

Fundamental Problems in Subatomic Physics 2026



Wednesday, 23 September 2026 - Sunday, 27 September 2026

Novotel Cairns Oasis Resort

Scientific Programme

The aim of this workshop is to bring together people working on challenges at the frontier of subatomic physics from a variety of different directions. Over the past 30 years, the CSSM has held more than 40 workshops and conferences, and the cross-fertilisation of ideas in a collegial environment has often led to unexpected advances.

In this workshop the topics covered will range from lattice QCD to perturbative QCD, from models of the QCD vacuum to QCD phenomenology and experiments, from effective theories to physics beyond the Standard Model, especially the nature of dark matter and its detection. The scope of the conference also includes the interface between QCD, nuclear physics and astrophysics, nuclear structure and reactions, hadron structure and spectroscopy (including DIS, GPDs and TMDs), as well as the application of new tools, such as AI, across these fields.

While the genesis of the workshop was the celebration of many years of scientific cooperation between Australia and Japan, and especially 25 years since CSSM hosted the first workshop outside of Japan on the physics of what was to become J-PARC, we look forward to a multi-national exchange of ideas which will help to drive our field forward.

The diversity of topics to be covered is represented by the wide range of subject areas to be discussed, as shown in the list below.

Hadron Structure and Reactions

Nuclear Structure and Reactions

Deep Inelastic Scattering, GPDs and TMDs

BSM Physics

Dark Matter: Searches and Theories

Lattice QCD

Broken Symmetry and its Restoration

