Session Program

25–29 May 2026

28th Conference on Computing in High Energy and Nuclear Physics (CHEP 2026)

Track 6 - Software environment and maintainability

Chulalongkorn University

Monday 25 May

13:45

Track 6 - Software environment and maintainability: Performance and Heterogeneous Computing

Session | **Location:** Chulalongkorn University | **Conveners:** Arantza De Oyanguren Campos, Ruslan Mashinistov

13:45–14:03

Automated tuning of GPU kernel parameters via RunTime Compilation for the ALICE Online reconstruction

Speaker
Gabriele Cimador

14:03–14:21

The alpaka C++ library for performance portability

Speaker
Dr Andrea Bocci

14:21–14:39

Module Map Graph: A High-Performance Software Library for GNN-Based Reconstruction Pipelines on Heterogeneous Architectures for the HL-LHC

Speaker
Sylvain Caillou

14:39–14:57

Incorporating Heightened Scrutiny into a Large HEP Software Project

Speaker
Philippe Canal

14:57–15:15

LHCb Brain: Agentic Assistant for the LHCb Experiment

Speaker
Pawel Kopciewicz

15:15

16:15

Track 6 - Software environment and maintainability: Testing, QA, and Validation

Session | **Location:** Chulalongkorn University | **Conveners:** Arantza De Oyanguren Campos, Ruslan Mashinistov

16:15–16:33

Tackling complexity in the development of HEP applications by introducing unit testing in the Gaudi framework

Speaker
Pol Muñoz Pastor

16:33–16:51

Hypothesis-awkward: Property-Based Testing Strategies for Awkward Array

Speakers
Tai Sakuma, Tai Sakuma

16:51–17:09

A Record-and-Replay Workflow for Floating-Point Error Analysis of GPU Kernels

Speaker
Douglas Benjamin

17:09–17:27 **The ATLAS C++ static checker**

Speaker
Scott Snyder

17:27–17:45
Enabling end-to-end testing: Porting low latency gravitational wave search pipelines to kubernetes

Speaker
Paul James Laycock

18:03

Tuesday 26 May

13:45

Track 6 - Software environment and maintainability: Software Systems, Frameworks, and Integration

Session | **Location:** Chulalongkorn University | **Conveners:** Arantza De Oyanguren Campos, Gaia Grosso

13:45–14:03

A Feedback-Driven Evolution of the Belle II Distributed Computing System

Speaker
Quinn Campagna

14:03–14:21

Building an AI Assistant for ATLAS Computing Operations and User Support

Speaker
Ilija Vukotic

14:21–14:39

Exploring AI-Assisted Coding for Storage Systems: Practical Examples and Preliminary Evaluation

Speaker
Andreas Joachim Peters

14:39–14:57

RL-ABC: Reinforcement Learning for Accelerator Beamline Control

Speaker
Anwar Ibrahim

15:15

16:15

Track 6 - Software environment and maintainability: Programming Models and Software Design

Session | **Location:** Chulalongkorn University | **Conveners:** Gaia Grosso, Ruslan Mashinistov

16:15–16:33

Compile-Time Metaprogramming with C++26 and beyond

Speaker
Jolly Chen

16:33–16:51

Standardization for sustainable and reusable software: std::simd in C++26

Speaker
Matthias Kretz

16:51–17:09

Performance and integration challenges of using Julia language for trigger and reconstruction

Speaker
Mateusz Jakub Fila

17:09–17:27

Arbitrary Python Execution in C++ with Dynamic Bindings: How Far Can We Go?

Speaker
Silia Taider

17:27–17:45 **A modernized interface to ROOT files**

Speaker
Giacomo Parolini

17:45–18:03 **Transparent integration of RNTuple into FairRoot**

Speaker
Radoslaw Karabowicz

18:03

Wednesday 27 May

13:45

Track 6 - Software environment and maintainability: Ecosystems, Collaboration, and Workflows

Session | **Location:** Chulalongkorn University | **Conveners:** Arantza De Oyanguren Campos, Gaia Grosso

13:45–14:03 **Building International Research Software Collaborations in Physics**

Speaker
Peter Elmer

14:03–14:21
The European Virtual Institute for Research Software Excellence (EVERSE)

Speaker
Caterina Doglioni

14:21–14:39
HEP Packaging Coordination: Distributing the HEP software ecosystem on conda-forge

Speaker
Matthew Feickert

14:39–14:57 **Franklin - Your passport to running custom code on the grid**

Speaker
George Hallett

14:57–15:15
NOvA Software and Computing: Evolution, Lessons, and Impact; Supporting a Decade of Physics

Speaker
Dr Gavin Davies

15:15

16:15

Track 6 - Software environment and maintainability: AI for Software and Operations

Session | **Location:** Chulalongkorn University | **Conveners:** Gaia Grosso, Ruslan Mashinistov

16:33–16:51
SciBot: A Secure, High-Performance AI Assistant for Long-Term Preservation of RHIC Knowledge and beyond

Speaker
Dr Jerome LAURET

16:51–17:09
Root-cause Analysis of Data Discrepancies in the ATLAS Software Stack with CelloAI

Speaker
FNU Mohammad Atif

17:09–17:27 **Adaptive Fault Management at CERN using Large Language Models**

Speaker
Panagiotis Gkonis

17:27–17:45

INSPIREHEP Search and Discovery with AI driven Retrieval and MCP Server

Speaker
Harris Tzovanakis

17:45–18:03

From Clicks to Conversation: A Dialogic and Collaborative Software Interaction Paradigm

Speaker
FU Shiyuan fusy

18:03