

# FCC-contacts – February 12th

- News
- FTE / Tour de Table
- Debrief du Workshop de Janvier
- Calorimétrie
  - Calice Vincent
  - Argon liquide Nicolas
  - Autres options Greg,...
  - Discussion
- AOB

# News FCC from CERN

- Nomination of a General Physics Meeting co-organizer to replace P. Azzi,  
→ Christos Leonidopoulos (Edinburgh) was proposed and approved.  
He will be co-organizing with Matthew Mccullough who will be continuing
- FCC week will take place 28 June-2 July. It will be a remote-connection meeting.
- 4IP layout : in addition to the increase in total luminosity (by a factor 1.7) it is important to insist on at least three other aspects
  1. the flexibility offered by the 4 detectors to match the detection possibilities to the many challenges of the very rich physics programme;
  2. the possibility of reducing the duration of the FCC-ee part of the programme, should the FCC-hh be ready to install;
  3. the broadest appeal to the physics community.
- The snowmass delay gives us some time, and the contributions to the EPJ do no longer conflict with the production of the snowmass write-ups, which are delayed to 15/3/2022.
- The ECFA detector R&D roadmap is now requesting input from the various projects. Mogens Dam will be giving a presentation on 19 February.
- The ECFA workshops on PED for 'Higgs (+EW and top) factories' will have 3 working groups
  - one for "Physics"
  - one for "Reconstruction methods and Simulation"
  - one for "Detectors and Detector R&D"

# News FCC from CERN

- Physics Performance activities
  - a topical workshop on Vertexing (will be summarized at next PED meeting Feb. 22)
  - a Delphes production of Monte Carlo Samples for FCC-ee studies
- Software matters

Physics Performance activities depend critically on a number of software domains of activity. Contributions by the members of the detector group(s) as well as Case Study working groups and Physics Programme working groups are and will be essential.
- Physics Program group organization and working group convener's roles.

Michelangelo and Th senior colleagues made a proposal for the physics programme (phenomenology and experiment) studies based on the following considerations

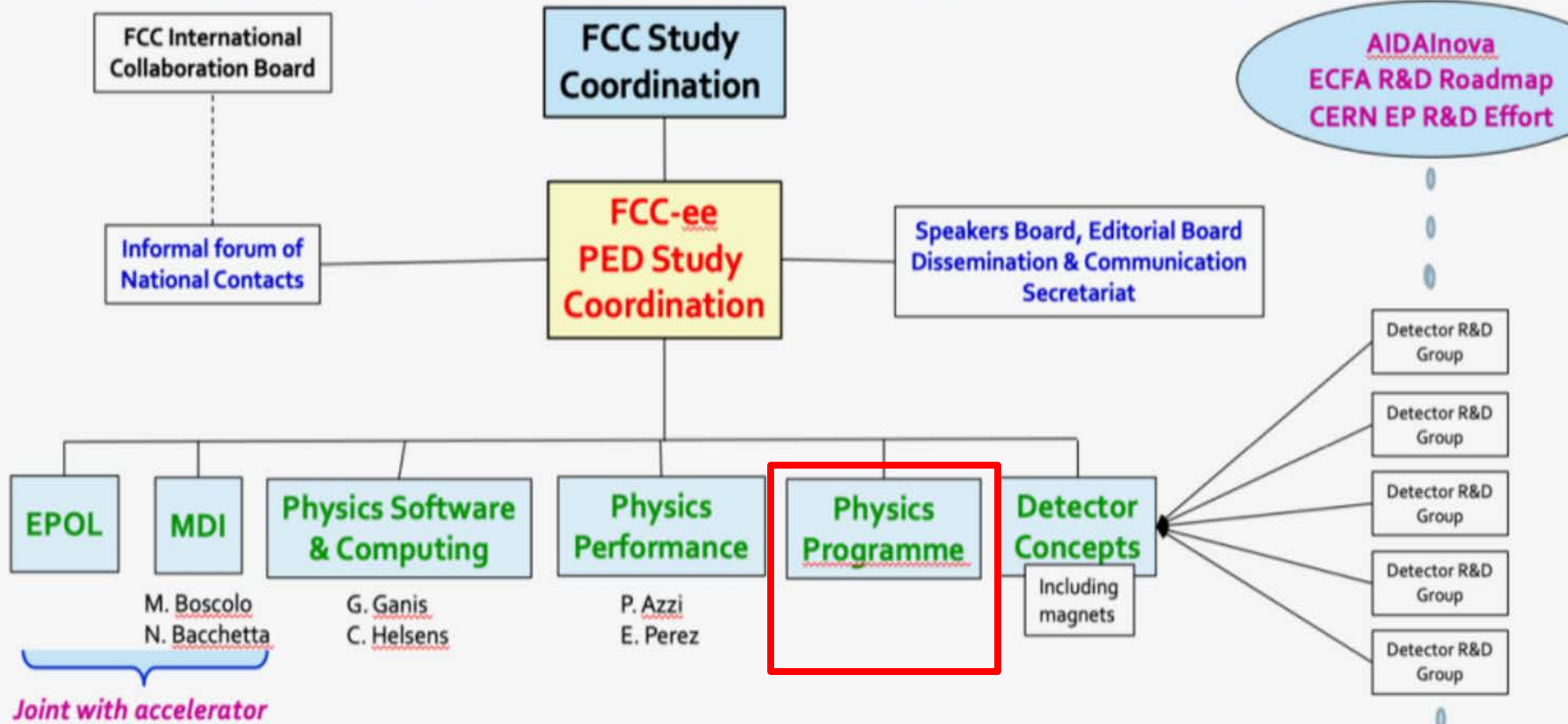
  - keep theorists and experimentalists together
  - keep number of working groups to a level commensurate to the community, allowing subgroups to form as necessary
  - keep FCC-hh activity in each working group.

