

ML4Q Conference 2020

Hotel Eifelkern in Schleiden, February 5-7, 2020

Monschauer Straße 5–9, 53937 Schleiden

(<https://www.tagungshotel-eifelkern.de/en/>)

Conference Program

Last updated: Feb. 6, 2020 (*room information added*)

Please note: This program might be subject to (minor) changes, the most recent version can be found online: <https://ml4q.de/events/ml4q-conference/>

Wednesday, February 5, 2020	
12:30	<i>Lunch @ Hotel Eifelkern</i>
14:00 – 14:30	Welcome talk – Yoichi Ando
14:35 – 16:20	Plenary session introducing all Focus Areas
14:35	F1: Fundamentals and technology for topological interfaces – Markus Morgenstern
14:55	F2: Majorana qubits – Fabian Hassler
15:15	F3: Decoherence, measurements, and error correction – David DiVincenzo
15:35	F4: Quantum connectivity – Michael Köhl
15:55 – 16:20	<i>Coffee break</i>
16:20 – 17:35	Plenary session for all Focus Areas
16:20	Jeffrey Chun Fai Chan (Bonn), F1: Quantum simulation of the Hubbard model
16:45	Reinhold Egger (Düsseldorf), F2: Majorana box qubits: Readout and dephasing mechanisms
17:10	Joachim Knoch (Aachen), F3: Engineering for the silicon surface code
17:35 – 18:35	Poster slam (<i>itches by the poster presenters</i>)
19:00 – 20:00	<i>Joint dinner</i>
20:00	Poster session

Thursday, February 6, 2020		
09:00 – 09:50	Keynote talk – Jelena Klinovaja (plenary room Eifelkern 1&2)	
09:50 – 10:50	Parallel Focus Area sessions I	
Focus Area 1 (plenary room Eifelkern 1&2)	09:50	P1.1 Detlev Grützmacher (Jülich): In-situ fabrication of TI devices
	10:05	P1.2 Gertjan Lippertz (Cologne): MBE growth of topological insulator systems
	10:20	P1.3 Markus Morgenstern (Aachen): Developing novel tools for preparation and analysis
	10:35	P1.4 Michael Köhl (Bonn): Majorana states and parafermions in ultracold atom systems
Focus Area 2 (room: Dieffenbach)	Majorana fermions and disorder	
	09:50	Jonas Kölzer (Jülich): Phase coherent transport in topological insulator nanoribbons and ring structures
	10:10	Alexander Ziesen (Aachen): Simulating in-gap states for proximitized, disordered topological insulators
	10:30	Jakob Schluck (Cologne): Majoranas in vortices for box qubits
Focus Area 3 (room: Vorburg)	09:50	Felix Motzoi (Jülich): Quantum Control
	10:10	Discussion time
	10:20	Lars Schreiber (Aachen): Silicon Quantum Bus
Focus Area 4 (Gruppenraum 1&2)	09:50	Hans Kroha (Bonn): Resonator-bath coupling for correlated photon states
	10:10	Thorsten Langerfeld (Bonn): Optical microcavities as novel photon pair sources
	10:30	Simon Stellmer (Bonn): Quantum Frequency Conversion – State of the art and new ideas
10:50	<i>Coffee break</i>	
<i>– continued on the next page –</i>		

Thursday, February 6, 2020 (continued)		
11:20 – 12:20	Parallel Focus Area sessions II	
Focus Area 1 (plenary room Eifelkern 1&2)	11:20	Markus Morgenstern (Aachen): Towards stacking 2D materials at ultraclean conditions
	11:35	Lukasz Plucinski (Jülich): Opportunities of ARPES
	11:50	Philipp Rüßmann (Jülich): Calculating interfaces with superconductors based on DFT
	12:05	Dingxun Fan (Cologne): Challenges in proximitizing bulk insulating topological insulator nanowires
Focus Area 2 (room: Dieffenbach)	Majorana qubits	
	11:20	Junya Feng (Cologne): Majorana experiments in Cologne
	11:40	Richard Bounds (Cologne): A cQED experiment to probe Andreev bound states in topological insulators
	12:00	Discussion time
Focus Area 3 (room: Vorburg)	11:20	Thomas Wagner (Düsseldorf): Symmetries for a neural network decoder on the toric code
	11:40	Federico Tonielli (Cologne): TFT for an out-of-equilibrium system
	12:00	Open mic
Focus Area 4 (Gruppenraum 1&2)	11:20	Alex Pawlis (Jülich): Spin dynamics in fluorine-doped ZnSe
	11:40	Discussion time
	12:00	Wolfgang Alt (Bonn): The Bonn Fiber Lab
12:30 – 14:00	<i>Lunch</i>	
14:00 – 14:50	Keynote Talk – Christine Silberhorn (plenary room Eifelkern 1&2)	
15:00 – 16:00 (plenary room)	Parallel session	Associated Members' Meeting (elections, short Research School presentation)
15:00 – 16:00 (Gruppenraum 1&2)		Steering Board Meeting with SAB Members
16:00	<i>Coffee break</i>	
16:30 – 17:30	Members' Assembly (plenary room Eifelkern 1&2)	
18:00	<i>Joint dinner, afterwards: Social event (Fackelwanderung mit Glühwein)</i>	

Friday, February 7, 2020	
9:00 – 9:50	Keynote Talk – Harald Weinfurter
9:50 – 11:40	Plenary session for all Focus Areas
9:50	Daniel Rosenbach (Jülich), F1: TI Josephson devices
10:10	Chris Dickel (Cologne), F2: cQED methods to study 3D-topological-insulator superconductor nanostructures
10:30	Martin Rymarz (Aachen), F3: The Gottesman-Kitaev-Preskill code in a superconducting circuit
10:50	David Gross (Cologne), F4: Quantum Networking: Outlook
11:10	Christian Kurtscheid (Bonn), F4: Thermally condensing photons into a coherently split state of light
11:30 – 11:50	Wrap-up session / Closing remarks
12:30	<i>Lunch</i>