# Monday, July 1st

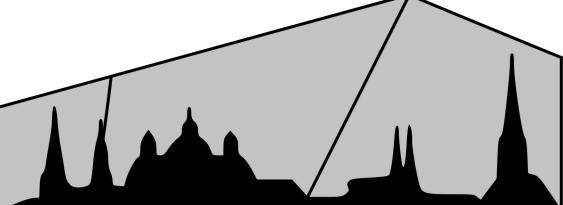
|       | Session 1:       | Chair Jaromír Fiurášek  |
|-------|------------------|---|
| 9:00  | Registration     |   |
| 9:30  | Jaromír Fiurášek | Opening word  |
| 10:00 | Stefano Olivares | Beating the standard quantum limit for binary phase-shift-keying discrimination with a realistic hybrid feed-forward receiver |
| 10:15 | Marcin Koźbiał   | New perspectives on alignment-based atomic magnetometry   |
| 10:30 |                  | Coffee break  |
|       |                  |   |

|       | Session 2:         | Chair Jan Kolodynski  |
|-------|--------------------|---|
| 11:00 | Maria Chekhova     | Spontaneous parametric down-conversion in a liquid crystal                                      |
| 11:30 | Gabriel Araneda    | Distributed Quantum Computing between Two Ion-Trap Nodes in a Quantum Network                   |
| 12:00 | Muñoz de las Heras | Photonic quantum metrology with variational quantum optical non-linearities                     |
| 12:15 | Kim, Dong-Hyun     | Implementation of distributed quantum phase estimation with fewer photons than number of phases |
| 12:30 |                    | Lunch   |

|       | Session 3:     | Chair Nicolas Treps  |
|-------|----------------|--|
| 14:00 | Roman Schnabel | Creating Ensemble Data from Measurements on another Ensemble   |
| 14:30 | Jan Kolodynski | Quantum sensors operated in real time  |
| 15:00 | Marcin Jarzyna | Continuous-variable quantum key distribution over multispan amplified links                          |
| 15:15 | Nathan Walk    | Advantage of multi-partite entanglement for quantum cryptography over long and short ranged networks |
| 15:30 |                | Coffee break   |

|       | Session 4:          | Chair Gabriel Araneda   |
|-------|---------------------|---|
| 16:00 | Gershon Kurizki     | Quantum Nonlinear Thermodynamics: Thermal Noise as Quantum Resource                           |
| 16:30 | Yong Siah Teo       | Evidence-based certification of quantum systems with relative belief                          |
| 16:45 | Alessia Allevi      | Experimental qualification of a homodyne-like receiver for quantum-key-distribution protocols |
| 17:00 | Vincenzo D'Ambrosio | Engineering quantum states from a spatially structured quantum eraser                         |
| 17:15 | Niels Böttner       | Coherent feedback and internal squeezing in cavity-enhanced detectors                         |

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## Tuesday, July 2nd

|       | Session 1:          | Chair Roman Schnabel   |
|-------|---------------------|--|
| 9:00  | Jonathan Home       | Realising bosonic codes with trapped ions  |
| 9:30  | Arno Rauschenbeutel | Correlating photons using the collective nonlinear response of atoms weakly coupled to an optical mode |
| 10:00 | Lukáš Slodička      | Coherence and statistics of light from large trapped-ion crystals                                      |
| 10:15 | Diana Chisholm      | Non-Gaussian states in levitated nanoparticles to witness gravity-induced entanglement                 |
| 10:30 |                     | Coffee break   |
|       |                     |  |

|       | Session 2:       | Chair Jonathan Home  |
|-------|------------------|--|
| 11:00 | Robin Kaiser     | With dipole-dipole interactions towards Anderson localisation              |
| 11:30 | Tom Bienaimé     | Manipulation of qudits encoded in Rydberg blockaded arrays of single atoms |
| 12:00 | Cristian Tabares | A variational toolbox for analog quantum simulators                        |
| 12:15 | Michal Sedlák    | Storage and retrieval of quantum operations - an experimental test         |
| 12:30 |                  | Lunch  |

|       | Session 3:        | Chair Robin Kaiser  |
|-------|-------------------|---|
| 14:00 | Kihwan Kim        | Toward quantum advantage with trapped ions  |
| 14:30 | Romain Bachelard  | Abnormal two-photon correlations in the interference of the light emitted by many independent atoms |
| 15:00 | Alessandro Laneve | Wavevector-polarization correlation in entangled photons from radiative cascades                    |
| 15:15 | Maryam Khanahmadi | On-demand generation of propagating bosonic states from Superconducting circuits                    |
| 15:30 |                   | Coffee break  |

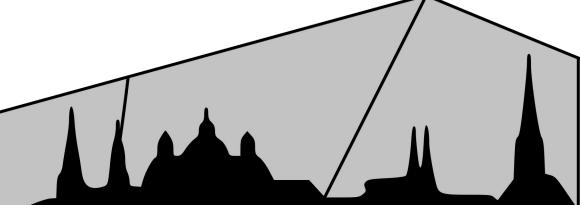
#### Session 4:

