Sunday, January 13, 2019

17:00 – 21:00	Register and mount posters	
from 18:30	BUFFET DINNER / Informal get together	
20:00 – 20:15	Andreas Fuhrer Stefan Filipp	Kick-off scientific program
Opening Lecture (chair: S. Filipp)		
20:15 – 21:00	Yoshihisa Yamamoto	Coherent Ising Machines - Optical Neural Network operating at the Quantum Limit
21:00	Discussions at the post	ers

Monday, January 14, 2019

07:30 BREAKFAST

Superconducting Qubits (chair: M. Ganzhorn)

08:30 – 09:15	John Martinis	Software control for Google's Bristlecone Processor
09:15 – 10:00	Andreas Wallraff	Elements for an Extensible Quantum Information Processing Architecture with Superconducting Circuits

10:00 – 10:30 COFFEE BREAK

Spin Qubits in Quantum Dots (chair: G. Salis)

10:30 – 11:15	Lieven Vandersypen	Quantum Computation and Simulation - Spins Inside
11:15 – 12:00	Hendrik Bluhm	Automated tuning of semiconductor qubits - one key to scalability
40.00 40.45		

12:00 – 12:15 **Conference Photo** (in the foyer of the lecture hall)

Monday, January 14, 2019

12:15	LUNCH	
Ion Traps (ch	nair: G. Morigi)	
13:30 – 14:15	Rainer Blatt	Quantum Information using trapped ions-status and perspectives
14:15 – 15:00	Christopher Monroe	A full Stack Scalable and Reconfigurable Quantum Computer
15:00 – 15:30	COFFEE BREAK	
Superconducting Qubits (chair: S. de Graaf)		
15:30 – 16:15	Rudolf Gross	Quantum Microwaves for Communication in Quantum Local Area Networks
16:15 – 17:00	William D. Oliver	Quantum Hardware for Superconducting Qubits
Quantum Theory and Applications (chair: C. Müller)		
17:00 – 17:45	Enrique Solano	Digital-Analog Quantum Computation
17:45 – 18:30	Alexandre Blais	Qubit Parity Measurement by Parametric Driving in Circuit QED

18:30 HERAEUS DINNER at the Physikzentrum (cold & warm buffet, free beverages)

Tuesday, January 15, 2019

07:30	BRFAKFAST
07.30	

lon 7	Fraps	(chair: Ch	. Monroe)
-------	--------------	------------	-----------

08:30 – 09:15	Ulrich Poschinger	A Shuttling-Based Trapped Ion Quantum Processing Node
09:15 – 10:00	Giovanna Morigi	Quantum reservoir engineering of many-body systems

10:00 – 10:30 COFFEE BREAK

Quantum Theory and Applications (chair: F. Wilhelm)

10:30 – 11:15	Christiane Koch	Quantum optimal control – an enabling tool for quantum technologies
11:15 – 12:00	Barbara Kraus	Sorting and quantifying multipartite entanglement
12:00	LUNCH	

Tuesday, January 15, 2019

Superconducting Qubits (chair: R. Gross)

13:30 – 14:15	Leonardo DiCarlo	A full-stack superconducting quantum computer
14:15 – 15:00	Markus Brink	Scaling Quantum Processors with Superconducting Qubits
15:00 – 17:15	Poster Session and CO	OFFEE BREAK
17:15 – 17:30	Stefan Jorda	About the Wilhelm and Else Heraeus Foundation
17:30 – 18:30	Panel Discussion	
	"Quantum Hardware	and Software"
	 Is there a value quantum software 	in building a hardware-agnostic are stack?
	 Is there an immediate value in building application- agnostic quantum hardware? Is there a need for standardized interfaces between hardware and software? 	
	 What are the ch software? If the the focus be? C 	nallenges with regard to hardware and ere are limited resources, where should Or are both aspects equally important?
	 How many diffe there be? 	erent software developments should
	Panelists John Martinis, Rainer Latorre, Per Delsing, (Blatt, Markus Brink, José Ignatio Cyril Allouche
	Moderator	
	Frank Wilhelm-Mauch	
18:30 – 19:30	DINNER	

19:30Poster Session, continued

Wednesday, January 16, 2019

07:30 BREAKFAST

Superconducting Qubits (chair: M. Brink)

08:30 – 09:15	Jonas Bylander	Fluctuations due to two-level systems in T1-limited transmon superconducting qubits
09:15 – 10:00	Sebastian de Graaf	Chemical identification of sources of noise and decoherence in quantum devices

10:00 – 10:30 COFFEE BREAK

Quantum Theory and Applications (chair: W. Riess)

10:30 – 11:15	Michael Marthaler	Quantum chemistry on quantum computers

- 11:15 12:00 José Ignacio Latorre **tba**
- 12:00 LUNCH

Spin Qubits in Quantum Dots (chair: A. Fuhrer)

13:30 – 14:15	Andreas Landig	Coherent spin-photon and spin- transmon coupling using circuit QED
14:15 – 15:00	Maude Vinet	Towards scalable silicon quantum computing
15:00 – 16:00	Andreas Fuhrer	Poster award and closing session
16:00	Walk to local sightse	eing spot
18:30	Dinner	

End of the seminar and FAREWELL COFFEE / Departure

For those leaving the next day Breakfast will be served at 08:00 h.