



GÉANT Infoshare: Quantum Key Distribution - Simulation

<https://events.geant.org/event/991/>

Piotr Rydlichowski, *QKD technical leader*
Xavier Jeannin, *GN4-3 WP6 T1 task leader*
Susanne Naegele-Jackson, *GN4-3 WP6 T0*

GÉANT Infoshare, 13th October 2021

www.GÉANT.org



GÉANT Infoshares are intended to create a space to engage, improve knowledge sharing and discussion about services and strategic topics, and to build a human network across the Research and Education community.



Co-organised by Network Technologies and Services Development Work package (WP6), together with GÉANT Partner Relations Team, within the Community Programme



Public Infoshares are on Wednesdays and are recorded
Other Infoshares will be 'invitation only' events on other weekdays



Go to the main Infoshares Wiki page to suggest future topics



Recordings are available in the e-Academy, GLAD website and on Wiki pages after the event



Questions: partner-relations@GÉANT.org

Network Technologies and Services Development approach

- **Make European NRENs “quantum aware”**

- dissemination activities: Infoshares, workshops
 - **Infoshare:** “Quantum Principles” - GEANTtv YouTube channel: <https://youtu.be/eZN41xyfUr4> - <https://events.geant.org/event/353/>
 - **Infoshare:** “QKD - Practical Implementations, Challenges, R&E Use Cases ...” - GEANTtv YouTube channel https://www.youtube.com/watch?v=Bg1vZQ_arOY - <https://events.geant.org/event/453/>
 - **White Paper:** “Quantum Technologies Status Overview” - https://www.geant.org/Resources/Documents/GN4-3_White-Paper_Quantum-Technologies-Status-Overview.pdf
 - **Quantum WIKI:** <https://wiki.geant.org/display/NETDEV/QKD>
- Training, if NRENs are interested

- **Technology testing:**

- Collaboration with NRENs, Research projects and industry
- Testbed: simulation and physical testbed

- **Exploring QT solutions for GÉANT**

WP6 - Quantum Key Distribution Team

- Contact us at qkd-discuss@lists.GÉANT.org or quantum-discuss@lists.geant.org
- **Piotr Rydlichowski**, PSNC - **QKD technical leader**
- Rudolf Vohnout , Josef Vojtech, Pavel Skoda, CESNET
- Peter Kaufmann, Susanne Naegele-Jackson, DFN
- Guy Roberts, Domenico Vicinanza, GÉANT
- Andor Jeszenszky, KIFU
- Prof. Andre Xuereb, University of Malta
- Chrysostomos Tziouvaras, GRNET

- Xavier Jeannin , task leader
- Ivana Golub, Work Package Leader
- Tim Chown, Work Package Leader

Open Quantum Group Meeting

- Share information about the different **QKD and Quantum Technology** related projects supported by the NRENs and European institutes, national initiatives and project calls, etc.
 - Wiki: <https://wiki.geant.org/display/NETDEV/Open+Quantum+Group+Meeting>
 - When: Join us every month! meet the first Friday of each month, at 14:00 CEST
 - What: Present your projects and their progress; inform about important articles, upcoming events and project calls, etc.
- Our email list: quantum-discuss@lists.geant.org

Your feedback is crucial

- An interactive infoshare
 - Please **use the Zoom chat** to submit your questions
 - Q/A at the end of each session

Two infoshares

Quantum Key Distribution - Simulation

- <https://events.geant.org/event/991/>
- Simulator tools for team training and design

Quantum Key Distribution, Physical implementation and testbed

- Friday 15th October 2021
- <https://events.geant.org/event/1006/>
- Physical implementation and testbed
- European Quantum Communication Infrastructure call (QCI)¶

Quantum Key Distribution Simulation

[14:00 - 14:10] Introduction and Welcome – Xavier Jeannin (RENATER)

[14:10 - 14:30] QKDNETSIM presentation - Dr Miralem Mehic (VSB-Technical University of Ostrava)

[14:30 - 14:50] QKDNETSIM demonstration - Dr Miralem Mehic (VSB-Technical University of Ostrava)

[14:50 - 15:05] Q/A session

[15:05 - 15:15] Coffee Break

[15:15 - 15:35] QuISP presentation - Piotr Rydlichowski (PSNC)

[15:35 - 15:55] QuISP demonstration - Piotr Rydlichowski (PSNC)

[15:55 - 16:10] Q/A session

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QKD - Simulation

Coffee Break

Next Network Technologies and Services Development Infoshares



- White Box in NREN context- 8th Dec. 2021
 - <https://events.geant.org/event/1064/>

Introduction Speaker

Dr. Miramen Mehic

- graduated from Faculty of Electrical Engineering ETF-University in Sarajevo, Bosnia and Herzegovina in 2010 and I hold a master degree in Telecommunications from the same faculty (ETF) since 2012. In 2017, I received a Ph.D. from VSB-Technical University of Ostrava in Czech Republic. Miralem received the Best paper award at IEEE conference MCSS2017 in Kraków and received the second place for his dissertation Using Quantum Key Distribution for Securing Real-Time Applications in category Information Technologies in a competition within consortium of universities. He is involved in the Horizon 2020 OPEN QKD project and the main contributor to the QKD Network Simulator which he is going to present today.

Introduction Speaker

Piotr Rydlichowski

- Head of Optical Networking Laboratory, Institute of Bioorganic Chemistry of the Polish Academy of Sciences Poznan Supercomputing and Networking Center Researcher. Focused on optical data transmission technologies and electromagnetic wave theory and propagation simulation.
- Involved in European QKD projects and Quantum Flagship (<https://openqkd.eu/>)
- Involved in Polish National Quantum Technologies Laboratory (<http://nlpqt.fuw.edu.pl/>)
- QKD subtask leader in GN4-3 project, WP6 T1

Thank you

Any questions?

Share with us your feedback at

qkd-discuss@lists.GEANT.org

www.GÉANT.org

