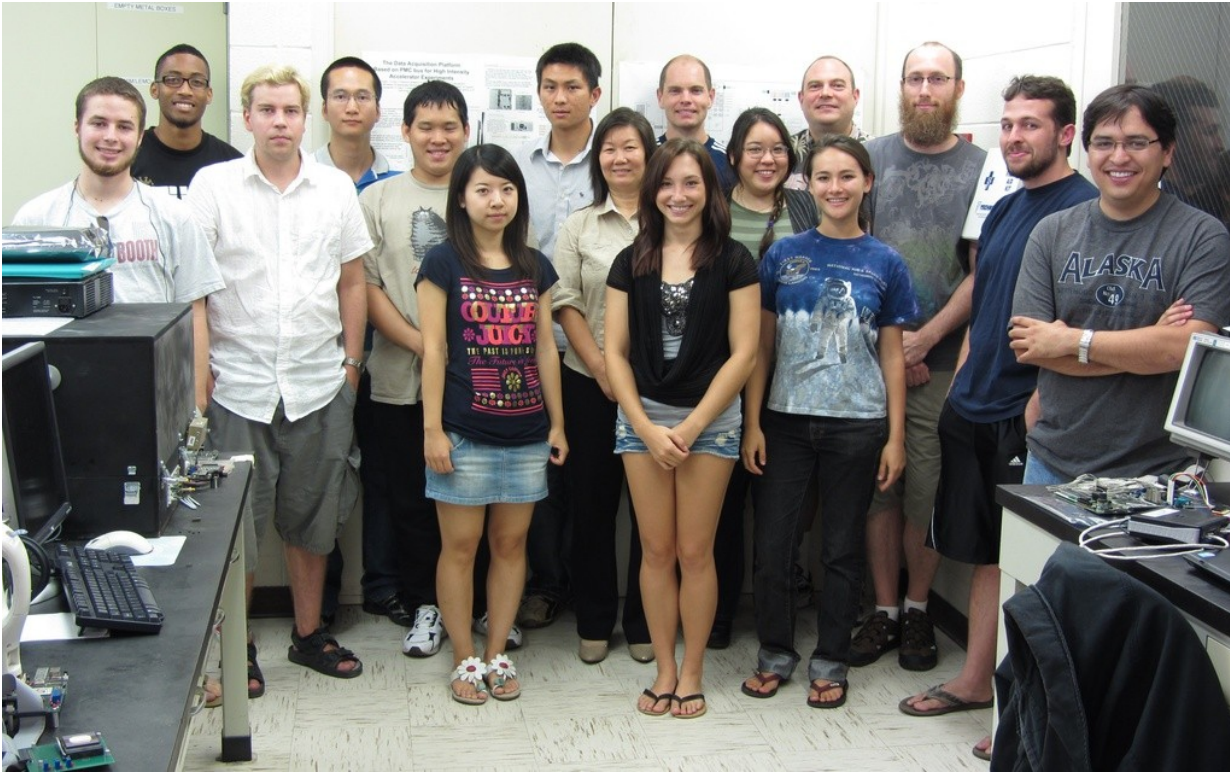


# 2011 cosmic ray test @ Nagoya electronics status



## University of Hawaii

Gary Varner  
Kurtis Nishimura  
Xiaowen Shi  
Marc Rosen  
Andrew Wong  
Matt Barrett  
Ricky Tso  
Grace Jung  
Christina Yee  
Casey Honniball  
Matt Andrew  
Louis Ridley  
Robin Caplett

