

CD-doc-5670-v1



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Reconstruction Group

Rob Kutschke

SCP-SP-IF Meeting

Jan 5, 2016

Original Motivation – From FNAL PAC June 2015

Fermilab may want to consider creating a forum for exchanging ideas and for aiding progress on LAr event reconstruction. The issue is not just providing a common software platform (this is clearly critical) but also facilitating a forum where scientists (especially young ones) can discuss common issues. Fermilab may want to encourage the major LAr collaborations to consider mechanisms for effective and efficient parallel development and transfer of knowledge.

“Reconstruction” is Broadly Construed

- Finding tracks, showers, vertices ...
- Event classification
 - May be a natural use for machine learning
- Visualization in support of the above
- Concurrency in support of the above
- Use of HPC/HTC in support of the above
- ...
- See Adam Lyon’s talk: [CD-doc-5619](#)

Where possible focus on the similarities of algorithms and techniques with a goal of common libraries for our common platforms.

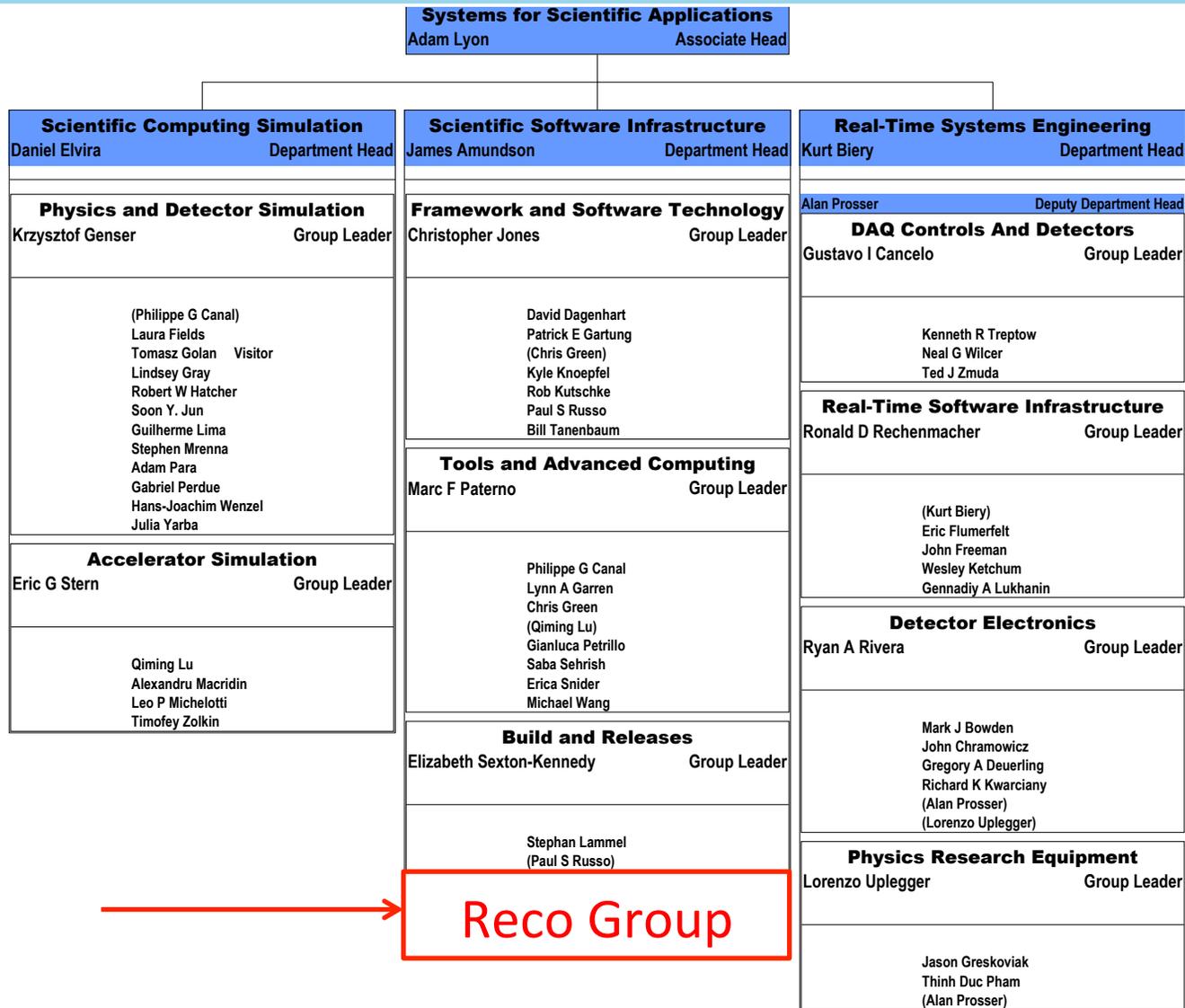
Two Mandates:

- Assist and augment the efforts of experiments
- Explore new ideas and techniques that may be of value to the experiments

Some possible early projects:

- Work with experiments to find synergies
- Continue the investigation of Paraview visualization
- Package a machine learning example in a toolkit
- Propose a machine learning project for the [INCITE](#) program

Reconstruction Group – under CS-SCD-SSA-SSI Dept



Membership

- Lindsey Gray
- (Wes Ketchum)
- Rob Kutschke (Group leader)
- (Gabe Perdue)
- Gianluca Petrillo
- Erica Snider
- Mike Wang
- + we propose two Sci II from ND: negotiations in progress