

A photograph of a large, snow-covered mountain peak, likely Mount Everest, under a clear blue sky. The mountain's ridges and gullies are partially covered in white snow, with some darker rock visible. The lighting suggests a bright day, possibly during the golden hour.

France-Asia Particle Physics School

Didier Vilanova (CEA/Irfu),
Lydia Roos (CNRS/IN2P3/LPNHE)

Who are we?

- Nick Ellis (CERN, Atlas)
- Sunkee Kim (Seoul National University, KIMS)
- Emi Kou (IN2P3/LAL, theory)
- Masahiro Kuze (Tokyo Institute of Technology, Double Chooz)
- Sandrine Laplace (IN2P3/LPNHE Paris, Atlas)
- Lydia Roos (IN2P3/LPNHE Paris, Atlas)
- Didier Vilanova (CEA/Irfu, D0)
- Yutaka Ushiroda (KEK, Belle)
- Changzheng Yuan (IHEP Beijing, BES-III and Belle)

FAPPS: how did it start?

- A school for Asian and French students was first proposed by Michel Spiro and Atsuto Suzuki (KEK, May 2007), soon supported by Chen Hesheng
- First France-Asia Particle Physics School at Les Houches, Sept. 2008

28 students (Japan, China, Korea, Vietnam, Malaysia, France, Venezuela..)



Lectures by Y. Kurihara, P. Lutz, J.L. Faure, D. Froidevaux, M. Kado, T. Kawamoto, J.P. Guillet, G. Hou...

Discussion sessions by Emi Kou

Organization by Didier Vilanova, Sandrine Laplace, Lydia Roos (and many others)

Visit of CERN

FAPPS09: Fujiyoshida



Scientific Committee : **Hiroyuki Iwasaki (KEK)**, Toru Iijima (Nagoya), Kunio Inoue (Tohoku), Philip Bambade (LAL @ KEK), Emi Kou (LAL), Lydia Roos, Didier Vilanova (CEA)

LOC (KEK!!): **Hiroyuki Iwasaki**, Ryouichi Baba, Shinji Iwami , Yoshimasa Kurihara, Isamu Nakamura, Mitsue Noji, Mitsuaki Nozaki, Tunekiko Omori

Students



- 43 students : China (10), Korea (9), France (8), India (1), Japan (5), Sweden (4), Thailand (1), and Vietnam (5)
- Master (Asian) or PhD students
- Experimentalists

Program

- Basic lectures:
 - Electroweak theory
 - QCD
 - Susy
 - Detectors
 - Statistics
 - Heavy Flavours
 - Neutrino physics
- Seminars
 - KEK-B
 - BES-III
 - Super KEK-B
 - J-Parc
- Visit of KEK
- Hands on sessions
 - Monte Carlo generation
 - Geant 4
- Bibliographic work:
 - Based on paper read by 3 student teams
 - Short talk at the end of the school
- 5 discussion sessions

Bibliographic work

- Experimental papers are proposed by the lecturers
- Groups of 3 students are formed on the first day of the school, with only one requirement: at least 2 different citizenships from 2 regions
- The preparation of the presentations (last day) during free time

**many discussions among students and
with the lecturers**

Outputs of FAPPS 2009

- According to the poll done at the end of the session, the students were satisfied with the school, especially with main lectures.
- Lecturers have been chosen for their pedagogical skill... rather than for their “names”. And it worked.
- Discussion sessions seemed useful.
- The main issue remains the inhomogeneous level of students (Master, PhD, different academic background, etc).

Convivial atmosphere, high scientific and pedagogical quality of the lectures, active participation of the students

Same goals in 2011!

