Schedule

RIKEN/RBRC
Itaru Nakagawa

Beginnings

At the beginning of the run, all detector low voltage power, high voltage power, gas, and cooling should be brought to their operating points so that any detector can be tested during the commissioning period. Thanks to the design of the readout electronics which allows partitioning of the detector into sub-detectors which can be configured and operated independently, all the detector groups will be attempting to test their detectors from the outset of the commissioning period. However, as the commissioning progresses, individual detectors will be the main priority during their specific commissioning periods.

- April 11 Watch shifts begin
- April 14 BHSO approves sPHENIX operation
- April 17 Begin operation (power, water, Global Interlocks in run state)
- April 24 Blue 4K wave
- April 26 Close shield wall (guesstimate)
- April 27 Begin working with beams in RHIC

Conceptual design of commissioning

- We start at low luminosity
- In each week of commissioning, we emphasize one detector, but all detectors should be trying to exercise their systems in whatever way is possible (clock triggers, random triggers, cosmic ray triggers, beam triggers)
  - This will require a continuing and daily negotiation for assistance with electronics and software
- First 2 weeks are primarily the MBD and MBD trigger development
- I expect we will need weekly maintenance periods of at least 24 hours

C-AD guidance (from BUP)

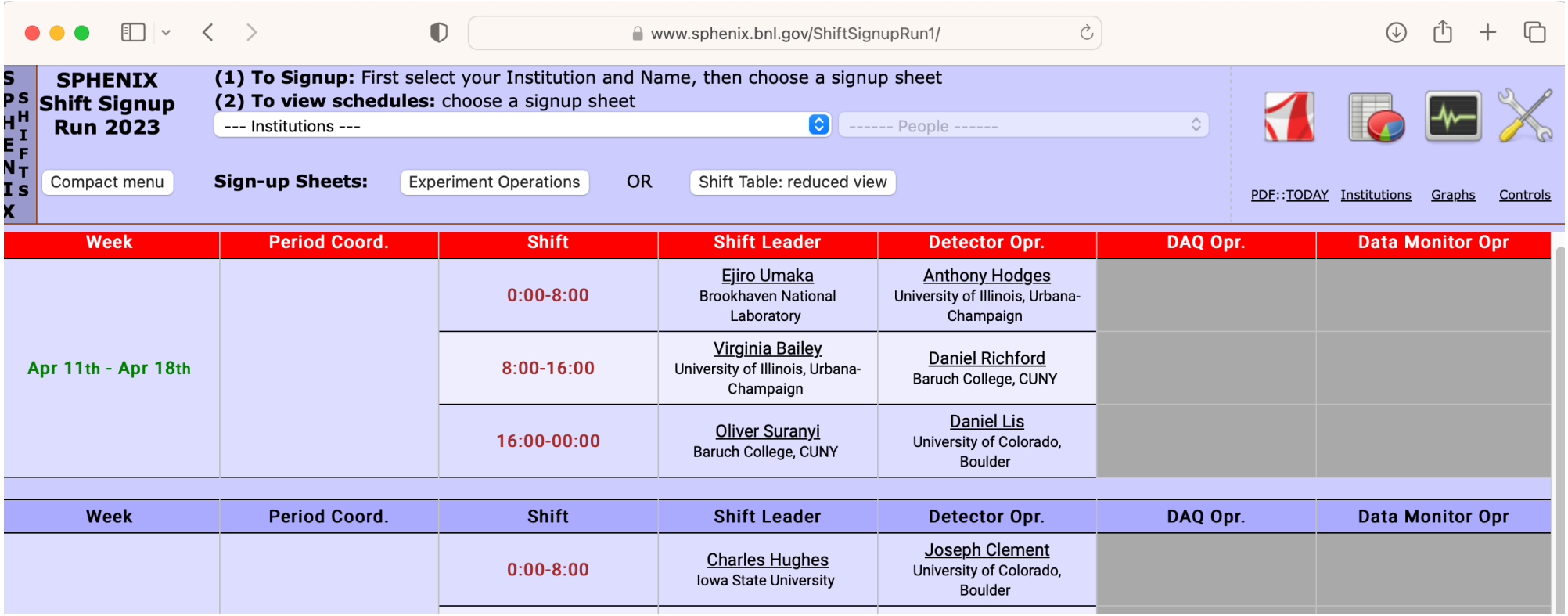
“The guidance from C-AD is that there is a 0.5 week “cool down from 50 K to 4 K”, then a 2.0 week “set-up mode” for the specific collision species, and then a 0.5 week “ramp-up”. If switching species, there is again a 2.0 week “set-up” and 0.5 week “ramp-up”. Lastly, at the end of the running period, there is a 0.5 “warm-up from 4 K to 50 K”. In addition, we assume that in the first, second and third weeks of declared Physics Running, one achieves 25%, 50%, and then 75% of the luminosity target, with subsequent weeks at 100%. These are standard assumptions following C-AD guidance. “

