Welcome address

Welcome to the third

BCD School

High Energy Physics!

Objectives

- The BCD High Energy Physics (HEP) School is one of the elements of the newly born pedagogical platform built among the University of Bologna (Italy), Clermont (France) and Dortmund (Germany).
- Some of you are about to enter in HEP field, some of you are already in.
- For the former, the objectives of the School is to give basic representations (aBCD) of the HEP and related fields. For the latter, this is about strengthening the views and motivate the thinking.
- The prism we have chosen is to discuss and highlight the latest results of the field, both theoretical and experimental.

Pedagogical contents

Eight subjects have been selected:

- The Standard Model (bis repetita placent) or why do we think that we understand the Nature at the electroweak scale *O*(100 GeV)?
- The BEH boson or Is there a fundamental scalar in the Nature?
- The Flavour Physics or a precision tool to change the paradigm?
- The top quark (it exists) or the last fermion as a key for understanding further?
- The Flavour Physics or the light way to BSM?
- Beyond Standard Model Scenarii or ... ? BSM.

Pedagogical contents

Eight subjects have been selected. Here follows the corresponding teachers.

- Standard Model: G. Hiller
- The top quark: J. Erdmann.
- The Flavour Physics: A. Carbone.
- Beyond Standard Model Scenarii: J. Brod.
- Neutrino Physics: M. Sioli
- My fav. exp.: all the former teachers and S. Monteil / J. Orloff.

Pedagogical contents

We're starting the School with the two following sessions:

- This morning:

  The Particle Physics provides the basic ingredients to the modern cosmology. But this is a Science on it own. J. Orloff will introduce us with the latest findings in cosmological observations and their constrains to the Big Bang cosmology. And give a focus on the (direct) discovery of gravitational waves.

- The last morning:

  Lecture on future experiments. They will be introduced from one statement and one question: what we do know and how do we know what we know ? We'll be guided there by S. Monteil.

The program in a glance:

1st BCD International School On High Energy Physics

from **Monday, 27 April 2015 (09:00)** to **Friday, 1 May 2015 (17:30)**

Monday, 27 April 2015

09:30	Advanced data analysis techniques ...
11:00	Coffee break
11:30	Data analysis - exercises using the ...
12:45	Lunch
14:30	DM, Inflation - Jean Orloff (Université ...
16:00	Coffee break
16:30	DM, inflation (exercises and discuss
19:15	Welcome Cocktail/dinner

Tuesday, 28 April 2015

09:00	SM - Gudrun Hiller (Technische Univer...
10:30	Coffee break
11:00	EWPT, TGV - Stephane Monteil (Univ. ...
12:30	Lunch
14:00	SMScalar - Gudrun Hiller (Technische ...
15:30	Coffee break
16:00	Higgs experimental status - Stephan...

Wednesday, 29 April 2015

09:00	Students presentations
10:30	Coffee break
11:00	Students presentations
12:30	Lunch
14:00	Students presentatios
15:30	Coffee break
16:00	Students presentations

Thursday, 30 April 2015

09:00	BSM. EffTh approach, why BSM, Su...
10:30	Coffee break
11:00	BSM. EffTh approach, why BSM, Su...
12:30	Lunch
14:00	Future projects
15:30	Coffee break
16:00	Future projects

Friday, 1 May 2015

09:00	Top-quark physics after Run-1 of th...
10:30	Coffee break
11:00	Top-quark physics after Run-1 of th...
12:30	Lunch
14:00	Introduction and experimental statu...
15:30	Coffee break
16:00	Flavor physics: exercises - Angelo C...

Preconisations (workwise)

- The program is dense but with many room left for discussions.
- Ask questions (we might have answers ...), share your views, discuss with lecturers and other students...
- Think about Nature

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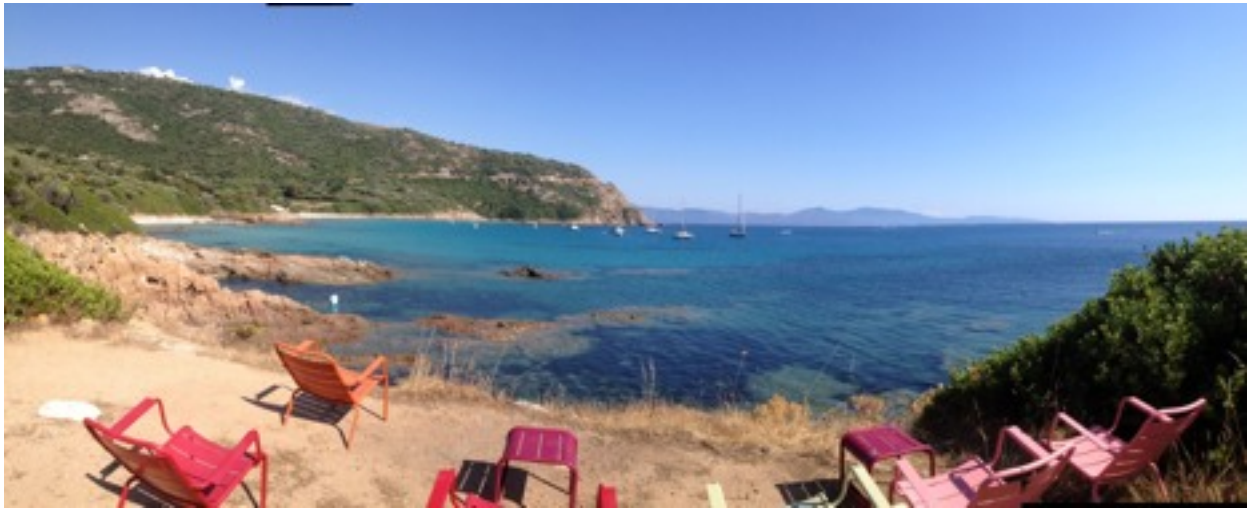

Social events

- Cocktail *dînatoire* this evening.
- We planned two “organised” social events.
  - There is a piano, there is a guitar, there is a violin. And there are physicists (Music is Physics). We’ll play and sing. Please prepare songs from your country. International music is authorized though. Tonight is the first target.
  - What about a tournament (beach soccer, beach volley tennis table, pétanque ...) some time in the week? Please choose the field and get organised in teams. For sure, we’ll gather afterwards for the dinner in a fish restaurant on Thursday evening.

Back to pedagogical contents

- Wednesday is the day when you're presenting.
- The format is 5 minutes presentation followed by a 5 minutes of questions / discussions.
- We are expecting this to be a mini-conference, giving another flavour of what the field is.
- You can present your actual work. But you can as well present a question of yours.
- The BCD pedagogical team will award the "best student presentation". The counterpart is legitimate and you will have to elect the "best lecture" on the last day.

Welcome address

We wish you an excellent third edition of the Spring BCD School