



9th Winter School on Quantum Cybersecurity Preliminary Program

Beginning of the school: Saturday 14th January 2017

Saturday 14 th January 2017	
From 14:00	Arrival of the participants
17:00 - 18:00	17.00 - 18:00 Introduction Presentation of the program
18:00 - 20:00	Dinner
20:00 - 22:00	After dinner talk From Scytale to EPR A brief history of cryptography A Ekert

Legend
Lectures
Hands-On Sessions
Discussion Panels
Recreational Activities
Meals
Various

Day	Sunday 15 th January 2017	Monday 16 th January 2017	
Time	Executive/Technology Tracks	Executive Track	Technology Track
07:15 - 08:00	Breakfast	Breakfast	
08:00 - 10:00	Introduction Quantum Communications G. Ribordy	Quantum Risk Assessment The context of quantum security M. Mosca	
10:00 - 12:00	Quantum Computer Status and progress A. Ekert	Discussion Panel: Ask the experts	
		Wrap up of Executive Track IDQ team	
12:00 - 14:00	Lunch	Lunch	
14:00 - 16:00	Post-Quantum Cryptography Quantum resistant algorithms J. P. Aumasson	End of Executive track	Recreational Activity Skiing
16:00 - 18:00	QKD in space Towards global security C. Marquardt		Dinner
18:00 - 20:00	Dinner		Hands-On Session 1
20:00 - 22:00	Recreational Activities: Curling		

	Technology Track			
	Tue 17 th Jan 2017	Wed 18 th Jan 2017	Thu 19 th Jan 2017	Fri 20 th Jan 2017
07:15 - 08:00	Breakfast	Breakfast	Breakfast	Breakfast
08:00 - 10:00	QKD: Session 1 IDQ R&D team	Quantum Hacking V. Makarov	Theory of Quantum Computing S. Popescu	
10:00 - 12:00	QKD: Session 2 IDQ R&D team	Hands-On Session 3	Quantum Memories M. Afzelius	Wrap up session and discussions IDQ Team
12:00 - 14:00	Recreational Activity Glacier 3000	Lunch	Lunch	Lunch (optional)
14:00 - 16:00		Hands-On Session 4	Latest developments in Quantum Cryptography H. Zbinden	End of program
16:00 - 18:00	Randomness and Entropy generation An essential tool for crypto IDQ R&D team	Security Proofs of QKD R. Renner	D-Wave: the first Quantum Computer C. William	
18:00 - 20:00	Dinner	Dinner	Dinner	
20:00 - 22:00	Hands-On Session 2	Recreational Activity Evening Sledge	Recreational Activity Swiss Party	

End of the school: Friday 20th January 2017 around 11 AM

Notes

- For hands-on tutorials, participants will work in groups. Each group will take part in the following tutorials:
 - Hands-On 1 – Network security;
 - Hands-On 2 – Practical QKD;
 - Hands-On 3 – Single photon detector calibration;
 - Hands-On 4 – Photon-pair generation.
- The courses will not focus solely on ID Quantique's products, but will use them for illustrative purposes
- All presentations are in English