

C5 Commission on Low Temperature Physics - Activity Report September 2026

This report covers the period September 2025 – September 2026.

1. Commission Membership

The membership of C5 was refreshed in January 2025.

Officers

Chair	Richard Haley	United Kingdom
Vice-Chair	Silke Bühler-Paschen	Austria
Secretary	Christian Enss	Germany

Members

Margriet J. Van Bael	Belgium
Eduardo Miranda	Brazil
Mika Sillanpää	Finland
Elsa Lhotel	France
Matteo Cirillo	Italy
Keiya Shirahama	Japan
Younjung Jo	South Korea
Vasily Glazkov	Russia
Fernando Luis	Spain
Thilo Bauch	Sweden
Eva Y. Andrei	USA

Associated Members

Yanina Fasano	Argentina
Jinguang Cheng	China

2. Sponsored conferences in 2026

TYPE B

The 2026 International Symposium on Quantum Fluids and Solids (QFS2026)
University of Notre Dame, USA
2-8 August 2026

Chairs: Dafei Jin, Xiaolong Liu and Petr Stepanov

The QFS conferences typically take place in the two years between the major triennial International Conference on Low Temperature Physics (the next, LT31, is due in 2028).

QFS2026 covered the topics: superfluid helium-3; superfluid helium-4; quantum solids; atomic and molecular gas condensates; polaritonic and exciton condensates; confined QFS systems; defected QFS systems; hybrid QFS systems; nonequilibrium QFS systems; topological/unconventional superconductors; conventional superconductors, vortices, TLS/quasiparticles, and high-Q cavities; quantum spin liquids; quantum Hall liquids; 2D electron fluids and solids; QFS-based quantum information; QFS-based simulation and detection; cryogenic technologies.

The programme also included public lectures and a memorial session in honour of the late Sir Anthony Leggett FRS, Nobel Laureate in Physics for pioneering contributions to the theory of superconductors and superfluids.

The conference was attended by delegates from four continents and 13 countries.

Proceedings will be published in a special issue of the Journal of Low Temperature Physics.

3. Sponsored conferences in 2027

TYPE B

The 2027 International Symposium on Quantum Fluids and Solids (QFS2027)

Hosted by KAIST, South Korea

11-17 August 2027

Chairs: Eunsong Kim, Hyoungsoon Choi

The scope of QFS2027 is expected to cover: liquid and solid helium-3 and helium-4; quantum fluid aspects of electronic and magnetic degrees of freedom in solids, including quantum Hall systems and quantum spin liquids; quantum fluids of light; related topics in quantum information and topological physics; low-temperature sensors, methodologies and instrumentation.

4. Upcoming conferences in 2028

TYPE A

31st Triennial International Conference on Low Temperature Physics (LT31)

Pittsburgh, USA

August 2028

This meeting is a major event for the C5 Commission taking place every three years or so since 1946 at venues around the world.

Themes typically include: Quantum gases, fluids and solids; Superconductivity; Quantum materials, magnetism and topology; Nanophysics and quantum transport; Quantum information and technologies; Cryogenic techniques and applications.

The conferences also include dedicated sessions for the IUPAP Early Career Prizes. The C5 Commission times these prizes so that three are awarded in the year of the LT conference. Other prestigious awards with dedicated sessions are the Fritz London Memorial Prize and the Simon Memorial Prize. For the Simon Prize the C5 Commission has a member co-opted to the Institute of Physics Low Temperature Group which administers the award. For the London award the C5 Chair is affiliated to its Board and Prize Committee.

TYPE B

ULT2028 - Frontiers of Physics at Ultra Low Temperatures

TBD

The ULT conferences take place every three years as a satellite to the main LT conferences, focussing on physics and phenomena at ultra-low temperatures, typically in the millikelvin and microkelvin regimes.

Themes include: Quantum fluids and solids; Unconventional and topological superfluids and superconductors; Strongly correlated condensed matter; Quantum phase transitions; Quantum transport; Quantum hydrodynamics and turbulence; Quantum analogues & simulators; Magnetism; Nano-electronic/nano-mechanical systems; Quantum devices, detectors & sensors; ULT cooling and instrumentation technology.

5. Commission Meetings & Business

Business is conducted by email and with in-person/online meetings scheduled around the major low temperature conferences attended by committee members. This year has included C5 Commission interaction in support of the Working Group for the establishment of a new Commission on Quantum Science and Technology.

*Richard Haley, C5 Chair
Christian Enss, C5 Secretary
September 2026*