## PNNL

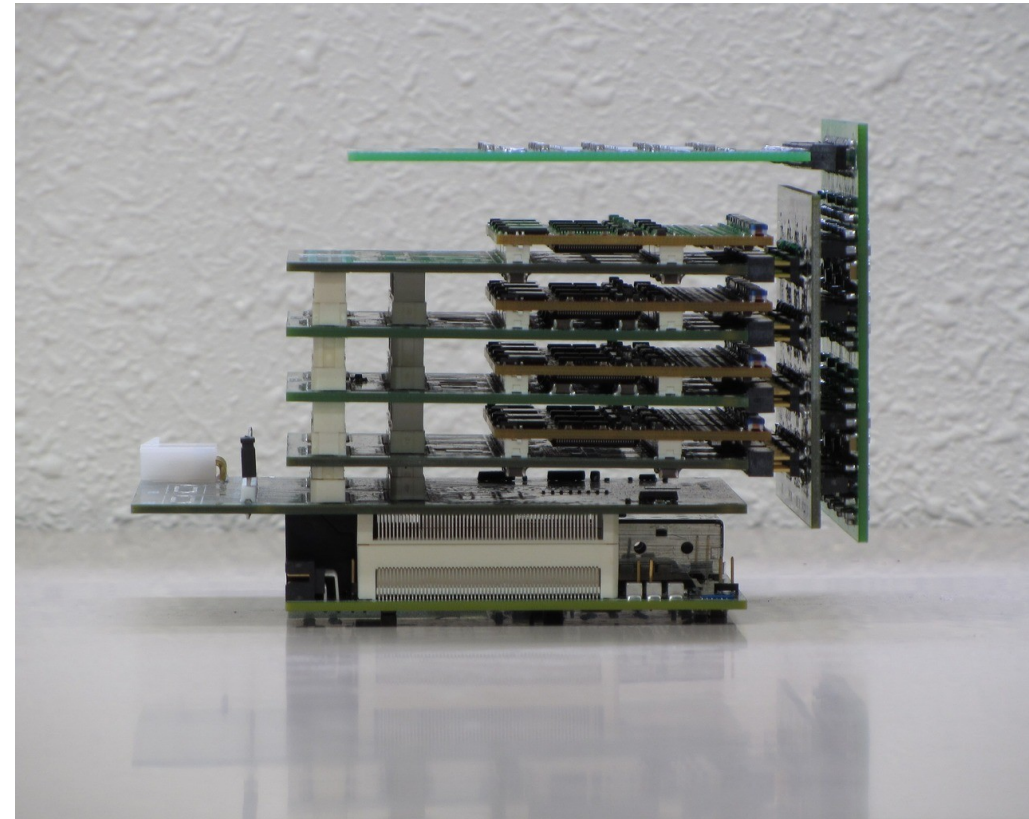
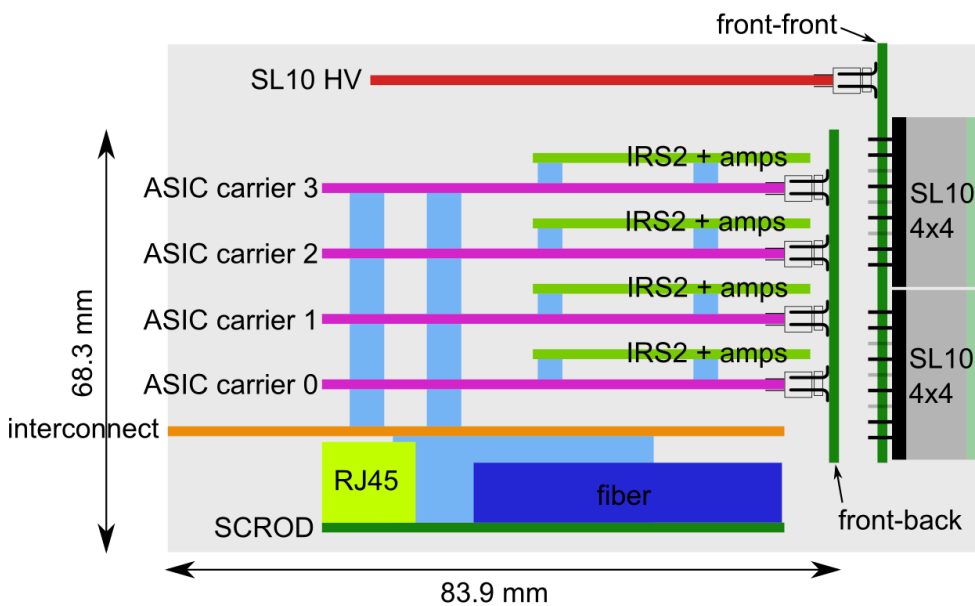
Lynn Wood

# 2011 cosmic ray test @ Nagoya PCB status

board name	quantity required for cosmic ray / beam test	quantity we have here in Nagoya
SCROD	4	5
interconnect	4	5
carrier0/1/2/3	16	20
IRS2_DC revB	64	40
front-front (painted)	4	2
front-back	4	5
SL10_HV revA2 (painted)	4	5

the remaining IRS2\_DC revB and front-front boards will be shipped to Nagoya sometime next week