Beam operation

Week	RHIC	sPHENIX	Result
1	No beam	Magnet cool-down and ramp	Magnet at full field
2	6 bunches, 0 crossing angle, 200 GeV Au+Au, collision rate 2 kHz	Take data with MBD; set up MB trigger	z vertex distribution, MBDLL1 operational; other detectors begin to energize
4	6 bunches, 0 crossing angle, 200 GeV Au+Au, collision rate 2 kHz	Begin operating calorimeters, TPC	Assemble Big partition; event displays
6	6 bunches, 2mr crossing angle, 200 GeV Au+Au, collision rate 2 kHz	Take data with nominal low luminosity conditions; zero field run	First slug of data analyzed at RCF
8	111 bunches, 0 mr crossing angle, 200 GeV Au+Au, 1-5 kHz	Take data with luminosity approaching design	Stress test DAQ, measure radiation environment
10	111 bunches, 2 mr crossing angle, 200 GeV Au+Au, 5-15 kHz	Attempt full operation	Detector monitoring operational
12	Begin Physics data taking (111, 2mr, 200 GeV Au+Au, 20 kHz)	Physics data taking	
24 (27)	End of run		

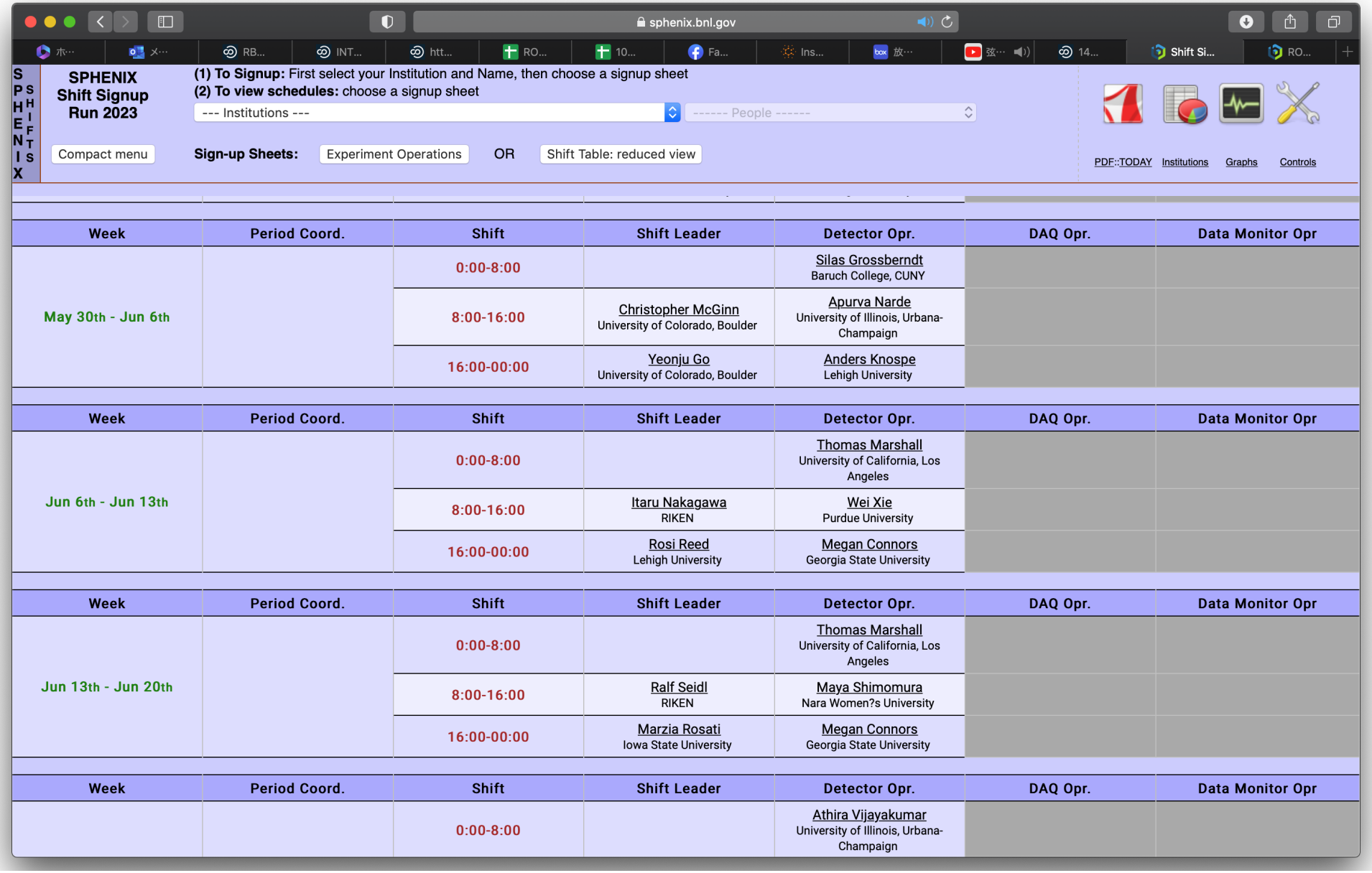
Opening first block of shifts for sign-up: April 25 – June 27

- https://www.sphenix.bnl.gov/ShiftSignupRun1/



Week	Period Coord.	Shift	Shift Leader	Detector Opr.	DAQ Opr.	Data Monitor Opr
Apr 11th - Apr 18th		0:00-8:00	Ejiro Umaka Brookhaven National Laboratory	Anthony Hodges University of Illinois, Urbana-Champaign		
		8:00-16:00	Virginia Bailey University of Illinois, Urbana-Champaign	Daniel Richford Baruch College, CUNY		
		16:00-00:00	Oliver Suranyi Baruch College, CUNY	Daniel Lis University of Colorado, Boulder		

Week	Period Coord.	Shift	Shift Leader	Detector Opr.	DAQ Opr.	Data Monitor Opr
		0:00-8:00	Charles Hughes Iowa State University	Joseph Clement University of Colorado, Boulder		



