TECHNISCHE UNIVERSITÄT WIEN

Institute of Science and Technology Austria

Universität Konstanz

Julius-Maximilians-UNIVERSITÄT WÜRZBURG

2nd SFB Q-M&S Retreat

Correlated Quantum Materials & Solid State Quantum Systems

www.q-ms.org

February 12-14, 2025

JUFA Hotel Mariazell
St. Sebastian

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 2nd SFB Q-M&S Retreat on Correlated Quantum Materials & Solid State Quantum Systems is the second 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. Like the first one, the 2nd SFB Q-M&S Retreat will feature talks from each project part and a poster session. 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

<table>
<tr><th>Time/Day</th><th>Wednesday
Feb 12, 2025</th><th>Thursday
Feb 13, 2025</th><th>Friday
Feb 14, 2025</th></tr>
<tr><td>08:00-09:00</td><td rowspan="6">Arrival
(10:00-12:30 - Vienna Bus)</td><td>Breakfast</td><td>Breakfast</td></tr>
<tr><td>09:00-09:30</td><td>P10 - Ronja Fischer-Süßlin</td><td rowspan="6">Hiking:

09:00-09:45 - Walk to Talstation Mariazell
09:45-10:00 - Cable car ride to Bürgeralpe
10:00-11:30 - Hiking
"Winter hiking trail Three Lakes View"
(for description see the link below)
11:30-11:45 - Cable car ride to Mariazell
11:45-12:30 - Walk back to hotel</td></tr>
<tr><td>09:30-10:00</td><td>P10 - Discussion</td></tr>
<tr><td>10:00-10:30</td><td>Coffee / Tea</td></tr>
<tr><td>10:30-11:00</td><td>P5 - Frederic Bippus</td></tr>
<tr><td>11:00-11:30</td><td>P5 - Discussion</td></tr>
<tr><td>11:30-12:00</td><td rowspan="2">Posters:
P5 - Frederic Bippus
P5 - Martin Braß
P11 - Roman Hartmann / Ronja Fischer-Süßlin</td></tr>
<tr><td>12:00-12:30</td></tr>
<tr><td>12:30-13:30</td><td>Lunch</td><td>Lunch</td><td>Lunch</td></tr>
<tr><td>13:30-14:00</td><td>P2 - Chao Shen</td><td>P3 - Fakher Assaad / Sounak Biswas</td><td>P7 - Jaime Saez Mollejo</td></tr>
<tr><td>14:00-14:30</td><td>P2 - Discussion</td><td>P3 - Discussion</td><td>P7 - Discussion
(Georgios Katsaros joins via Zoom)</td></tr>
<tr><td>14:30-15:00</td><td>P4 - Luka Akšamović</td><td>P8 - Valeska Zambra</td><td>P6 - Duc Phan</td></tr>
<tr><td>15:00-15:30</td><td>P4 - Discussion</td><td>P8 - Discussion</td><td>P6 - Discussion</td></tr>
<tr><td>15:30-16:00</td><td>Coffee / Tea</td><td>Coffee / Tea</td><td>Coffee / Tea</td></tr>
<tr><td>16:00-16:30</td><td>P9 - Silke Bühler-Paschen /
Lukas Fischer / Gwenvredig Le Roy</td><td>P11 - Lucia Vigliotti</td><td rowspan="2">All thrusts discussion</td></tr>
<tr><td>16:30-17:00</td><td>P9 - Discussion</td><td>P11 - Discussion
(Maksym Serbyn joins via Zoom)</td></tr>
<tr><td>17:00-17:30</td><td>All thrusts discussion</td><td>Executive Board Meeting
(members only)</td><td rowspan="3">Departure
(17:00-19:30 - Vienna Bus)</td></tr>
<tr><td>18:00-20:00</td><td>Dinner</td><td>Dinner</td></tr>
<tr><td>20:00-22:00</td><td>All thrusts discussion</td><td>All thrusts discussion</td></tr>
</table>

