

Program

Kindly note that the event has no participation fee but requires registration by 23 November, 2023. The number of available seats in the event is limited. Changes in the program are possible.

Please notice that the timezone in Finland is EET (GMT+2).

Thursday, 7 December 2023

Online presentation via Teams at 05:30 PM:

Alvaro Ballon Bordo, Xanadu: **PennyLane's functionalities for Qchem**

Friday, 8 December 2023

08:30 Coffee/tea served

09:00 AM Opening

(<https://www.lyyti.fi/att/dfeecb82bda82aa8a1/fa3af16bb88e5496f1bda8da70f443d2a7ac>)

Session: Quantum computing in material science

- Susi Lehtola, University of Helsinki: **Numerical methods for quantum chemistry**
(<https://www.lyyti.fi/att/bef1188b/9ff8655aa446366a47c471c6ec8b2e334064bbb479c69b7b11145a78d6c8>)
- Ulrich Fekl, University of Toronto: **Quantum computers against classical computers: computations on a chemically important problem**
(<https://www.lyyti.fi/att/1f2c0121f3/44d84614f32d7473c9949837fe19dc41be44d7>)

10:20 AM Break

10:40 AM

Session: Simulating complex chemical systems on Quantum Computers

- Mikael Johansson, CSC: **Entangling the power of supercomputing and quantum computing for chemistry**
(<https://www.lyyti.fi/att/a891e0/7b6dd52f1d061d3a75f4ae90675adf6ca50e8499123fe91c2d13edd334>)
- Hannu Reittu, VTT: **A new quantum community detection algorithm for reduction of molecular Hamiltonian matrices**
(<https://www.lyyti.fi/att/c8175dd565/2a5fb9af86999dfd05f7eeae0c51ec287e96f19692>)

12:00 AM Lunch (at own cost)

01:00 PM

Session: Methods for NISQ Devices

- Hanna Linn, University of Chalmers: **Resource analysis of quantum algorithms for coarse-grained protein folding models**
(<https://www.lyyti.fi/att/78b12980/5173ff09cd61d3b1c3b74d97df9c0065fade91b49a71f710>)
- Jose Lado, Aalto University: **Emulating noisy quantum algorithms with tensor-networks**
(<https://www.lyyti.fi/att/3b696f547d3f2c0f/e36c86f3388b3379bf9c6c02d81fb49eb8ee7763>)

02:00 PM Break

02:20 PM

Session: developing new materials and synthetic methods

- Anssi Laukkanen, VTT: **Material accelerator platforms and computational approaches**
(<https://www.lyyti.fi/att/5aa832fa/9cf0d0523e1aca89af576a7de7060a978f4a55eb6618bf510d86a49eb5f9>)
(<https://www.lyyti.fi/att/5aa832fa/9cf0d0523e1aca89af576a7de7060a978f4a55eb6618bf510d86a49eb5f>)
- Gopal Peddinti, VTT: **Potential for applying quantum computing in synthetic biology**
(<https://www.lyyti.fi/att/32d8b4e0bb111bb455/5391e89535e17e6191b35a5913572eee28df5afe56736d13a6f>)
- Rupesh More, Neste: **QC challenges and opportunities in Chemical R&D**
(<https://www.lyyti.fi/att/23252a/dfc9f675b815bd632f4e4c6a6eeb6762b4768513ea>)

4:00 PM Symposium ends