TECHNISCHE UNIVERSITÄT WIEN

Institute of Science and Technology Austria

Universität Konstanz

Julius-Maximilians-UNIVERSITÄT WÜRZBURG

1st SFB Q-M&S Retreat

Correlated Quantum Materials & Solid State Quantum Systems

www.q-ms.org

February 14-17, 2024

JUFA Hotel Schloss Röthelstein, Admont

www.tuwien.at

Q-M&S

Hopes are high that quantum computers will revolutionize conventional computation and data processing. Although they can already perform certain computations faster than conventional computers, more robust solid state quantum systems are needed to solve the problem of quantum error correction and fully exploit the potential of quantum computing. A currently disjunct field are correlated quantum materials. These are designer materials with properties due to quantum effects of strongly interacting electrons. They represent a highly active but particularly complex area of fundamental solid state physics.

The SFB Correlated Quantum Materials & Solid State Quantum Systems (Q-M&S) aims to connect both areas. Concepts and methods developed in the context of quantum information and computation will contribute to a better understanding of correlated quantum materials. For example, “entanglement meters” will be devised to unravel the mystery of the strange metal state. In turn, research will be conducted into how correlated quantum materials can be used for quantum applications. Correlated quantum materials with topological properties for instance could lead to very robust and well-controllable quantum devices in novel hybrid systems.

The 1st SFB Q-M&S Retreat on Correlated Quantum Materials & Solid State Quantum Systems is the first retreat of the SFB Q-M&S – a collaborative research project funded by the Austrian Science Fund (FWF) and the German Research Foundation (DFG), with 10 PIs hosted at 4 institutions in Austria and Germany. The retreat is an annual scientific meeting for the SFB Q-M&S team. It will feature talks from each project part and poster sessions. Ample time will be left for discussions as well as social activities. The goal is to generate new ideas, to initiate new collaborations and to consolidate the ongoing ones.

Program

Time/Day	Wednesday Feb 14	Thursday Feb 15	Friday Feb 16	Saturday Feb 17
08:00-09:00		Breakfast	Breakfast	Breakfast
09:00-09:40		P3 - Fakher Assaad, Sounas Biswaas	Hiking: 09:00-09:20 - Bus from hotel 09:20-11:40 - Hike 11:45-12:05 - Bus to hotel	Departure (10:00-13:30 - Vienna Bus)
09:40-10:20		P5 - Anna Kauch		
10:20-10:50		Coffee / Tea		
10:50-11:30		P7 - Maksim Borovkov, Jaime Saez Mollejo		
11:30-12:30		Discussion		
12:30-13:30		Lunch	Lunch	
13:30-14:10		P9 - Silke Bühler-Paschen	P11 - Maksym Serbyn (Zoom)	
14:10-14:50		P10 - Elke Scheer, Ronja Fischer-Süßlin, Roman Hartmann, Marcel Strohmeier	P2 - Chao Shen (Zoom)	
14:50-15:30		Discussion	P8 - Shiva Safari	
15:30-16:00		Coffee / Tea	Coffee / Tea	
16:00-16:40	Arrival (15:00-18:30 - Vienna Bus)	Posters: - P4 - Luka Akšamović - P5 - Frederic Bippus - P5 - Martin Brass (presented by Karsten Held) - P8 - Shiva Safari - P9 - Gwenvredig Le Roy - P9 - Lukas Fischer - P11 - Lucia Vigliotti	P4 - Neven Barišić	
16:40-17:20			P6 - Silke Bühler-Paschen	
17:20-18:00			Discussion	
18:00-20:00	Dinner	Dinner	Dinner	
20:00-20:30	Discussion	EB Meeting (SFB EB)	Discussion	
20:30-22:00		Discussion		

Zoom: https://tuwien.zoom.us/j/65162346022?pwd=Y2lRUzBEL1lHZUd0UzdlMGVjYjgrZz09

Location

JUFA Hotel Schloss Röthelstein

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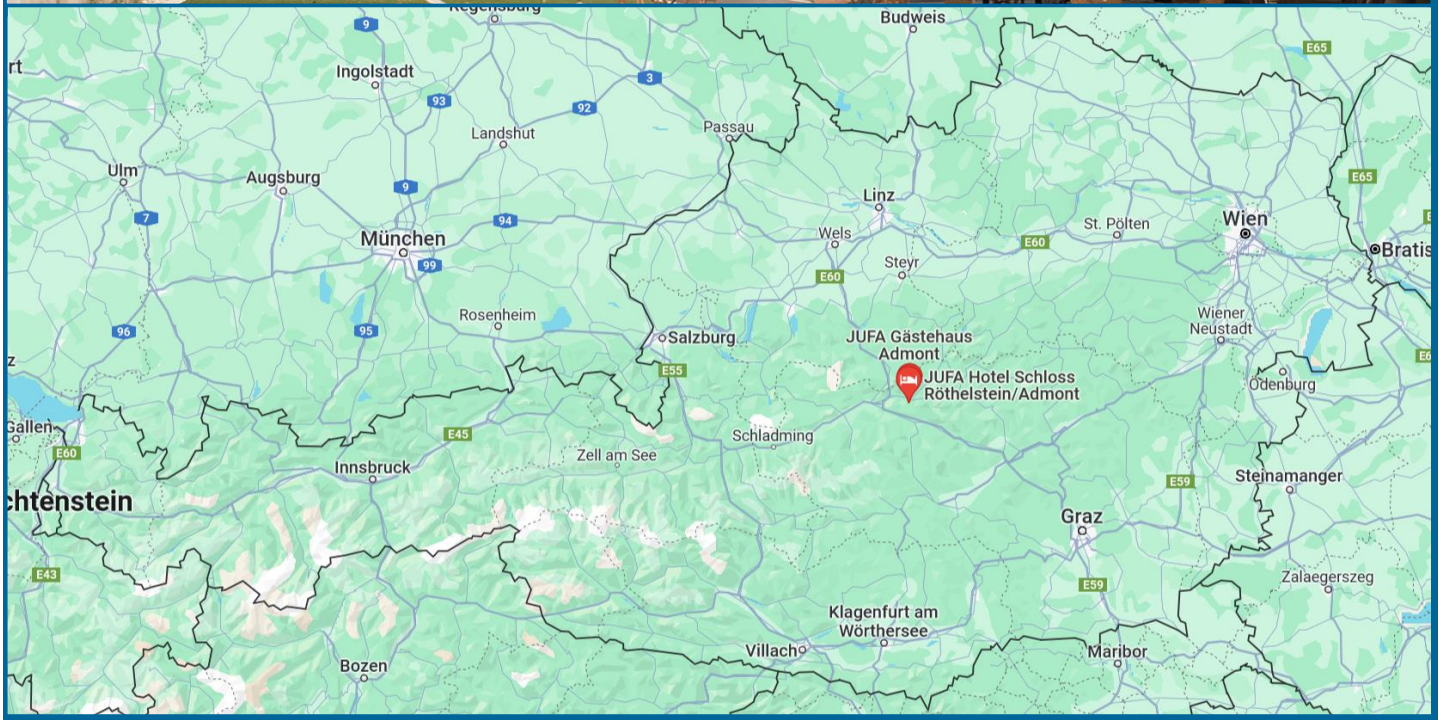

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