QuanTEEM Winter School 2024

Agenda

February 20-22, 2024
Université de Bourgogne
Campus Montmuzard, Mirande Building
Room E101 (IRCAMAT)

Tuesday 20/02/2024

10:30 – 11:00 Welcome, presentation of the agenda
Stéphane Guérin, QuanTEEM project coordinator

11:00 – 12:00 Simulation, control and sensing in open quantum systems
Nir Bar-Gill – The Hebrew University of Jerusalem

12:00 – 13:45 **Lunch**

13:45 – 14:45 The quantum pendulum: optimal control and quantum simulation
Bruno Peaudecerf, CNRS - Université Paul Sabatier - Toulouse

14:45 – 15:45 Nonideal quantum measurements
Cyril Elouard, Université de Lorraine

15:45 – 16:00 **Coffee break**

16:00 – 17:00 Quantum communications systems - opportunities and challenges
Andis Supe, Riga Technical University

Wednesday 21/02/2024

9:30 – 10:00 Welcome, presentation of the agenda
Stéphane Guérin, QuanTEEM project coordinator

10:00 – 11:00 Spins and entangled spins in chiral potential from basic questions to green energy production
Yossi Paltiel, The Hebrew University of Jerusalem

11:00 – 11:15 **Coffee break**

11:15 – 12:15 Physics with cold antimatter at CERN
Fredrik Parnefjord Gustafsson, CERN

12:15 – 13:45 **Lunch**

13:45 – 14:45 Quantum engines at the horizon - realizing quantum engine cycles in ultracold gases
Artur Widera, Rheinland-Pfälzische Technische Universität Kaiserslautern

14:45 – 15:00 **Coffee break**

15:00 – 16:00 Quantum optimizing via annealing in a neutral-atom platform, introduction to the Rymax project
Thomas Niederprüm, Rheinland-Pfälzische Technische Universität Kaiserslautern

Thursday 22/02/2024

9:00 – 9:30 Welcome, presentation of the agenda
Stéphane Guérin, QuanTEEM project coordinator

9:30 – 10:00 Presentation of the activities of the company Kwan-Tek in Quantum Sensing
Mathis Autant, Kwan-Tek

10:00 – 11:00 Recent advancement in Rydberg atom quantum computing
Sven Jandura, Université de Strasbourg

11:00 – 11:15 **Coffee break**

11:15 – 12:15 Quantum Simulation with Strongly Interacting Atoms
Jan Arlt, Aarhus University

12:15 – 13:45 **Lunch**

13:45 – 14:45 Vibrating nanodrums: from quantum optomechanics to atmospheric science
Aurélien Dantan - Aarhus University (online)

14:45 – 15:45 Multi-Platform Quantum Programming in Python, illustrated with Quantum Error Correction
Hamza Jaffali and Henri de Boutray, ColibrITD