International Conference on Quantum Energy 2025

3—6 June 2025
Centro Culturale Altinate
PADOVA ▪ ITALY

Exploring the role of quantum science & technology in addressing energy challenges.

Join the 2nd edition of ICQE, a conference that explores the role of quantum science and technology in addressing urgent energy challenges, from material development for net-zero transition to the surging energy consumption of information technology.

The conference bridges the gap between disciplines and sectors, bringing together experts from **physics**, **chemistry**, **engineering**, **material science**, **computer science**, **biology**, and more, alongside **industry leaders** and **policymakers**.

Register now at www.icqe.com.au

Keynote Speakers

Giulio Cerullo | Politecnico di Milano (IT)
Christiane Koch | Freien Universität Berlin (DE)
Sabrina Maniscalco | Algorithmiq, University of Turku (FIN)
Ferdinand Schmidt-Kaler | NEQXT, Universität Mainz (DE)

Invited Speakers

Jonatan Bohr Brask | Technical University of Denmark (DK)
Alex W Chin | Sorbonne Université, CNRS (FR)
Elisabetta Collini | University of Padova (IT)
Olivier Ezratty | EPITA and QEI cofounder (FR)
Marco Fellous-Asiani | University of Warsaw (POL)
Armando Genco | Politecnico di Milano (IT)
Gerrit Groenhof | University of Jyväskylä (FIN)
Geraldine Haack | Université de Genève (CH)
Loïc Henriet | CEO Pasqal (FR)
Abhinav Kandala | IBM Quantum (US)
Bayan Karimi | University of Chicago (US)
Maria Maffei | Università di Bari (IT)
Konstantin Matchev | University of Alabama (US)
Lindsay Oftelie | CNR Pisa (IT)
Gemma C. Solomon | Københavns Universitet (DK)
Filippo Vicentini | École Polytechnique (FR)
Clemens Winkelmann | Grenoble Alpes (FR)

Conference Themes and Topics

Theme 1.
Energy advantage and cost of quantum technology.

- quantum thermodynamics
- quantum reversible operations
- thermodynamic role of coherence
- quantum optimization
- ...

Theme 2.
Quantum effects in energy processes and materials.

- superradiance & superabsorption
- polaritonic chemistry
- energy storage
- charge and exciton transport
- optimal thermometry
- topological materials
- ...

Theme 3.
Advanced numerical and experimental methods.

- neural network states
- tensor networks
- advanced DFT
- molecular dynamics
- NV-magnetometry
- ultrafast spectroscopy
- ...

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Dipartimento di Fisica e Astronomia Galileo Galilei

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