WELCOME TO
PHYSTAT 2011

Louis Lyons
Michelangelo Mangano
Albert De Roeck
The first three days of the meeting will deal with the statistical issues related to discovery claims in search experiments, concentrating on those at the LHC. Topics to be dealt with will include model selection methods, inclusion of the effects of systematics, the 'Look Elsewhere Effect', practicalities of estimating significance, whether 5 sigma should be a universal criterion for discovery, sensitivity of searches, experience from earlier experiments, etc.

The last day of the meeting, January 20, will be dedicated to a 1-day Workshop focused on unfolding detector resolution from experimental distributions.

Following PHYSTAT, on Jan 21 there will be a meeting on "Progress on Multivariate Data Analysis with TMVA"
LHC Experiments: Searches

Supersymmetry

Universal Extra Dimensions

LHC data are there!
Limits so far... (discussions at PHYSTAT 2007)
Machine Prospects

S. Redaelli « LHC report » 17/12/2010

- **Energy: 3.5 TeV to 4 TeV**
  To be decided at the Chamonix workshop in Jan. 2011.

- **Bunch intensity**
  Baseline $1.2 \times 10^{11}$ protons, higher possible from injectors.

- **Number of bunches**
  450 to 930 bunches (75 ns spacing): potential factor 2.

- **Colliding beam sizes**
  Maintain excellent beams from injectors: 50% smaller than nominal
  Possible to “squeeze” beams further: another 50% gain!

- **Peak luminosities in the range of 6 to 16 $\times 10^{32} \text{ cm}^{-2}\text{s}^{-1}$**
  could be possible.
  At least 3 times more than what we have seen in 2010!

- **Integrated luminosity between 1 and 3 fb$^{-1}$ would appear feasible.**

Final decision on the 2011 run plan: Chamonix Meeting end of January
2011: Project Higgs!

New studies including more Higgs decay channels and for several machine scenarios

The hunt for the elusive Higgs boson will definitely start in 2011 at the LHC!!

PHYSTAT 2011 very timely to provide a discussion forum
PHYSTAT 2011: Practical information

• Meeting Secretaries
  – Anastasia Dolya (40-5-B01)
  – Michelle Connor (4-2-004)
    • participants receiving support should contact Michelle

• All meetings in R222, including the coffee breaks
  – We had reserved the main auditorium in summer 2010, but...

• This evening: 17/1: Welcome drink in R1 18:30

• Tomorrow: 18/1: Workshop Dinner in R1
  – Seated dinner: collect your ticket with Anastasia, Albert or Louis. 50 CHF.
    We have a maximum number of seats available
  – Main course is fish/let us know if you have special dietary requirements

• A Poster “coffee” is foreseen for Tuesday 18/1, morning session

• Pick up your badge and wear it please!

• There will be proceedings. Details to follow soon.
Have a good workshop!