Loop-the-Loop 2026

November 16, 2026 - November 20, 2026

Scientific Program

The development of advanced mathematical methods for perturbative Quantum Field Theory has dramatically expanded our ability to compute scattering amplitudes and physical observables at higher orders. Today, amplitudes form an interdisciplinary area uniting physicists, mathematicians, and computer scientists, with broad impact across particle physics, gravity, and cosmology.

Loop-the-Loop aims to bridge these communities—connecting particle physics, gravitational-wave physics, and cosmology with cutting-edge mathematical techniques and computational methods—to catalyze new ideas at the interface of theory and applications.

Day 1/2: School
- **Kay Schonwald:** Asymptotic Expansions in Multi-Loop Calculations
- **Gustav Jakobsen:** Worldline Quantum Field Theory for Post-Minkowskian Gravity
- **Scott Melville:** Cosmological Correlators

Day 3-5: Workshop
- Applied Mathematica for Feynman Calculus and Particle Physics
- Amplitudes Methods for Gravitational Wave Physics
- Cosmological Correlators