

Student Presentations

Goals:

- **Interpret current research results** in quantum information science
- **Extract relevant information** from scientific papers, possibly neglecting details
- **Communicate your understanding** of a scientific topic in an aural presentation
- **Summarize the scientific content** of a paper in short written form (abstract)

Student Presentations

- **Topics:** Implementations of quantum information processing
- **Goal:** present key features of implementation
- **Material:** research paper + review articles
- **Preparation:** teams of **2 students**, advice and support by TA:
Stefan Filipp: filipp@phys.ethz.ch
Farruh Abdumalikov: abdumalikov@phys.ethz.ch
- **Duration:** presentation + discussion (30 min talk +15 discussion)
- **Presentation:** PowerPoint, blackboard, transparencies
- **Time:** within the QSIT exercise class on Friday
- **Abstract:** short, concise abstract (~100-150 words) of your presentation
- **Feedback:** evaluation form on both content and presentation of your talk

Topics

date	#	topic	student 1	student 2
3. 5.	1	Superconducting circuits: Toffoli gate and error correction		
3. 5.	2	Superconducting circuits: Grover algorithm		
10. 5.	3	Trapped Ions: Digital quantum simulation		
10. 5.	4	Trapped Ions: Quantum networks		
17. 5.	5	Quantum Dots: Implementing gates in quantum dot spin qubits		
17. 5.	6	Quantum Dots: Coupling of quantum dots to a resonator		
24. 5.	7	Photons: Experimental violation of Bell inequalities		
24. 5.	8	Photons: Experimental demonstrations of teleportation		
31. 5.	9	NMR: Shor algorithms – Theoretical background		
31. 5.	10	NMR: Shor algorithms – Experimental realization		

Your Presentation Schedule

- until April 19: sign up for a presentation (paper list or per email)
- 2-3 weeks before your presentation: have **a look at the papers**
- 2 weeks before : meeting with TA (write email to S. Filipp or A. Abdumalikov) to **discuss relevant aspects** which should be in your presentation
- in the week before: **discuss your slides with TA**, first draft of the **abstract**
- 1-2 days before: send **final version of abstract** to your TA