

Future Directions of Quantum Information Processing Workshop

Maj. John Roh and Dr. Kate Klemic | August 25-26, 2016 | Arlington, VA

Basic Research Innovation and Collaboration Center (BRICC)
4075 Wilson Blvd., Suite 350 | Liberty Room
Arlington, VA 22203

Day 1 – Thursday, August 25, 2016

Time	Title	Speaker
7:45 – 8:15	Registration	
8:15 – 8:30	Welcome and Introductions	Dr. Seth Lloyd
8:30 - 8:45	Overview of Quantum Information Processing: State-of-the-Art	TBD
8:45 - 9:00	Overview of Emerging Quantum Information Technologies: Atom and Optical Systems	TBD
9:00 – 9:15	Overview of Emerging Quantum Information Technologies: Superconducting Systems	TBD
9:15 – 10:15	<p style="text-align: center;">Breakout Session I: Presentations</p> <p style="text-align: center;"><i>“What are the projected capabilities of and challenges to quantum information processing over the next 10-20 years?”</i></p> <p>Topics:</p> <ol style="list-style-type: none"> 1. Atom and Optical Systems: Ion Traps, Cold Atoms 2. Superconducting Quantum Information Processors, Including Quantum Annealing 3. Quantum Communication Technology and Quantum Optics 	
10:15 – 10:30	MORNING BREAK	
10:30 – 11:30	Breakout Session I: Discussion	
11:30 – 11:45	Breakout Session I: Draft Outbriefing Summary	
11:45 – 12:45	LUNCH	
12:45 – 1:45	Report Out from Breakout I	
1:45 – 2:45	<p style="text-align: center;">Breakout Session II: Presentations</p> <p style="text-align: center;"><i>“What are the novel applications of emergent quantum information processing technologies? What obstacles must be overcome to attain these applications?”</i></p> <p>Topics:</p> <ol style="list-style-type: none"> 1. Applications of Mid-scale Quantum Computers, Including Quantum Simulation 2. Quantum Communication, Including Quantum Cryptography and 	

	Advanced Quantum Internet. 3. Ultra-precise Quantum Sensing and Metrology.
2:45 – 3:00	BREAK
3:00 – 3:45	Breakout Session I: Discussion
3:45 – 4:00	Breakout Session I: Draft Outbriefing summary
4:00 – 5:00	Report Out from Breakout II
5:00	MEETING ADJOURNED FOR THE DAY

Day 2 – Friday, August 26, 2016		
Time	Title	Speaker
7:45 – 8:15	Registration	
8:15 – 8:30	Day 1 Recap	Dr. Seth Lloyd
8:30 – 9:30	‘White Space’ Presentation I Discussion of topics which did not fit into the framework of day 1, but need to be discussed.	TBD
9:30 – 10:30	‘White Space’ Presentation II Discussion of particularly far-out (or long-term), high-risk, high-impact ideas.	TBD
10:30 – 10:45	MORNING BREAK	
10:45 – 11:45	Discussion of Key Ideas/Components for Report	TBD
11:45 – 12:00	Closing Remarks	
12:00	Lunch and Departure	