

# SHMS-HMS Users Group Newsletter

September 2012

Newsletter edited by: Mark Jones

## Contents

SHMS-HMS User's Board.....	1
SHMS Project Update.....	2
Progress on SHMS software (Steve Wood).....	3
Status of Hall C (Steve Wood).....	3
Workshop on DVCS in Hall C and experiments using $\pi^0$ detector .....	3
Useful Weblinks .....	4

## SHMS-HMS User's Board

The SHMS-HMS User's Board holds regular phone meetings to discuss status and progress of the 12 GeV Upgrade in Hall C, in particular the SHMS as well as physics and other matters associated with Hall C at 12 GeV.

The last meeting of the 2011/2012 Board was on August 28, 2012. The main topic was election of new members to replace Tanja Horn and John Arrington. The ballot will be sent out by email during the first week of September. The candidates are Ed Brash, Kawtar Hafidi and Gabriel Niculescu.

If you have any comments, ideas, news, or suggestions on topics related to Hall C at 12 GeV, for instance, on the SHMS-HMS, workshop organization, new grants for 12 GeV physics, student detector projects, or ideas for physics or equipment we would like to hear from you. Simply contact any SHMS-HMS User's Board Member listed below. You could even be featured in the next issue of this newsletter!

*Members of the Board: John Arrington ([johna@anl.gov](mailto:johna@anl.gov)), Donal Day ([dbd@virginia.edu](mailto:dbd@virginia.edu)), Tanja Horn ([hornt@cua.edu](mailto:hornt@cua.edu)), Mark Jones([jones@jlab.org](mailto:jones@jlab.org)), Eric Christy ([christy@jlab.org](mailto:christy@jlab.org)) and Pete Markowitz ([markowit@fiu.edu](mailto:markowit@fiu.edu))*

*As a reminder the detector team is:*

<b>Contact</b>	<b>Institution</b>	<b>Current Project</b>
Howard Fenker	JLab, Hall C	12 GeV Assistant Project Manager
Donal Day	University of Virginia	Noble Gas Cerenkov
Dipangkar Dutta	Mississippi State University	Collimator
Tanja Horn	Catholic University of America	Aerogel Cerenkov
Garth Huber	University of Regina	Heavy Gas Cerenkov
Hamlet Mkrtchyan	NSL (Yerevan)	Calorimeter
Eric Christy Peter Monaghan	Hampton University	Drift Chambers
Ioana Niculescu	James Madison University	Scintillator Hodoscopes
Charles Perdrisat	College of William and Mary	Support Structure
Abdellah Amidouch Sam Danagoulian	North Carolina A&T	Quartz Hodoscope
Brad Sawatzky	JLab, Hall C	DAQ, Gas system

## **SHMS Project Update**

The SHMS Detectors Construction Status Meeting was held on August 27<sup>th</sup>. The [agenda](#) is available in the Hall C document database with links to talks for all the detectors. Howard Fenker's [talk](#) on the SHMS project status is extremely detailed, so please take a look if you weren't at the meeting. A brief summary is given here.

Due to budget constraints, the formal completion milestone for 12 GeV will move to a later date, but the accelerator schedule is not being delayed. Management is plans on keeping the SHMS Support Structure installation on schedule. Hall C is trying to be in position so that delaying Hall C will not help other parts of the 12 GeV project. Therefore Hall C will be ready to take beam at the earliest date possible. To achieve this goal, having the SHMS detectors built, tested and ready for installation by Jan-Feb 2014 is critical.

