With QKD, any data which requires long-term protection is not only secure in today’s IT landscape, but also future-proofed to remain protected in the impending quantum age.

Robust levels of security are required in many sectors. In healthcare, the technology has been applied to ensure the secure transmission of genome data in Japan. Within the public sector QKD is used to provide government with secure communications, in the finance industry to protect banking network infrastructure and in aerospace and pharmaceuticals to protect high-value long-life Intellectual Property. Equally, in the age of IoT and smart cities, the necessity for a robust, tamper-proof and ultra-sensitive infrastructure is essential to ensure day-to-day life operates without disruption both now and in the future.

Toshiba is the world leader in high-speed quantum cryptographic systems. Based on decades of scientific research, we have taken on the challenges of this unexplored field and have pioneered the path to practical use.
### DAY 3 | THURSDAY, OCTOBER 26 continued

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<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>2:05 PM</td>
<td>Panel 8.1: The Current State of Quantum Networking</td>
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<tr>
<td>Moderator:</td>
<td>Corey McClelland - Vice President, Qubitekk, Inc.</td>
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<tr>
<td>Speakers:</td>
<td>Jim Ingraham - Vice President, Strategic Research Division, EPB</td>
</tr>
<tr>
<td></td>
<td>Michael Hayduk - Deputy Director, Information Directorate, Air Force Research Laboratory</td>
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<tr>
<td></td>
<td>Eden Figueroa-Barragan - Associate Professor at Stony Brook University and Joint Appointment at Brookhaven National Laboratory</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>Talk 8.4: Quantum Networking from the Ciena Perspective</td>
</tr>
<tr>
<td>Speaker:</td>
<td>Patrick Scully - Director, Product Line Management, Converged Packet Optical Division, Ciena</td>
</tr>
<tr>
<td>2:50 PM -</td>
<td>Afternoon Break and Refreshments in the Exhibit Hall</td>
</tr>
<tr>
<td>3:10 PM</td>
<td>Market Growth</td>
</tr>
<tr>
<td>3:10 PM</td>
<td>Special Talk 1: Getting Ready for the Era of Enterprise-Grade Quantum Computers</td>
</tr>
<tr>
<td>Speaker:</td>
<td>Rima Alameddine - Chief Revenue Officer, IonQ</td>
</tr>
<tr>
<td>3:30 PM</td>
<td>Special Talk 2: Quantum Technology at Fidelity</td>
</tr>
<tr>
<td>Speaker:</td>
<td>Elton Zhu - Director, Quantum Research, Fidelity Center for Applied Technology</td>
</tr>
<tr>
<td>3:45 PM - 4:30 PM</td>
<td>Session 9: Software Opportunities for Quantum Computing</td>
</tr>
<tr>
<td></td>
<td>This session focuses on the most rapidly evolving aspects of software in the quantum sphere. One such area will be quantum programming, which has a special role to play as an enabler for quantum computing in R&amp;D, the enterprise and the data center. Another important software-related enabler is error-free quantum computing. These topics will be considered in Session 7 along with quantum optimization and quantum simulation. The session will bring together the leading technologists in these areas for a thorough discussion of how products and strategies will be developed in the quantum software field.</td>
</tr>
<tr>
<td>3:45 PM</td>
<td>Talk 9.1: Opportunities with Quantum Computing Software - Programming, Algorithms and Applications</td>
</tr>
<tr>
<td>Speaker:</td>
<td>Pranay Prakash - CEO and Founder, Qubrid</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>Talk 9.2: Design of Software for Future 6G-Quantum Networks</td>
</tr>
<tr>
<td>Speaker:</td>
<td>Riccardo Bassoli - Assistant Professor, Technische Universität Dresden Co-founder and Managing Director, QcomBIT GmbH</td>
</tr>
<tr>
<td>4:15 PM</td>
<td>Talk 9.3: Quantum Networking Software</td>
</tr>
<tr>
<td>Speaker:</td>
<td>Wojciech Kozlowski - Quantum Network Engineer, QuTech</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>Conference Wrap-up/Conference Ends</td>
</tr>
</tbody>
</table>

Program schedule up-to-date as of 10/13/2023. Program is subject to change.

