

The 27th International Conference on Atomic Physics

ICAP2022

Sunday 17 July 2022 - Friday 22 July 2022

Royal Conservatory of Music, Toronto

Sorting categories

Contributed posters

Degenerate gases, many-body physics, and quantum simulation

- Bose-Einstein condensates
- Degenerate Fermi gases
- Ultracold mixtures
- Cold atoms and molecules in optical lattices
- Tweezer arrays for atoms, Rydbergs, or molecules
- Quantum simulations with degenerate gases
- Spinor gases and magnetic phenomena
- Quantum gases in low dimensions
- Synthetic gauge fields and spin-orbit coupling in AMO systems
- Long-range or anisotropic interactions in cold gases
- Laser cooling and trapping techniques
- Quantum dynamics, quenches, and Floquet engineering

Trapped ions, Rydberg atoms, and cold plasmas

- Trapped ions
- Rydberg atoms and molecules
- Cold plasmas
- Photoionization

Precision measurement and tests of fundamental physics

- AMO physics tests of fundamental physics
- Tests of basic laws and discrete symmetries
- Searches for beyond-Standard-Model interactions, including EDM searches
- Searches for dark matter and dark energy
- Nuclear properties from AMO physics measurements
- Atomic clocks
- Atomic magnetometers

Structure and properties of atoms, ions, and molecules

- Cold and ultracold molecules
- Applications of atomic, molecular, and collisional data
- Spectroscopy, lifetimes, oscillator strengths
- Photoassociation and photodissociation

Quantum optics and hybrid quantum systems

- Fundamentals of light-matter interactions
- Quantum networks and quantum memories
- Hybrid quantum systems
- Continuous-variable quantum optics
- Quantum/coherent control
- Cavity QED
- Nanophotonics and optical waveguides
- Photon statistics, bunching, etc

- Quantum nonlinear optics
- Atom and matter-wave optics and interferometers

Quantum information: gates, sensing, communication, and thermodynamics

- Quantum gates, algorithms, and architectures
- Quantum metrology and sensing
- Quantum characterization, verification, and validation
- Open quantum systems
- Quantum communication
- Quantum thermodynamics

Ultrafast lasers, strong-field physics, and plasma physics

- Atoms and molecules in strong laser fields
- Nonlinear optics
- Strong-field physics in solids
- Ultrafast electron dynamics
- Time-resolved molecular dynamics
- Attosecond physics
- Coherent/quantum control: ultrafast and strong field processes
- XUV and X-ray free-electron lasers
- Ultrafast or high intensity light sources and lasers
- Plasma physics

Atomic, molecular, and charged-particle collisions

- Ultracold collisions
- Atom-atom and atom-molecule collisions
- Electron-impact collisions
- Ion-impact collisions
- Collisions involving antimatter, clusters and surfaces

Miscellaneous

Invited plenary presentations

Abstracts of work by remote participants

If you plan to attend ICAP as a remote (virtual) participant, then you are still welcome to submit a summary of recent work. This will be included in the ICAP book of abstracts. However, since you will not be able to present your work in person, we ask that you include a reference to a preprint, or a URL for a poster file, so that anyone interested to learn more can follow those references.