Removal of QWeak equipment, SOS and other legacy equipment is going well and SHMS installation should start November 1<sup>st</sup>, 2012. All structural steel parts are on site. Contract for the boron-concrete (B4C) will be awarded soon and concrete pouring is scheduled for spring 2013. For the HB magnet, the

first coil was successfully cold tested in April 2012 and the second coil passed the cold test in July 2012. The final design review for the HB magnet is August 28<sup>th</sup>, 2012. The soldering of the entire superconducting stabilizer is expected to be finished by October. The first finished superconducting reel arrived at Sigma-Phi on May 31<sup>st</sup> and a second was shipped on June 8<sup>th</sup>. Five cyro-control reservoirs have been built with four shipped to the magnet vendors and one to JLab for Q1. The control systems racks have been assembled and are being calibrated. The magnet power supplies are progressing at Danfysik with the acceptance test at JLab scheduled for February 2013. The yoke steel for Q2/Q3 and the dipole are expected to be delivered by October 2012. All four coils for Q1 have been wound and testing starts the beginning of September. A prototype coil for the dipole are been wound and a winding tool has been completed. The revised schedules for delivery of the Q2, Q3 and dipole are given in Howard's talk. All at JLab are applying pressure to accelerate the magnet contracts.

### **Progress on SHMS software (Steve Wood)**

Development of a new analyzer, based on the Hall A ROOT/C++ analyzer is proceeding. The current "skeleton" analyzer will decode Hall C HMS data (using existing crate map files) and produce hit-map histograms. The analyzer is being designed to use the same map and parameter files as used by the Fortran ENGINE in order to facilitate comparison of new and old analyzer results. To follow software development, subscribe to the "[hallcsw](#)" and look at the wiki page <https://hallcweb.jlab.org/wiki/index.php/Analyzer>. Phone meetings, which are announced on the "[hallcsw](#)" [mailing list](#), are held on Tuesdays every two weeks to discuss the software work. [Agendas](#) are posted on the Hall C wiki.

### **Status of Hall C (Steve Wood)**

On [August 25, 2012](#), an unforecasted severe storm dumped 5 to 10 inches of rain in the area of JLab over the period of a few hours. This storm which overloaded drainage downstream of the lab, resulted in flooding in all 3 experiment halls. Hall C, being the lowest hall, saw the highest water levels, reaching 28". This flooding damaged mechanical equipment (JLG lifts, vacuum pumps, lifting hardware, etc.), electrical systems (outlets, breakers, ...), magnet power supplies, electronics, and possibly cables. Fortunately, the recently disassembled beamline had already been moved out of the hall to storage. The lab is just starting to assess the damage and plan for cleanup and recovery. However, at this point, this flooding is not expected to impact the ability of Hall C to receive and use beam for commissioning and early physics in 2015.

### **Workshop on DVCS in Hall C and experiments using $\pi^0$ detector**

A collaboration meeting for the Hall A DVCS experiments is being held in Orsay, France on November 12-13, 2012. Organization has begun for a one day workshop on November 14, 2012

to discuss a possible DVCS experiment in Hall C. In addition, other proposed experiments which need a large acceptance photon detector are invited to participate. Contact Tanja Horn ([hornt@jlab.org](mailto:hornt@jlab.org)) to get more information.

## Useful Weblinks

- Hall C Publications: <https://hallcweb.jlab.org/publications/>
- Hall C Ph.D. Theses: [http://www1.jlab.org/ul/generic\\_reports/thesis.cfm](http://www1.jlab.org/ul/generic_reports/thesis.cfm)
- Hall C Home Page: <http://www.jlab.org/Hall-C/>
- Hall C Wiki: <https://hallcweb.jlab.org/wiki/>
- Hall C 12 GeV Upgrade: <http://www.jlab.org/Hall-C/upgrade/>
- Previous Newsletters: [https://hallcweb.jlab.org/wiki/index.php/Newsletter\\_Listing\\_for\\_SHMS/HMS](https://hallcweb.jlab.org/wiki/index.php/Newsletter_Listing_for_SHMS/HMS)
- SHMS-HMS Users Group: [http://www.jlab.org/Hall-C/upgrade/shms\\_users\\_group.html](http://www.jlab.org/Hall-C/upgrade/shms_users_group.html)
- Conference listing page: <http://cnr2.kent.edu/~manley/BRAGmeetings.html>