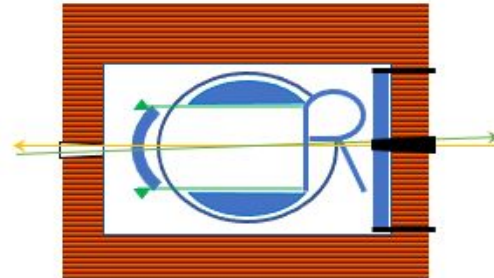


CORE (IP8) Software

Wenliang 'Bill' Li (SBU)

Apr/04/2021



Lesson Learned

Working Together

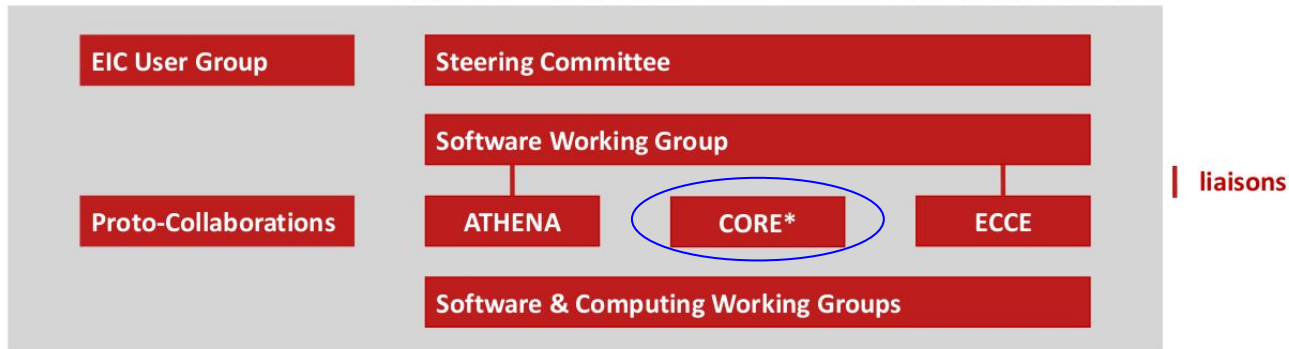
After a presentation on "Breakthroughs in Detector Technology", Ian Shipsey (Oxford) was asked about the role of software.

Anecdote

"*Software is the soul of the detector,*" Ian Shipsey replied in a poetic way and emphasized the importance of great software for great science. He added that we need to **work together**, on a global scale and with other fields, to achieve this goal.

Common Software Effort

Thank you very much for working together with the EICUG SWG!

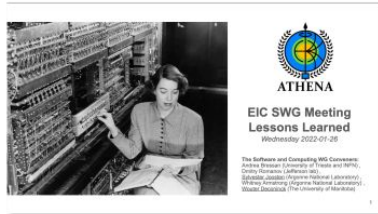


* CORE adapts existing software for their needs and has a far smaller software effort than other proto-collaborations.

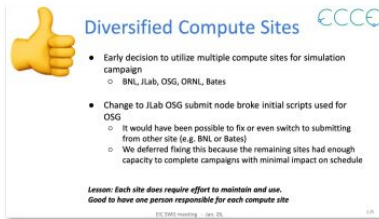
Lesson Learned

EIC Software: Lessons Learned (<https://indico.bnl.gov/event/14319/>)

Lessons Learned from ATHENA (Sylvester Joosten, Wouter Deconinck)



Lessons Learned from ECCE (David Lawrence, Jin Huang, and Bill Li)



Lesson Learned

- **Both Athena and ECCE softwares are sufficiently comprehensive.**
 - **Github, Gitlab, simulation reconstruction**
- **Fun4all and DD4Hep will co-exist during the merging process (till CD2)**
- **Censuses: long term plan is to have a new framework. (New framework will look more like DD4Hep than Fun4all)**
- **CORE Software strategy:**
 - Not to reinvent the wheel.
 - Make best use of existing framework to accomplish physics benchmarks to help accelerator development

**Personal
initiation**

CORE Software Currently

CORE FunAll Tutorial

📅 Thursday 17 Feb 2022, 10:30 → 19:00 US/Eastern

Description Zoom link: <https://stonybrook.zoom.us/j/94881514055?pwd=YINBalFsdd>

10:30 → 10:50 **General Introduction to Fun4all framework**
Speaker: Dr Jin Huang (Brookhaven National Lab)
📎 Fun4All intro for CO... 📎 Jin2.mp4

10:50 → 11:10 **Fun4all at IP8**
Speaker: Barak Schmookler (Stony Brook University)
📎 barak_recording.mp4 📎 CORE_1_021722.pdf 📎 CORE_2_021722.pdf

11:10 → 11:30 **Fun4all Analysis Plugin Demo**
Speaker: Wenliang Li (Stony Brook University CFNS)
📎 Bill_recording.mp4 📎 CORE_Simulation_T...

- 1st CORE Software tutorial
 - Feb 17 2022
 - Recording available

<https://indico.bnl.gov/event/14878/>

Where is CORE Software

- **Currently:**

https://github.com/bschmookler/fun4all_eicmacros/tree/CORE/detectors/CORE

- **Setting up a separate CORE account:**

- Under BNL Github account
- I will maintain the repository

Default is IP6

```
// Enable::BBC = true;
Enable::BBCFAKE = true; // Smeared vtx and t0, use if you don't wan

// whether to simulate the Be section of the beam pipe
Enable::PIPE = false;
// EIC beam pipe extension beyond the Be-section:
G4PIPE::use_forward_pipes = false;
// EIC hadron far forward magnets and detectors. IP6 and IP8 are in
Enable::HFARFWD_MAGNETS_IP6=true;
Enable::HFARFWD_VIRTUAL_DETECTORS_IP6=true;
Enable::HFARFWD_MAGNETS_IP8=false;
Enable::HFARFWD_VIRTUAL_DETECTORS_IP8=false;
```