

Programme on
“Quantum Simulation - from Theory to Application”

September 2 – October 31, 2019

organized by

Tommaso Calarco (Forschungszentrum Jülich), Wolfgang Lechner (U Innsbruck, IQOQI), Jörg Schmiedmayer (TU Vienna), Philip Walther (U Vienna)

Conference “The Nature of Quantum Networks”

September 9 – 12, 2019

• **Monday, September 9, 2019**

09:00 – 10:00 **Shabir Barzanjeh**

Entangled microwave radiation and its application in quantum illumination (radar)

10:00 – 10:30 *Coffee / Tea break*

10:30 – 11:15 **Johannes Majer**

Superradiant emission from colour centres in diamond

11:15 – 12:00 **Marta Estarellas**

Simulating complex quantum networks with time crystals

12:00 – 14:30 *Lunch break*

14:30 – 15:30 **Istvan Kovacs**

A scalable network architecture

15:30 – 16:00 *Coffee / Tea break*

16:00 – 16:30 **Chikako Uchiyama**

Quantum energy transport under environmental engineering

• **Tuesday, September 10, 2019**

09:00 – 10:00 **Simone Montangero**

tbc

10:00 – 10:30 *Coffee / Tea break*

10:30 – 11:15 **Michael Trupke**

Quantum Network Module Technology with Spin Centres in Crystals

11:15 – 12:00 **Yasser Omar**

Quantum Link-Prediction in Complex Networks

12:00 – 14:30 *Lunch break*

14:30 – 15:30 **Sumeet Kathri**

Practical figures of merit and thresholds for entanglement distribution in quantum networks

15:30 – 16:30 **Michael Scheucher**

Nonreciprocal Quantum Devices

- **Wednesday, September 11, 2019**

09:00 – 10:00 **Jörg Schmiedmayer**
Quantum Nodes and Quantum Repeaters

10:00 – 10:30 *Coffee / Tea break*

10:30 – 11:15 **Bill Munro**
From today's QKD links to tomorrow quantum internet

11:15 – 12:00 **Bruno Coutinho**
tbc

free afternoon

18:00 **Conference Dinner**

- **Thursday, September 12, 2019**

09:00 – 10:00 **Miguel Navascues**
Connector tensor networks: a renormalization-type approach to quantum certification

10:00 – 10:30 *Coffee / Tea break*

10:30 – 11:15 **Laszlo Barabasi**
tbc

11:15 – 12:00 **Rupert Ursin**
tbc

12:00 – 14:30 *Lunch break*

14:30 – 15:30 **Andrew Briggs**
tbc

All talks take place at ESI, Boltzmann Lecture Hall!