# Physics programme organisation (OLD)



## Possible organizational chart for FCC-ee PED

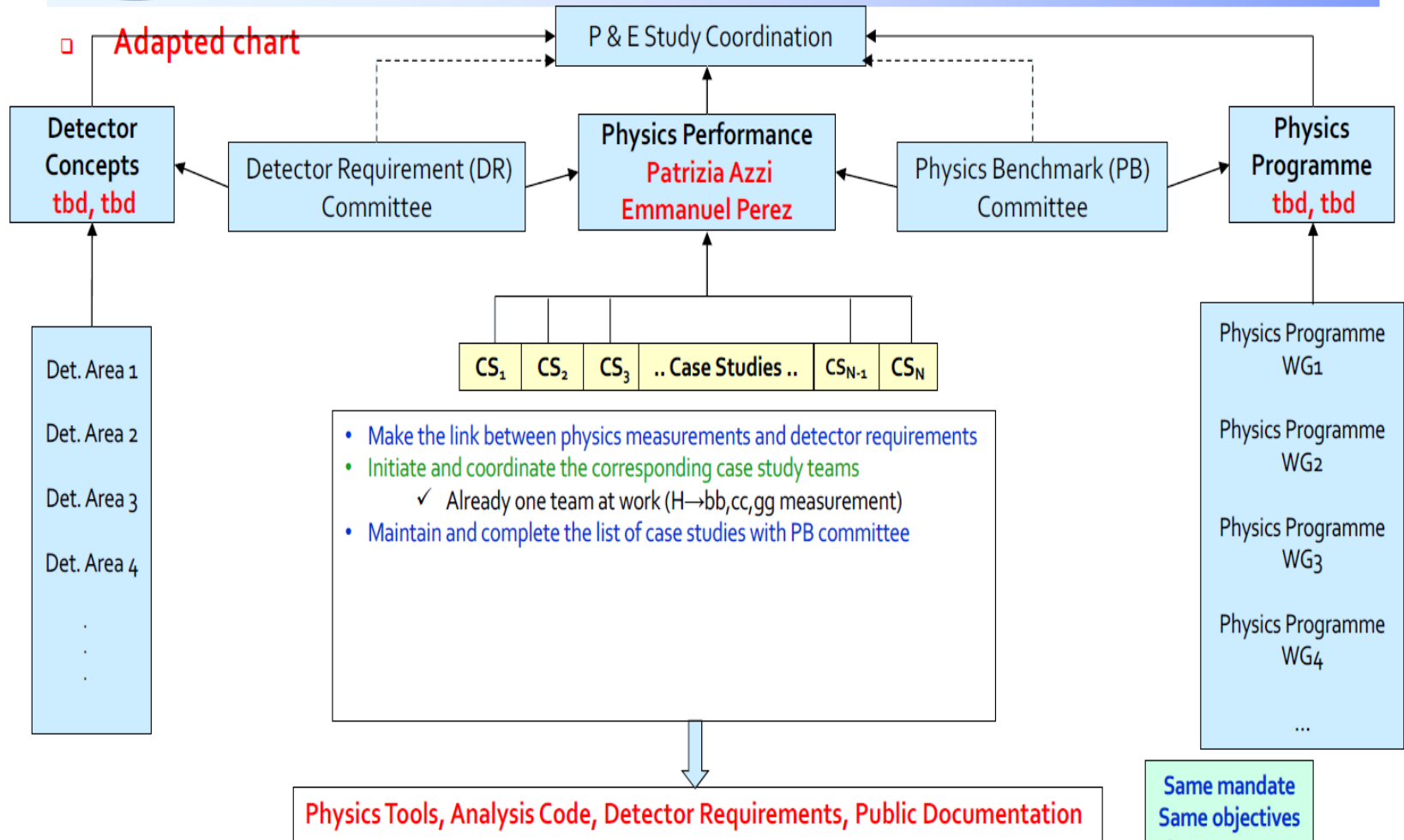
### Evolution of a proposal to FCC International Advisory Committee in June 2019