16:00 Poster session 1

18:00







## Wednesday, July 3rd

|       | Session 1:      | Chair Radim Filip   |
|-------|-----------------|---|
| 9:00  | Akira Furusawa  | Optical quantum computers with quantum teleportation                    |
| 9:30  | Markus Hennrich | TBD   |
| 10:00 | Changhun Oh     | Classical algorithm for simulating experimental Gaussian boson sampling |
| 10:15 | Mahmoud Kalash  | Optical parametric amplification for the detection of quantum states    |
| 10:30 |                 | Coffee break  |
|       |                 |   |

|       | Session 2:        | Chair Akira Furusawa   |
|-------|-------------------|--|
| 11:00 | Ulrik L. Andersen | Measurement-induced beam splitter networks                                   |
| 11:30 | Nicolas Treps     | Optimal parameters estimation in optics and the example of source separation |
| 12:00 | Young-Sik Ra      | Experimental generation of three-dimensional cluster entangled state         |
| 12:15 | Jiří Fadrný       | Experimental preparation of multiphoton-added coherent states of light       |
| 12:30 |                   | Lunch  |

|       | Session 3:      | Chair Ana Predojevic  |
|-------|-----------------|---|
| 14:00 | Nicolas Cerf    | From continuous-variable entropies to majorization relations in bosonic or fermionic phase space            |
| 14:30 | Uros Delic      | Non-Hermitian collective optomechanical effects in nanoparticle tweezer arrays                              |
| 15:00 | Niklas Budinger | The Octo-Rail lattice: a four-dimensional cluster state design  |
| 15:15 | Maria Bondani   | Comprehensive analysis and quantum tomography of Silicon Photomultiplier Detectors for quantum technologies |
| 15:30 |                 | Coffee break  |

|       | Session 4:            | Chair Nicolas Cerf   |
|-------|-----------------------|--|
| 16:00 | Alexander Lvovsky     | Tsang's superresolution methos in application to imaging                       |
| 16:30 | Cameron Calcluth      | Sufficient condition for universal quantum computation using bosonic circuits  |
| 17:00 | Jarek Korbicz         | Purifying Teleportation  |
| 17:15 | Luis Villegas-Aguilar | Photonic quantum networks reveal the nonlocal nature of noisy entangled states |
| 17:30 | Alessandro Zecchetto  | Generation of spatial entanglement in semiconductor nonlinear waveguide arrays |

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## Thursday, July 4th

|       | Session 1:          | Chair Gediminas Juzeliūnas  |
|-------|---------------------|---|
| 9:00  | Maurizio Verde      | Spin-selective coherent light scattering from ion crystals  |
| 9:30  | Ana Predojevic      | Quantum dot sources: efficiency, entanglement, and correlations                                       |
| 10:00 | Philipp Schneeweiss | Superradiant bursts of light from cascaded quantum emitters: Experiment on photon-photon correlations |
| 10:15 | Helen Chrzanowski   | Hong-Ou-Mandel interference between two photons of different colours                                  |
| 10:30 |                     | Coffee break  |
|       |                     |   |

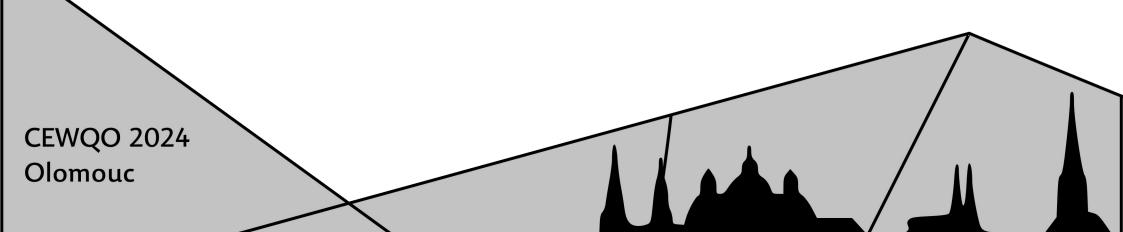
| Session 2:         | Chair Matteo Paris   |
|--------------------|--|
| Alexei Ourjoumtsev | Quantum engineering of light with intracavity Rydberg superatoms                   |
| Philipp Schindler  | 2D trapped ion quantum information processing                                      |
| Bence Gábor        | Observation of vacuum Rabi splitting of a subradiant atom-cavity system            |
| Giovanni Ferioli   | Non-Gaussian Correlation in the steady state of a superradiant cloud               |
|                    | Lunch  |
| •                  | <ul><li>Alexei Ourjoumtsev</li><li>Philipp Schindler</li><li>Bence Gábor</li></ul> |

|       | Session 3:           | Chair Alexei Ourjoumtsev   |
|-------|----------------------|--|
| 14:00 | Gediminas Juzeliūnas | Spin Squeezing for Ultracold Atoms in Optical Lattices                                   |
| 14:30 | Matteo Paris         | Frequency estimation by frequency boost  |
| 15:00 | Darren Moore         | Nonlinear Squeezing in Classical and Quantum Mechanics                                   |
| 15:15 | Jan Peřina           | Multiple quantum exceptional, diabolical, and hybrid points in multimode bosonic systems |
| 15:30 |                      | Coffee break   |

#### Session 4:

16:00 Poster session 1

18:00



# Friday, July 5th

|                |   | Session 1:                        | Chair Petr Marek  |
|----------------|---|-----------------------------------|---|
| 9:00           |   | Konrad Banaszek                   | Back from deep space: quantum-enhanced communication with extremely weak optical signals  |
| 9:30           |   | David Nadlinger                   | Photon-mediated entanglement in a mixed-species ion trap network  |
| 10:00          |   | Tomáš Opatrný                     | Work and heat exchange in quantum nonlinear interferometers   |
| 10:15          |   | Daniele Morrone                   | Daemonic ergotropy in continuously monitored open quantum batteries   |
| 10:30          |   |                                   | Coffee break  |
|                |   |                                   |   |
|                |   |                                   |   |
| 77.00          |   | Session 2:                        | Chair Konrad Banaszek   |
| 11:00          |   | Session 2:<br>Christoph Marquardt | Chair Konrad Banaszek  Quantum communication from space and on ground   |
| 11:00<br>11:30 | • |                                   |   |
|                | • | Christoph Marquardt               | Quantum communication from space and on ground  The tripartite multiphoton Jaynes-Cummings model: bosonic entanglement, spin coherence, and |

Lunch

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12:30

