

ML4Q Conference 2022 | Westerwald Treff | August 31 – September 2

Day 1 (Wed., 31/8)	
09:30 – 12:00	Students' & Postdocs' Retreat
11:30 – 12:00	Arrival
12:30	Lunch
14:00	Welcome Note
Session I (Chair: Markus Morgenstern)	
14:10	Keynote Talk: Annica Black-Schaffer: "Majorana fermions in nanowire systems"
15:00	Talks from the Cluster - Focus Area 1 ( <i>titles might change</i> ) Detlev Grützmacher: "Topological insulator Josephson junctions in superconducting qubit circuits" Philipp Rüßmann: "Superconducting proximity effect in a topological insulator / superconductor heterostructure from first-principles simulations"
16:00	Coffee Break
16:30	Keynote Talk: Britton Plourde (remote): "Protecting Superconducting Qubits from Environmental Poisoning"
17:40	Poster Session I   Postdoctoral Career Development
19:00	Dinner
20:00 – 22:00	Poster session II / networking

Day 2 (Thu., 01/09)	
Session II (Chair: Simon Stellmer)	
09:00	Talks from the Cluster - Focus Area 2 Fabian Hassler: "Half-integer charge carriers by chiral Majorana edge state" Jakob Schluck: "Tunnel junction devices on TI/SC heterostructures"
10:00	Coffee Break
10:30	Talks from the Cluster - Focus Area 3 Michael Köhl: "Machine learning for the detection of phase transitions" Evangelos Varvelis : "Disorder Engineering for Transmon Quantum Computers"
11:30	Associated Members' Assembly   ML4Q meets EIN Quantum NRW
13:00	Lunch
14:30	Hiking together with EIN Quantum NRW people & free discussion time
19:00	Dinner
20:00 – 22:00	Poster session III / networking

# ML<sup>4</sup> MATTER AND LIGHT FOR QUANTUM COMPUTING

Day 3 (Fri., 02/09)		
Session III (Chair: Frank Wilhelm Mauch)		
09:00	Talks from the Cluster - Focus Area 4 Julian Schmitt: "Photon condensates: From one to many" Gláucia Murta: "Secure anonymous conferencing in quantum networks"	
10:00	Coffee Break	
10:20	Keynote Talk: Carsten Schuck: "Nanophotonic interfaces to quantum emitters and superconducting detectors"	
11:10	Keynote Talk: Sevag Gharibian: "On the complexity of many-body quantum systems"	
12:00	Poster prize & potential last remarks	
12:30	Lunch	
14:00	Members' Assembly	Students' Lecture 1: Topological quantum computation: From device proposals and fabrication towards braiding (Alexander Ziesen & Linh Dang)
		Students' Lecture 2: Spin qubits for beginners (Lars Schreiber)
16:15	Departure	