

## Software and Computing Coordinator

- + Deputy Coordinator **Operations**
- + Deputy Coordinator **Development**
- + Deputy Coordinator **Infrastructure**

**Guiding Principles:** Software Principles, DE&I, Sustainability

### Operation WGs:

- Production (CD)
- User Learning
  - Discoverable software and data
- Validation (CD)

### Development WGs (CI):

- Physics and Detector Simulation
- Reconstruction
- Analysis Tools

### Infrastructure WGs:

- Streaming Computing Model WG (joint with Electronics and DAQ)
- Multi-Architecture Computing
- Distributed Computing

**Cross-cutting** Data and Analysis Preservation WG

## Short Descriptions:

### Operation WGs:

- **Production:** Responsible for the coordination and production of simulation campaigns based on priorities from the technical and analysis coordinators. Develop automated production workflows that scale with the needs of the collaboration.
- **User Learning:** Responsible for support via documentation, help desk, and training. Ensure that software is discoverable (easy to use with only minimal instructions) and simulated data and metadata is findable.
- **Validation:** Responsible for the validation of the simulations via a suite of detector and physics performance plots. Develop autonomous checks and verification of the validation plots.

## Short Descriptions:

### Development WGs:

- **Physics and Detector Simulation:** Development of accurate MC simulations using a suite of physics and background generators and detector simulation based on Geant4 and DD4hep.
- **Reconstruction Framework and Algorithms:** Development of a holistic and modular reconstruction for the integrated ePIC detector.
- **Analysis Tools:** Collaborative development of analysis methods and tools and integration in central software and computing workflows.

## Short Descriptions:

### Infrastructure WGs:

- **Streaming Computing Model:** Development of the computing model for the compute-detector integration using streaming readout, AI/ML, and multi-architecture computing (CPU, GPU, ...) with a specific focus on the data flows after the FEE layer.
- **Multi-Architecture Computing** (will start later) Increase support for different types of processors or accelerators to optimize performance and efficiency.
- **Distributed Computing** (will start later) Develop workflow and data management tools for using computing resources that are distributed worldwide.

## Short Descriptions:

### **Cross-Cutting WGs: Data and Analysis Preservation WG (will start later):**

- Develop fully reproducible, re-usable, and re-interpretable analyses that are based on reusable software and are amenable to adjustments and new interpretations.