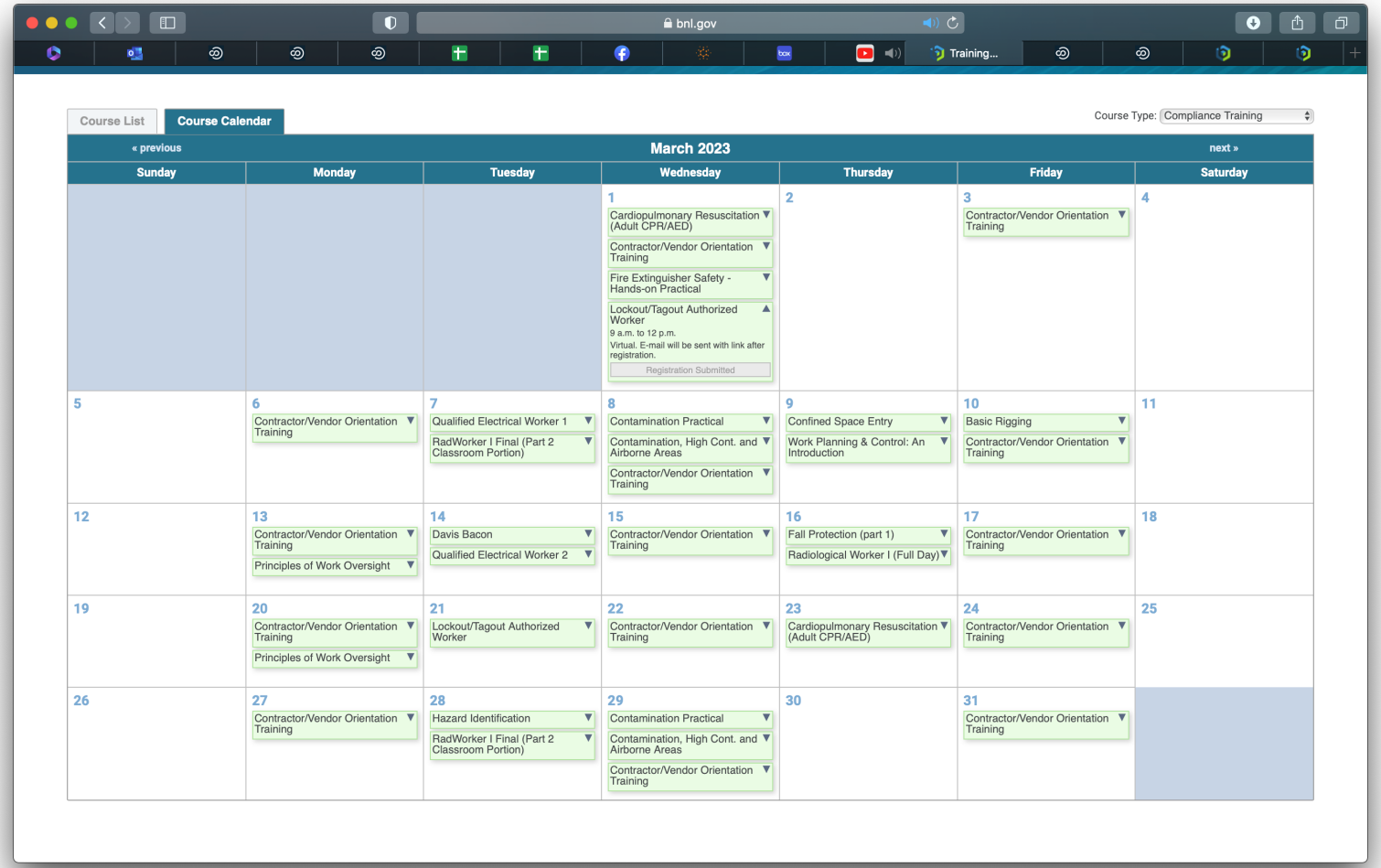
Week	Period Coord.	Shift	Shift Leader	Detector Opr.	DAQ Opr.	Data Monitor Opr
May 30th - Jun 6th		0:00-8:00		Silas Grossberndt Baruch College, CUNY		
		8:00-16:00	Christopher McGinn University of Colorado, Boulder	Apurva Narde University of Illinois, Urbana-Champaign		
		16:00-00:00	Yeonju Go University of Colorado, Boulder	Anders Knospe Lehigh University		

