Detector Team DAQ & PID Update

- Co-convener Chris Cuevas (JLAB) for DAQ/ Electronics/ Readout
 - Group Leader of JLAB Fast Electronics Group
 - Fernando Barbosa in that group is EIC Project Level 3 coordinator for detector electronics.
- Co-convener Greg Kalicy (CUA) for PID
 - Co-PI for eRD14/DIRC Group
 - Plus, participation from ECCE IB member Joe Schwiening (GSI), the other erRD14/DIRC co-PI.
- Participant and IB member Murad Sansour (GSU) for PID
 - GSU is lead institute for eRD14/mRICH
 - Incidentally, Cheuk-Ping Wong has a Masters degree from GSU concerning mRICH.

Other conveners introduced at previous IB meeting.













Detector Team Tracking Update

- Co-convener Xuan Li (LANL) for Tracking
 - PI for LANL LDRD Silicon Tracking Project
 - LANL is Level 2 manager for sPHENIX MVTX silicon tracker
- Co-convener and ECCE IB member Nilanga Liyanage (U. Va.) for forward GEM tracking stations
 - Colleague Kondo Gnanvo (U. Va.) was leading YR Tracking + vertexing convener
 - Availability/ willingness on large area GEMs from Yuxiang Zhao, STAR + IMP China
- Tracking Participant Rey Cruz Torres (LBL) with focus on silicon
 - LBL lead institute for EIC Silicon Consortium and key member of eRD25 (Silicon Tracking).











Detector Team Magnet Update

- Co-convener Renuka Rajput-Ghoshal (JLAB magnet group) for Magnet Working Group
 - See presentation from Ruben Fair (JLAB magnet group leader) earlier today.
 - <u>https://www.jlab.org/physics/magnet-group/magnethome</u>
- Co-convener Paul Brindza (JLab physics division engineer)
 - Special focus on BaBar magnet











Detector Team Working Groups Update

- Detector Working Groups goals:
 - Start meetings asap.
 - Presentations to WGs (magnet) coming soon.
 - Will be assigned homework and develop their own homework.
 - Develop initial subsystem configuration(s) soon for purposes of discussion and comparison.
 - Progressively advancing expert evaluation of leading subsystem configurations in terms of performance, rough cost, risks, remaining R&D, schedule, collaboration resources.
 - Report developing evaluations of leading configurations to ECCE.
- Multiple relevant subsystems are becoming available in Fun4All: mRICH, silicon tracking, dual readout calorimetry, and much more



Detector Team Working Groups Update

- Significant decisions rest in hands of ECCE institutes (including decisions about decision making ...).
- PROPOSAL FOR COORDINATING TECHNOLOGY DECISIONS:
 - See p. 14 of Or's slides today.
 - Detector and subsystem configurations are evaluated by experts in open working group meetings in terms of performance, rough cost, remaining R&D, schedule, collaboration resources.
 - Updates will be presented to IB for feedback.
 - Important choices concerning configurations (along with recommendations plus expert evaluations) will be presented to IB for endorsement/feedback/decision.



Yellow Report Technologies for Evaluation

system	system components	reference detectors	detectors, alternative options considered by the community		
tracking	vertex	MAPS, 20 um pitch	MAPS, 10 um pitch		
	barrel	TPC	TPC ^a	MAPS, 20 um pitch	MICROMEGAS ^b
	forward & backward	MAPS, 20 um pitch & sTGCs ^c	GEMs	GEMs with Cr electrodes	
	very far-forward	MAPS, 20 um pitch & AC-LGAD ^d	TimePix (very far-backward)		
	& far-backward				
ECal	barrel	W powder/ScFi or Pb/Sc Shashlyk	SciGlass	W/Sc Shashlyk	
	forward	W powder/ScFi	SciGlass	PbGl	Pb/Sc Shashlyk or W/Sc Shashlyk
	backward, inner	PbWO ₄	SciGlass		
	backward, outer	SciGlass	PbWO ₄	PbGl	W powder/ScFi or W/Sc Shashlyk ^e
	very far-forward	Si/W	W powder/ScFi	crystals ^f	SciGlass
h-PID	barrel	High performance DIRC & dE/dx (TPC)	reuse of BABAR DIRC bars	fine resolution TOF	
	forward, high p	- double radiator RICH (fluorocarbon gas, aerogel)	fluorocarbon gaseous RICH	high pressure Ar RICH	
	forward, medium p		aerogel		
	forward, low p	TOF	dE/dx		
	backward	modular RICH (aerogel)	proximity focusing aerogel		
	barrel	hpDIRC & dE/dx (TPC)	very fine resolution TOF		
e/h separation	forward	TOF & areogel			
at low p	backward	modular RICH	adding TRD	Hadron Blind Detector	
HCal	barrel	Fe/Sc	RPC/DHCAL	Pb/Sc	
	forward	Fe/Sc	RPC/DHCAL	Pb/Sc	
	backward	Fe/Sc	RPC/DHCAL	Pb/Sc	
	very far-forward	quartz fibers/ scintillators			

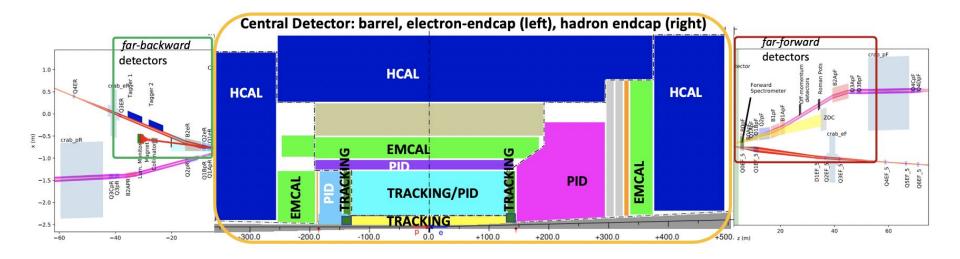
Far Forward: B0, Off-momentum, Roman pots, and Zero degree calorimeter Far Backward: Electron tagging as well as luminosity monitoring.





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Technologies for Evaluation





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Detector Team Working Groups Update

- Working Group meetings about to start.
- Detector mailing lists and Indico pages exist.
- Detector Wiki pages being started.
- Detector Team meeting will be scheduled for next week.

