



## Minutes of the Fermilab UEC Meeting June 14, 2013

### **Attending:**

Mary Anne Cummings, Craig Group, Sergo Jindariani, Breese Quinn, Greg Pawloski, Lee Roberts, Mandy Rominsky, Gregory Snow, Nikos Varelas, Bob Zwaska (*Not Present: Daniel Kaplan, Ryan Patterson*)

**FSPA:** Leo Aliaga

**Guests:** Carole McGuire (remote), Young-Kee Kim, Vladimir Shiltsev

### **Presentations**

<https://indico.fnal.gov/conferenceDisplay.py?confId=6993>

### **Discussion of Users Meeting**

The Users Meeting was deemed a success and all presentations were well received. The banquet was very good and the public lecture engaging.

The Fermilab Children's Center was contacted after some questions about childcare came up at the meeting. The Children's Center is willing to take children on a day-by-day basis for attendees. Also, the hours could be extended to cover the meeting times with only minimal cost. Each of these issues needs to be considered next year: The Children's Center should be advertised and arrangements should be made for extended hours.

### **News from Washington – Carole McGuire**

House and Senate appropriations subcommittees have started to consider the FY14 spending bills. Energy & Water will start consideration next week. Consideration is good; however the prospects in the House are poor because of the very harsh spending constraints. Subcommittee members have been contacted – they are sympathetic, but unable to help much within their constraints.

The Senate version may be much better as they will have a better funding allocation than the House Subcommittee -. However, that suggests that the bills in the two bodies will be quite different and take some time to reconcile. Already, a CR for some period into the new fiscal year is considered likely.

Carole points out that this situation is consistent with previous years.

NUFO is planning to have a major event on Capitol Hill. Carole will be involved, as well as Fermilab. A small UEC presence is expected. We don't yet have much information on the actual planning of the event.

The NSF budget is also in progress. The FY13 funding is just being freed up. The FY14 bill will take some time to be considered. It will likely do well, even though its committee's spending allocation in the House is also very constrained.

The debt limit issue will come up again this fall and those discussions are likely to have some impact on the final FY 2014 appropriations bills. In any case, there will have to be substantial debate in Washington if these significant differences are to be overcome.

### **Advanced Superconducting Test Accelerator (ASTA) – Vladimir Shiltsev**

Vladimir gave a presentation on Fermilab accelerator R&D and the new accelerator facility at Fermilab: ASTA. A large amount of effort is being spent on accelerator R&D in the country and at Fermilab. Much of this research is focused on future machines, e.g., LHC upgrade, muon accelerators, ILC, and accelerator education.

The A0 Photo-injector was a 15 MeV superconducting experimental electron accelerator near the Tevatron. It operated for many years and was the spiritual ancestor of ASTA. Additionally, Fermilab has had R&D on all its operating machines, recently had a short proton linac called HINS, and now has a Muon Test Area for muon cooling R&D. On the technology front, Fermilab has been doing research on superconducting magnets and RF. In the near future, Fermilab plans to develop two major R&D facilities of PXIE and ASTA.

Vladimir points out that a substantial number of publications are produced by the Fermilab accelerator R&D endeavor. When measured in terms of publications / scientist / yr, it is much superior to collider experiments. PhD students are also supported through a joint program with universities to earn degrees in accelerator science. The thesis topics can be in terms of hardware, theory, simulation, etc. Vladimir is interested in expanding this program and particularly needs new R&D facilities to do the work at.

Fermilab supports accelerator education through several other programs. There is the U.S. Particle Accelerator School (USPAS) that trains accelerator physicists nation-wide. The Lee Teng internship is administered jointly with Argonne and supports undergraduates for summer work at the labs. There is also an international summer internship that supports students from around the world.

ASTA will be a world-leading accelerator R&D facility at Fermilab. It will be situated in an expanded NML building at Fermilab, next to a new CMTF (CryoModule Test Facility) where PXIE (Project X Injector Experiment) will be located. Construction of these facilities was prompted by the ARRA. The formal proposal for the ASTA program was presented to DOE earlier this year.

ASTA will primarily be an electron accelerator with several experimental areas. It is headed by a 50 MeV photo-injector, followed by up to 3 ILC cryomodules (up to 800 MeV). There will be experimental areas at each step, and also the possibility of 2.5 MeV H<sup>-</sup> or proton beams.

Many technical components have already been produced and initial beam is pending. The research program is quite broad, including 5 primary thrusts:

- Intensity Frontier of Particle Physics
- Energy Frontier of Particle Physics

- Superconducting Accelerators for Science
- Novel Radiation Sources
- Stewardship and Applications

The proposal included 60 co-authors from 13 institutions and 24 particular research proposals.

ASTA is unique in being a very intense facility having high repetition rate and high average power. The beam is expected to be quite stable. In addition to accelerator science, it is possible to do particle physics test beams from this facility.

ASTA has quite a number of users and its own Program Advisory Committee. There will be a first ASTA Users Meeting on July 23-24. In the future, it will be advantageous to have some connection to the Fermilab Users Meeting—perhaps having them adjacent and a particular ASTA session at the Users Meeting.

Vladimir wishes to engage the community and to consolidate R&D around this facility. The goal is to have 100-150 users in 3-5 years from now.

There was much discussion about how to coordinate the user committees of Fermilab at large and ASTA. There was also some discussion around the issue that the UEC bylaws should be modified to ensure representation from different areas of the users community.

#### **News from the Directorate – Young-Kee Kim**

Young-Kee was happy with the results of the Users Meeting. We discussed issues related to the upcoming UEC election, changeover to new director, and Snowmass. The director search process is in progress and we will hopefully hear the result soon. The changeover process may be somewhat complicated – perhaps including an interim director.

Young-Kee met with Ernie Moniz recently and had good initial conversation with him. We expect that the DOE direction will not change much, but he is expected to be very engaged with the community. A replacement for Bill Brinkman has not been named yet, and it may take some time.

Next UEC meeting: Not Scheduled – There will not be another meeting until the new UEC is in place.

*Scribe: Bob Zwaska*