Week	Period Coord.	Shift	Shift Leader	Detector Opr.	DAQ Opr.	Data Monitor Opr
Jun 6th - Jun 13th		0:00-8:00		Thomas Marshall University of California, Los Angeles		
		8:00-16:00	Itaru Nakagawa RIKEN	Wei Xie Purdue University		
		16:00-00:00	Rosi Reed Lehigh University	Megan Connors Georgia State University		

Week	Period Coord.	Shift	Shift Leader	Detector Opr.	DAQ Opr.	Data Monitor Opr
Jun 13th - Jun 20th		0:00-8:00		Thomas Marshall University of California, Los Angeles		
		8:00-16:00	Ralf Seidl RIKEN	Maya Shimomura Nara Women?s University		
		16:00-00:00	Marzia Rosati Iowa State University	Megan Connors Georgia State University		

Week	Period Coord.	Shift	Shift Leader	Detector Opr.	DAQ Opr.	Data Monitor Opr
		0:00-8:00		Athira Vijayakumar University of Illinois, Urbana-Champaign		

Loc out Tag out Class Room Training



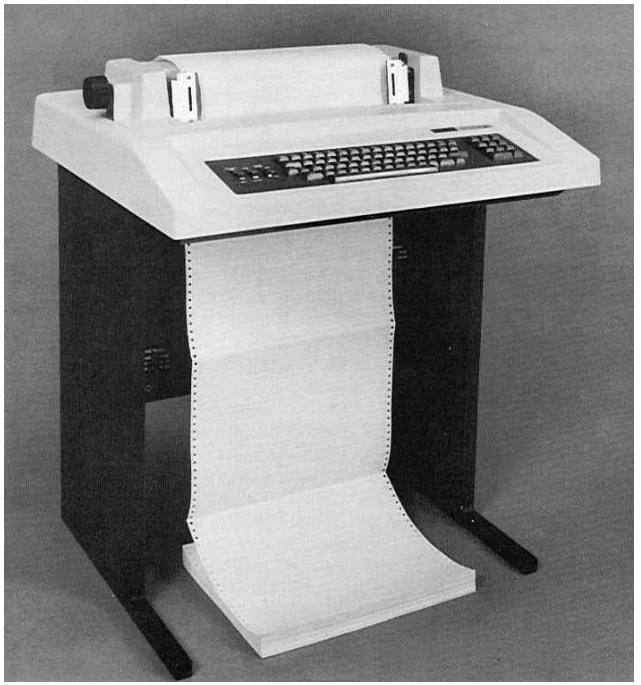
Commissioning Workfest

Dear sPHENIX colleagues,

After the poll and the discussion in the software meeting today, it appears that the week of March 13th is the best option for a workfest. Therefore, we will plan to hold another workfest to prepare for commissioning at Brookhaven National Laboratory from Monday, March 13th, to Friday, March 17th. An indico page has been created at the link below. Please register in the next several weeks so that we can determine how many rooms need to be reserved.