# Physics programme organisation (NEW proposal)



## Adapted Physics Performance Chart



# Physics program / Working group

WGs provide the forum to present recent results (pheno papers and ideas, progress with studies and analyses), stimulate and monitor new studies, promote “physics benchmarks” and trigger “Case Study” activities

1. **EW physics**, covering:

- precision EW at the Z peak and WW thresholds, including W mass
- High energy EW: Diboson, difermion
- precision theory calculations
- Monte-Carlo generators and fitting formulae

2. **Higgs**, including  $ee \rightarrow H$ , and including precision TH calculations, MCs and fitting formulae

3. **Flavour physics**:

- heavy quarks
- tau lepton

4. **BSM**:

- Bring all BSM-related topics under the same WG. In particular:
- indirect sensitivity, including model-specific global fits
- direct BSM searches, including Feebly interacting particles, LLPs, light DM, ...

5. **QCD** (includes the dedicated precision theory calculations, MC generators, fitting formulae..)

6. **Top** (includes the dedicated precision theory calculations, MC generators, fitting formulae..)

Each WG has at least 1 exptl and 1 TH convener. WGs with multiple topics could have multiple conveners.

## News IN2P3

- Budgets reçus dans les labos
- Nomination de Suzanne au Speakers Bureau
- Interactions avec ILC-France
- Création en cours d'une équipe ATLAS/FCC/Higgs à l'APC à partir du LPNHE (**G.B.**, M.Bomben, **G. Marchiori**, **A. Li**, R. Bouquet)

# FTE et tour de Table



# FTE dans les labos de l'IN2P3 (I)

	Physicists:Exp/Det studies	FTE	Projets R&D	FTE	Physicists:Theo	FTE	TOTAL	FTE
APC	Gregorio Bernardi	0,60						
APC	Giovanni Marchiori	0,15						
APC	Ang Li (Ph.D)	0,30						
APC	Stagiaire L3	0,15						
<b>APC</b>	<b>TOTAL</b>	<b>1,20</b>	<b>TOTAL</b>	<b>0,00</b>	<b>TOTAL</b>	<b>0,00</b>	<b>APC</b>	<b>1,20</b>
CPPM	Steve Muanza	0,15	Marlon Barbero	0,10				
CPPM			Patrick Pangaud (IR), Pierre Barillon (IR)	0,80				
CPPM			Denis Fougeron (IR), Amr Habib (IR), Patrick Brugnon(IR)	1,20				
<b>CPPM</b>	<b>TOTAL</b>	<b>0,15</b>	<b>TOTAL (DICE)</b>	<b>2,10</b>	<b>TOTAL</b>	<b>0,00</b>	<b>CPPM</b>	<b>2,25</b>
IJC Lab	Yasmine Ahmis	0,05	Nicolas Morange	0,10				
IJC Lab			Daniel Fournier	0,05				
IJC Lab			Ronic Chiche (IR)	0,10				
IJC Lab			Marie-Hélène Schune	0,10				
IJC Lab			Sergey Barsuk	0,05				
IJC Lab			Jacques Lefrançois	0,05				
IJC Lab			Giulia Hull (IR)	0,05				
<b>IJC Lab</b>	<b>TOTAL</b>	<b>0,05</b>	<b>TOTAL (LAr calorimetry, Powder-O)</b>	<b>0,50</b>	<b>TOTAL</b>	<b>0,00</b>	<b>IJC Lab</b>	<b>0,55</b>
IPHC	Jeremy Andrea	0,15	Auguste Besson	0,05				
IPHC	Ziad El Bitar	0,15						
IPHC	Stagiaire M2	0,50						
<b>IPHC</b>	<b>TOTAL</b>	<b>0,80</b>	<b>TOTAL (CMOS)</b>	<b>0,05</b>	<b>TOTAL</b>	<b>0,00</b>	<b>IPHC</b>	<b>0,85</b>
IP2I	Suzanne Gascon	0,15	Didier Contardo	0,10	Giacomo Cacciapaglia	0,25		
IP2I	Gaelle Boudoul	0,10	Remi Babier (IR)	0,10	A. Pinto (M2)	0,65		
IP2I	Stagiaire M2	0,65	Laurent Mirabito	0,10	S. Vatani (Phd)	0,10		
IP2I	Gerald Grenier	0,05			Aldo Deandrea	0,25		
IP2I					Lara Mason (PhD)	0,75		
<b>IP2I</b>	<b>TOTAL</b>	<b>0,95</b>	<b>TOTAL (DICE, muons)</b>	<b>0,30</b>	<b>TOTAL</b>	<b>2,00</b>	<b>IP2I</b>	<b>3,25</b>

