The major role of the Software Sustainability Core (SSC) will run workshops and training events for the community covering a broad range of topics computing skills necessary to be a proficient particle experimentalist.
IRIS-HEP - intellectual hub - software/computing challenges of HL-LHC era

Building the necessary software and solving related challenging problems requires a workforce

- HEP domain knowledge + advanced software skills + strong connections to other related disciplines

- Need investment to grow this workforce

- Training is critical to perpetuate the learning cycle in an organized way and efficiently

- Outreach the under(un)served community to develop wider interest
Impact Role

- Coordinate training related activities

- Assemble and communicate coherent vision of a training program for HEP community - graduate students, postdocs, senior researchers in software and computing

- Develop a process with the community for implementing and updating this vision over time

- Build a “federated” view over the possible training opportunities
  - Experiments, labs, dedicated summer schools and other sources (HEP and non-HEP)

- Bring together the people organizing the training activities to articulate the vision, develop plans to enhance the sustainability, reusability and impact of the training activities

- Work with the community to build an assessment framework for the ensemble of activities that allows us to measure the impact of our activities
Training Vision Pyramid

HEP Software Training

Mentors

Tier 3
Advanced Ph.D. Students, Postdocs, Senior

CoDaS-HEP (US)
GridKa school (DE)
INFN ESC school (IT)

Developer training

Tier 2
CERN school of computing
MLHEP school (EU)
Industry (Intel, NVIDIA, ...)
Advanced ROOT
Geant4
Programming
Data science
C++

HEP domain training

Tier 1
Early Ph.D. Students, New Researchers

University courses

Experiment software training

Carpentries workshops tailored for HEP

Early Ph.D. Students
Current Training “Landscape”

- **Training Efforts** - CMS, ATLAS, ALICE, LHCb, Belle II, Experiments (Neutrino/Muon/Asrto)@FNAL, VIRGO/LIGO
- **Non-experiment (2)** - CoDaS-HEP, Bertinoro School of Computing, CERN School of Computing, GridKa, OSG User School
- **Data Science Courses** (e.g. Univ. of Padova)
- Have people involved in training communities together for a “Integrated” Software Training plans
Near Term Plan

- Build starting point for newcomers to HEP
- Start introductory level Carpentry
  - Build Assemble an introductory HEP curriculum
  - Plan in works to organize introductory level Carpentry (scale it) at the LPC, Fermilab in March
- Target audience - CMS/ATLAS to begin
- Invite LHCb/ALICE to showcase Starterkit
- Survey in preparation to assess training needs - now survey is done, > 350 responses, will summarize and present later
- Website (on HSF website in works listing training schools)
Related Links/Info

  - General public announcement mailing list for IRIS-HEP events, talks, meetings, workshops, opportunities for training and job opportunities (subscribe to) [announcements@iris-hep.org](mailto:announcements@iris-hep.org)

- **HSF (HEP Software foundation)** - [https://hepsoftwarefoundation.org](https://hepsoftwarefoundation.org)
  - General Information about HSF (subscribe to): [hsf-forum@googlegroups.com](mailto:hsf-forum@googlegroups.com)
  - Discussions and activities in the HEP Software Foundation mailing lists can be found here (General and Dedicated Forums): [https://hepsoftwarefoundation.org/forums.html](https://hepsoftwarefoundation.org/forums.html)
  - You can contribute [https://hepsoftwarefoundation.org/cwp/cwp-working-groups.html](https://hepsoftwarefoundation.org/cwp/cwp-working-groups.html)
  - HSF Events/Workshops - [https://hepsoftwarefoundation.org/events.html](https://hepsoftwarefoundation.org/events.html)

- **FIRST-HEP website** [http://first-hep.org](http://first-hep.org)
  - Funding for participants and lecturer support for Training