https://indico.bnl.gov/event/18111/

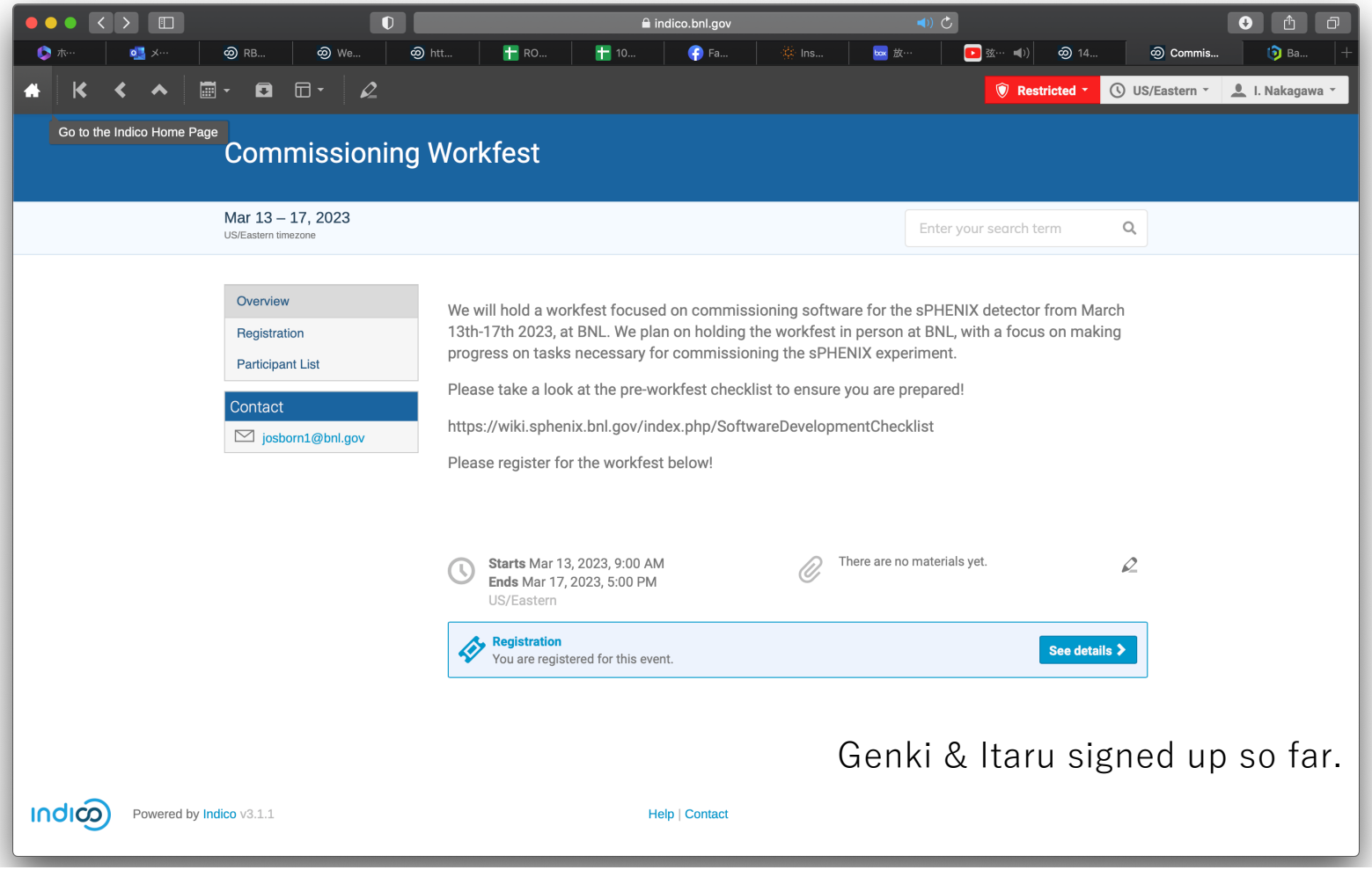
Joe Osborn



DEC LA36 DECwriter II Terminal

Columbia University, 1974

Commissioning Workfest Indico Page



Production Conversion Cables

Delivered	AC-Type	BD-Type
15cm Conversion Cable	56 + (10)	56 + (10)
25cm μ-Coax Harness	48 bundles (1 CC/ROC)	48 bundles (1 CC/ROC)
GND/Power Cables	64 cables (1 CC/ROC)	64 cables (1 CC/ROC)
GND/Power Lock Cover	30	

New Order Plan	AC-Type	BD-Type
25cm μ-Coax Harness	75 bundles (1.5 CC/ROC)	75 bundles (1.5 CC/ROC)
GND/Power Cables	100 cables (1.5 CC/ROC)	100 cables (1.5 CC/ROC)

- 15 Total Conversion Cables were used so far (~0.5/ROC).
- There are still 0.5/ROC available + additional spares 1.5/ROC.
- Expected delivery on March 3rd or 6th 2023.