# FTE dans les labos de l'IN2P3 (II)

	Physicists:Exp/Det studies	FTE	Projets R&D	FTE	Physicists:Theo	FTE	TOTAL	FTE
LAPP	Lucia Di Ciaccio	0,10	Jessica Lévèque	0,15				
LAPP	Stagiaire M1 (from fin Juin)	0,45	Stéphane Jézequel	0,05				
LAPP			Pierre Delbecque (IR)	0,50				
LAPP			Stagiaire (tbc)	1,00				
<b>LAPP</b>	<b>TOTAL</b>	<b>0,55</b>	<b>TOTAL (micro-channel cooling)</b>	<b>1,50</b>	<b>TOTAL</b>	<b>0,00</b>	<b>LAPP</b>	<b>2,05</b>
LLR	Roberto Salerno	0,15	IR informatique	0,15				
LLR	Christophe Ochando	0,05	Vincent Boudry	0,05				
LLR	Jean-Baptiste Sauvant	0,05						
LLR	Yves Sirois	0,05						
LLR	Stagiaire M2	0,65						
<b>LLR</b>	<b>TOTAL</b>	<b>0,95</b>	<b>TOTAL (Software / Calice)</b>	<b>0,2</b>	<b>TOTAL</b>	<b>0</b>	<b>LLR</b>	<b>1,15</b>
LPNHE	Alain Blondel	0,80						
LPNHE	Bogdan Malaescu	0,30						
LPNHE	Luc Poggioli	0,80						
LPNHE	Stagiaire M2	0,65						
<b>LPNHE</b>	<b>TOTAL</b>	<b>2,55</b>	<b>TOTAL</b>	<b>0,00</b>	<b>TOTAL</b>	<b>0,00</b>	<b>LPNHE</b>	<b>2,55</b>
LPC	Stéphane Monteil	0,15	IR microelectronique	0,10				
LPC	Pascal Gay	0,05						
LPC	Stagiaire M2	0,50						
<b>LPC</b>	<b>TOTAL</b>	<b>0,70</b>	<b>TOTAL (tower jazz/michau)</b>	<b>0,10</b>	<b>TOTAL</b>	<b>0,00</b>	<b>LPC</b>	<b>0,80</b>
LPSC	Fairouz Malek	0,05						
L2IT	Jan Stark	0,05						
<b>LPSC+L2IT</b>	<b>TOTAL</b>	<b>0,10</b>	<b>TOTAL</b>	<b>0,00</b>	<b>TOTAL</b>	<b>0,00</b>	<b>LPSC+L2IT</b>	<b>0,10</b>
<b>TOTAL</b>								
<b>FCC-IN2P3</b>		<b>8.00</b>		<b>4.75</b>		<b>2.00</b>	<b>FCC-IN2P3</b>	<b>14.75</b>
33 physiciens (12 en R&D), 6 M2 ou PhD		11 IR		2 phys + 3 Phd ou M2		45 personnes au total		

Peut-on augmenter un peu les participations ?