### EXHIBIT HALL HOURS
Located on the 11th floor

<table>
<thead>
<tr>
<th>Day</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Tuesday, October 24</td>
<td>11:30am - 7:00pm</td>
</tr>
<tr>
<td></td>
<td>(Welcome Networking Reception - 6:00pm - 7:00pm)</td>
</tr>
<tr>
<td>Wednesday, October 25</td>
<td>11:00am - 6:00pm</td>
</tr>
<tr>
<td>Thursday, October 26</td>
<td>11:00am - 3:15pm</td>
</tr>
</tbody>
</table>
What you will find in this report includes:

- Quantum computing and QPUs
- Quantum cybersecurity
- Quantum Communications and the Quantum Internet
- Quantum sensors
- Quantum system materials and components
- The quantum workforce

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Session 7: Quantum Communications Markets: Towards the Quantum Internet

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Quantum Delft QUANTUMXCHANGE QUANWARE

quantropi Quantum Computing Excellence in photon detection
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EXHIBIT HALL HOURS
Tuesday, October 24
11:30am - 7:00pm
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EXHIBITOR
IBM .......................................................... 113
Aurea Technology ........................................ 112
Quantropi ................................................. 111
Quantum Dice .......................................... 110
LQUOM .................................................. 109
Quantum Delft ......................................... 108
Inside Quantum Technology .................. 107
IDQ ....................................................... 106
Aliro Quantum ........................................ 105
Qunnect .................................................. 104
Montana Instruments ............................ 103
Toshiba .................................................. 102
Quintessence Labs ................................. 101
IBM Quantum
ibm.com/quantum/quantum-safe
Charles Robinson
IBM Quantum Team Lead
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IBM Quantum’s mission is to bring useful quantum computing to the world and to make the world quantum safe.

Quantum computers will soon solve valuable problems that have long challenged classical supercomputers. IBM Quantum advances quantum computing at every level. We offer the utility-scale systems, software, and expertise to prepare organizations for the quantum era. Safeguard your digital infrastructure against emerging quantum-era cybersecurity threats with IBM’s quantum-safe cryptographic technology.

Qunnect
www.qunnect.inc
Mehdi Namazi
Chief Science Officer
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Qunnect innovates products to enable the practical distribution of useful entanglement over existing telecommunication infrastructure, laying the foundation for the Quantum Internet. All products are rack-mounted and do not require extreme cooling or vacuum, solving a significant challenge to field deployment and scalability. In 2023 Qunnect launched GothamQ, a 300+km fiber network distributing entanglement under the streets of NYC.

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Creating the quantum future
QuTech, a collaboration between Delft University of Technology and Dutch research institute TNO, is a front-runner in the development of scalable prototypes of a quantum computer and an inherently safe quantum internet. To achieve this mission, we’re bringing together a global group of scientists, engineers and industry, as well as our fast-growing ecosystem of startups, in an inspiring environment on and around the Delft University Campus.

At Toshiba, we’re committed to delivering world-leading technology that protects private information of citizens and organizations. As quantum computing becomes more widely available, the volume and severity of cyber-attacks will put sensitive data under threat like never before. Only quantum-secure solutions will be able to withstand decryption from quantum computers, which will have the power to bypass current encryption methods in minutes. Our quantum cyber security solutions, based on decades of scientific research, apply the fundamental laws of quantum physics to deliver provably secure network communications that will remain resilient even in the age of quantum computing.

Founded in April 2020, Quantum Dice is an award-winning venture-backed spinout from the University of Oxford’s world-renowned quantum optics laboratory. It has developed a self-certifying DISC TM quantum random number generator (QRNG) to deliver verifiably high-quality random numbers at world-leading multi-Gbps rates.

Quantum Dice’s mission is to provide trusted and secure randomness to improve cybersecurity and protect a connected future.
Aliro Quantum, The Quantum Networking Company™, offers AliroNet™ to emulate, pilot, and deploy entanglement-based secure networks that are capable of running a wide variety of applications from secure communications to clustered quantum computing and distributed quantum sensing. Aliro, spun out of NarangLab at Harvard University, includes world-class experts in quantum and classical networking and is leading quantum network development by offering the foundational technologies needed for organizations around the world to build scalable and powerful distributed entanglement-based secure systems. AliroNet™ users include utility companies, telecommunications providers, public sector organizations, enterprises, and researchers who are simulating, designing, piloting, orchestrating, and building entanglement-based secure networks.

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AUREA Technology is the leading provider of high-performance optical building block for Quantum communications and Quantum Networking. Its product includes Entangled Photon-pair Sources, Single Photon counting detectors, time photon correlation electronics, and ultrafast lasers at telecom wavelength.