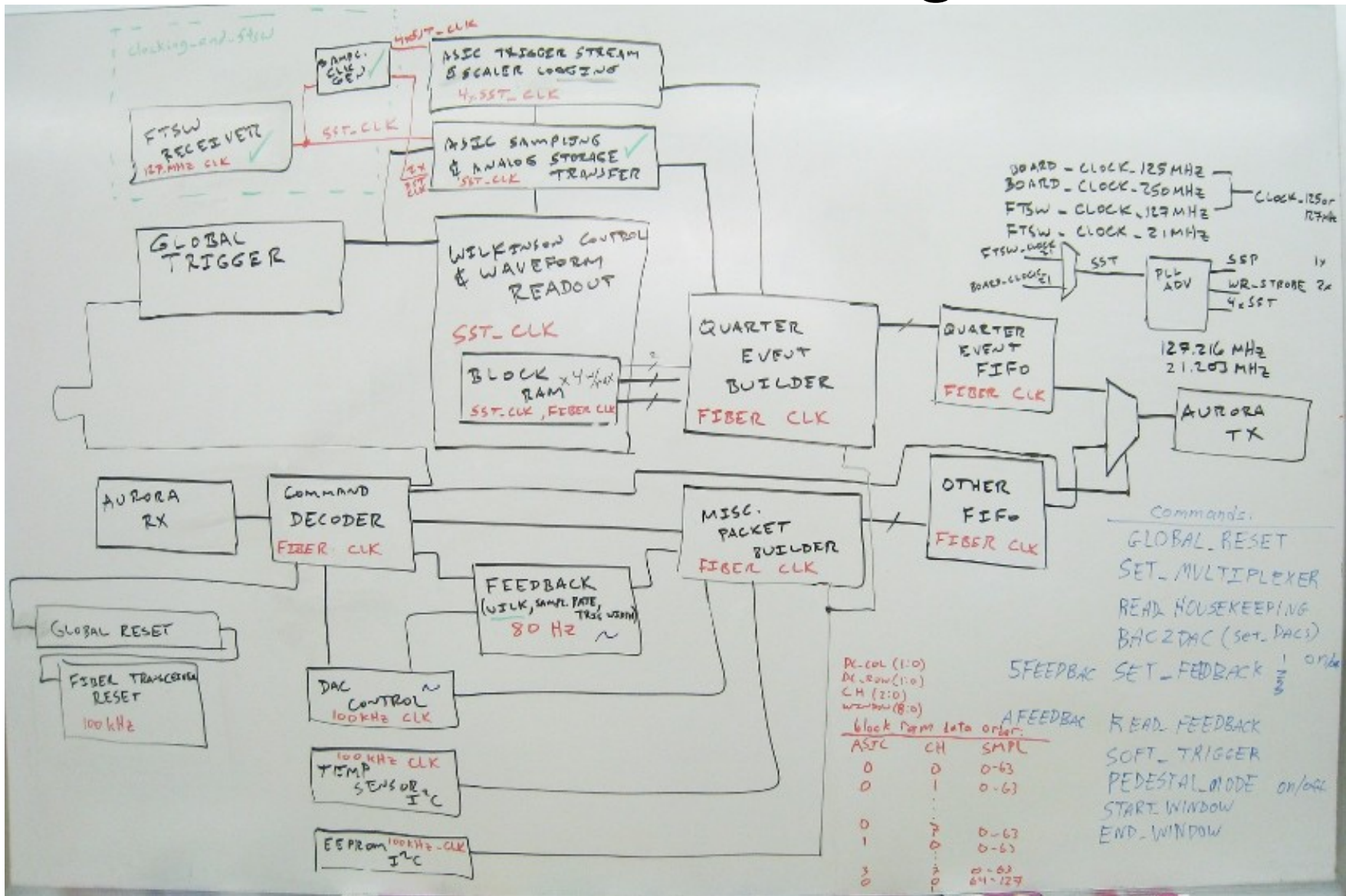
# 2011 cosmic ray test @ Nagoya PCB status



in the design stage for more than a year, we have two complete electronics modules in hand right now



# 2011 cosmic ray test @ Nagoya firmware block-diagram



# 2011 cosmic ray test @ Nagoya

## firmware tasks/personnel mapping

- Lynn Wood (PNNL)
  - feedback loops for ASIC Wilkinson conversion, sampling rate and trigger width
- Gary Varner (Hawaii)
  - trigger bit stream collection and per-channel scaler accumulation
- Matt Andrew (Hawaii)
  - fiber optic data transfer (raw waveform and sideband data)
  - command decoding and implementation via fiber optic
- Xiaowen Shi (Hawaii)
  - i<sup>2</sup>c e<sup>2</sup>prom SCROD identity reading/writing
  - i<sup>2</sup>c temperature sensor
- Kurtis Nishimura (Hawaii)
  - ASIC sampling control
  - ASIC data readout
  - overall synchronization (with FTSW as clock source)
  - overall firmware integration

# 2011 cosmic ray test @ Nagoya plans for this week

- hardware:
  - solder HV cables from 19" patch panel to SL10\_HV revA2 boards
  - procure power supply/supplies that can handle 4 electronics modules, each requiring 5V @ 6A
  - continue debugging remote jtag programming problems
- firmware:
  - finish integrating fiber optic readout with Kurtis's ASIC control firmware
  - continue working on fiber optic command interpreter so commands can be sent from back-end to front-end to set modes and DAC values
- other:
  - do a LASER scan of an SL10 mounted on a SCROD electronics module (depending on how far development gets)
  - teach someone from Nagoya Daigaku to use Hawaii electronics (because we won't be here for the final integration of QBB + quartz + frame + final batch of SL10s + electronics)

# 2011 cosmic ray test @ Nagoya plans for next week

- hardware:
  - integrate 2 electronics modules with 16 SL10s (depending on how far development gets and whether PMTs are ready)
- firmware:
  - finish adding features to firmware so an almost-final version can be left running to work out bugs
- software:
  - write preliminary version of software to check data quality and extract salient features from raw data to be handed off to Matt Barrett, *et al* so the analysis framework chain can be further developed
- other:
  - do a LASER scan of several SL10s mounted on a SCROD electronics module (if there is time and everything is ready)

backup



# 2011 cosmic ray test @ Nagoya block diagram of overall system