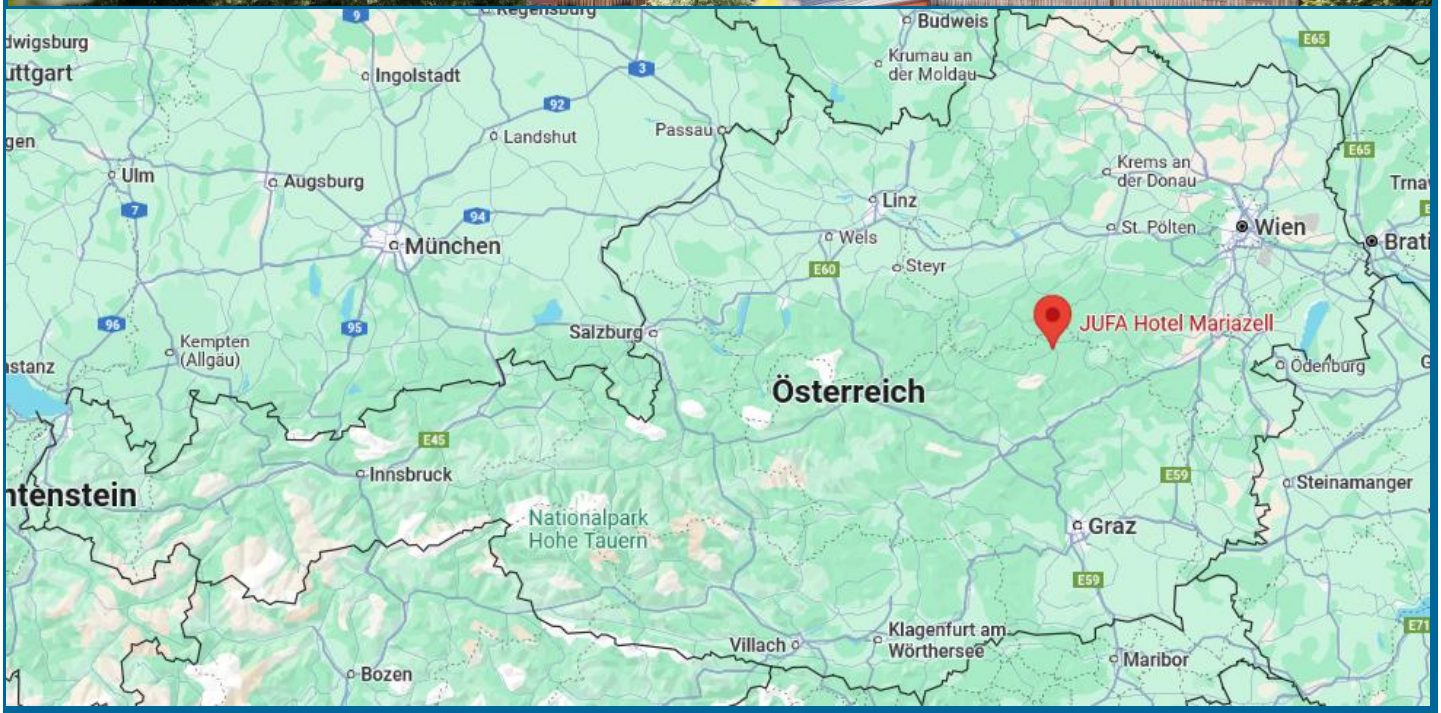
Zoom: https://tuwien.zoom.us/j/62042753667?pwd=22Jtfam0IbaTghyE37g82bzxNBOUIC.1

Hiking: Winter hiking trail Three-Lakes-View (German: Winterwanderweg Drei-Seen-Blick)

Location

JUFA Hotel Mariazell

Sigmundsberg 1, 8630 St. Sebastian, T: +43-5-7083380



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