

WLCG/HSF Workshop 2026

2 November 2026 - 6 November 2026

CNR Area Territoriale di Ricerca di Bologna

Scientific Programme

The workshop will address key developments and strategic directions in distributed computing for high-energy physics, bringing together experts from WLCG, HSF, and the broader community through a mix of plenary and parallel sessions.

✿ Computing & Data Challenges

Evolution towards heterogeneous computing architectures
Preparation of Data Challenges 2027 (DC27)
Advances in data storage technologies, with a focus on tape systems
Throughput and storage capacity requirements
Smarter data handling strategies and R&D

□ Strategy & Roadmap

Definition and validation of the WLCG Technical Roadmap
Clarification of roles, responsibilities, and timelines
Key updates from experiments: ATLAS TDR and CMS CDR

□ Operations & Infrastructure

Token-based authentication transition and Token Grand Challenge
Evolution of accounting and information systems
AI for Operations (AIOps) to enhance efficiency and coordination
Engagement with sites and infrastructure communities and HEPIX

□ Software & Innovation (HSF)

Common software solutions and workflow management
Training initiatives, including Machine Learning and AI,
Software sustainability and AI-assisted development.
Alignment with major initiatives: IRIS-HEP, EVERSE, and global collaborations.

◎ Emerging Technologies

AI-driven applications and foundational models
Natural language interfaces for distributed systems

□ Facilities & Sustainability

Reports on facilities, operational challenges, and cost models
Discussion of resource efficiency and future sustainability

□ Overall Goal

Strengthen coordination across experiments, computing projects, and infrastructures, and define concrete steps towards the next generation of computing for particle physics.