FAPPS 2011

Les Houches, Oct. 9 to 21

Les Houches

- A beautiful and prestigious place
- Conference room for 70 people
- Individual rooms
- Only 5 accompanying persons
- 1 hour from Geneva:
 - Access by train or plane to Geneva + bus
 - Visit to CERN

Practical constraints

- Arrival on Monday for dinner
- Departure on Friday after Lunch
- Extremely strict meal hours:
 - Breakfast: 8:00-8:45
 - Lunch: 12:30
 - Dinner: 19:30

Schedule Proposal

- Arrival in Geneva on Sunday 9. Night at CERN
- Monday 10:
 - visit CERN
 - Leave for Les Houches at 4pm
- Tuesday 11 to Thursday 20: lectures, with a break on Sunday
- Friday 21:
 - student presentations
 - Leave for Geneva airport and train station after lunch

Lecture Day

- Slot 1: 8:45 to 10:15 (1h30)
- ½ hour break
- Slot 2: 10:45-12:15 (1h30)
- Lunch at 12:30 and traditionnal long break
- Slot 3: 15:45-17:15 (1h30)
- ½ hour break
- Slot 4: 17:45-19:15 (1h30)
- Dinner at 19:30

TOTAL = 36 x 1h30

Program Proposal

Basic lectures (and related seminars)	2009	2011	comments
Electroweak theory	3	3	
QCD	3	4	Add lattice QCD
BSM: overview, Susy, X-dim	1+2+1	2+2	
Detectors: overview, tracking, calo, PID	1+1+1+1	4	1 or 2 lecturers
Statistics	2	2+2	Add 2 hands-on sessions
Heavy Flavours	2+1	3	theory & exp. status
Neutrino physics: overview, acc, non-acc	1+1+1	3	1 lecturer
Accelerators + future linear colliders	1+1	1	

Other seminars	2011	comments
Higgs	1	
Atlas + CMS		
Computing Grid		
Cosmic rays		
Susy Search		
BES-III		
K-mu at J-Parc		

Hands-on sessions	2009	2011	comments
Geant 4	1+1	?	
Event generation	1+1	?	

Total so far = 27 + 5 discussion sessions

A lecture or a session on Experimental methodology?

Cosmology and its links with particle physics?

More discussion sessions?

Other suggestions?

Lecturers

Basic lectures (and related seminars)	Lecturers in 2009 (2008)
Electroweak theory	Vanina Ruhlmann-Kleider
QCD	Shoji Hashimoto
BSM: overview, Susy, X-dim	Sabine Kraml, Sreerup Raychaudhuri
Detectors: overview, tracking, calo, PID	M. Zito, R. Poeschl, T. Iijima (JL Faure)
Statistics	Stéphane T'Jampens
Heavy Flavours	Emi Kou, Youngjoon Kwon
Neutrino physics: overview, acc, non-acc	Kunio Inoue, Takashi Kobayashi, Chen Shaomin
Accelerators + future linear colliders	Yukiyoshi Onishi, Roman Poeschl

Other seminars	2011	lecturers
Higgs	1	Yuji Yamazaki (Marumi Kado)
Atlas + CMS		Kazunori Hanagaki
Computing Grid		Eric Yen
Cosmic rays		Hiriyuki Sagawa
Susy Search		Kiyomoto Kawagoe
BES-III		Yuan Changzheng
K-mu at J-Parc		Takeshi Komatsubara

Hands-on sessions	2009	2011	comments
Geant 4	1+1	?	Marc Verderi
Event generation	1+1	?	Yoshimasa Kurihara

In the previous tables, strong biased towards European lecturers because they had >1 slot lectures. **Balance between Europeans and Asians is essential.**

For FAPPS 2011, Asian lecturers must be offered a 3-4 slot lectures as well:

- neutrino physics
- BSM

More suggestions from Nick Ellis:

- EW: Antonio Pich
- QCD: Gavin Salam, Peter Skands
- BSM: John Ellis, Jean Illiopoulos, Gian Giudice
- Statistics: Louis Lyons, Glen Cowan, Kyle Cranmer
- Heavy Flavours: Yossi Nir
- Methodology: Andreas Höcker
- Cosmology: Antonio Riotto, John Ellis, Valery Rubakov

Funding issues

Preliminary budget (euros)

		# persons	#day	total
students	475	45		21375
Other	73	15	6	6570
Stay at CERN		50	1	?
Bus				?
travels from Asia	1000	8		8000
travels from Europe	100	9		900
			TOTAL	36845

So far, the students paid only for their travel. Funding from the agencies:

From IN2P3: ~10 keuros

From Irfu: ~7 keuros

From Les Houches: ??

Other countries ?

To-do list

- Web site
- Poster
- Contact the lecturers
- Solve the funding issues!
- Organize the stay at CERN and the visit (Nick)
- ...