Since 2010, AUREA Technology works closely with its scientific and industrial customers to meet the technology challenges of today and tomorrow in the most demanding terrestrial and space Quantum Communications projects. AUREA Technology brings its expertise, know-how and innovative solutions to its global customers, which allows them to achieve outstanding results, and remain at the forefront of their field.

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United States

ASME helps the global engineering community develop solutions to real world challenges. Founded in 1880 as the American Society of Mechanical Engineers, ASME is a not-for-profit professional organization that enables collaboration, knowledge sharing and skill development across all engineering disciplines, while promoting the vital role of the engineer in society. ASME codes and standards, publications, conferences, continuing education, and professional development programs provide a foundation for advancing technical knowledge and a safer world.

Carrousel Digital
carrouseldigital.com
Bruno Sanglé-Ferrière, CEP
E: bruno@carrouseldigital.com
Country: U.K.

Carrousel Digital develops and promotes new Digital security devices and processes. It currently focuses on quantum safe security, with a quantum safe signature, a data transmission using entangled photons that provides fast and secure data transmission, as well as a photonic router to enable photon transmissions within a network.

EPB
epb.com
Kirk McLemore
Business Development Account Manager,
423-648-3375
U.S.

EPB of Chattanooga delivers world-class energy and connectivity services to the Chattanooga, Tennessee, area and operates the world’s fastest community-wide internet service at speeds up to 25 Gig. EPB also utilizes this network as the communications backbone for the most advanced and highly automated power distribution system in the United States. In 2022, EPB established the nation’s first commercially available quantum network—EPB Quantum Network™ powered by Qubitekk—to accelerate the commercialization of quantum technology.
ID Quantique (IDQ) is the world leader in quantum-safe crypto solutions designed to protect data for the long-term future. The company provides quantum-safe network encryption, secure quantum key generation and quantum key distribution solutions and services to the financial industry, enterprises and government organizations globally.

IDQ also commercializes a quantum random number generator which is the reference in security, simulation and gaming industries. Additionally, IDQ is a leading provider of optical instrumentation products, most notably photon counters and related electronics. The company’s innovative photonic solutions are used in both commercial and research applications.

LQUOM
lquom.com/en
Hideyo Tsurusawa
CMO
E: hideyo.tsurusawa@lquom.com
Yokohama, Japan

LQUOM is a quantum startup from Yokohama National University in Japan. LQUOM is developing a quantum repeater system for the quantum internet. We recently launched a cavity-enhanced two-photon source as a commercial product. The cavity enhancement of the photon source allows efficient coupling with a rare-earth doped quantum memory, such as Pr: YSO. We continue to develop a photon source, a quantum memory, and interface technologies to realize a quantum repeater system as a commercial product.

Quantropi Inc.
www.quantropi.com
Jay Toth
(SVP, Sales)
E: jay.toth@quantropi.com
Canada

Quantropi provides quantum-secure encryption and quantum key generation and distribution services to enterprises, governments, product manufacturers, and the IoT space, through its flagship QiSpace™ platform. QiSpace is the only offering that provides all three prerequisites for end-to-end quantum security — Trust, Uncertainty, and Entropy — TrUE. Quantropi’s TrUE product suite is fast, lightweight, and works seamlessly over TODAY’s Internet, making it the perfect choice from server environments to mobile and even embedded systems.

Quantum Delft
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T: +31 6 39 31 53 03
The Netherlands

In Delft, a vibrant ecosystem of companies orbiting around quantum technology institute QuTech has taken root. As members of the Quantum Delft community, these tech leaders are providing the world with leading quantum computer technology and solutions for inherently safe quantum networks. In fact, you can find all you need for the full hardware and networking stack in Delft. At IQT New York, meet representatives from QuantWare, Single Quantum and Qblox.
Quantum Xchange protects the world's data in motion from advances in computing and everyday cybersecurity risks. Delivering the future of encryption with its award-winning, cryptographic management platform, Phio Trusted Xchange (TX) and network monitoring and risk assessment tool CipherInsights, commercial businesses and government agencies can bring existing IT infrastructure and SD-WAN environments into the post-quantum era easily, affordably, and through policy configuration and control.

QuintessenceLabs is a world-leading quantum cybersecurity company recognized for its advanced quantum-safe data protection capabilities extending from quantum-enabled key generation, crypto-agile encryption key and policy management to ultra-secure quantum key distribution, helping global enterprises and government agencies build a quantum-resilient security posture.

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