

MC school

- **Organising Committee:**

H. Jung, J. Katzy, A. Knutsson,
K. Kutak, S. Levonian and help
from M. Grimm

web page:

<http://www.terascale.de/mcs2008>

- **already now: 27 registrations....**

The poster features a background image of a roulette wheel and stacks of casino chips. At the top right is the logo for 'PHYSICS AT THE TERA SCALE' with the 'HELMHOLTZ ALLIANCE' text below it. The main title 'Monte Carlo School' is in red, followed by 'PHYSICS AT THE TERASCALE' in large, bold, multi-colored letters. Below this is 'Strategic Helmholtz Alliance' and a long list of participating institutions in small text. The dates '21-24 April 2008, DESY Hamburg' are prominently displayed. A central graphic shows three red dice with Feynman diagrams on their faces. To the right, under the heading 'Topics:', is a list of subjects and speakers. A paragraph at the bottom left describes the school's content. The registration deadline and website are at the bottom, along with the organizing committee's names.

Monte Carlo School
PHYSICS AT THE TERASCALE
Strategic Helmholtz Alliance

21-24 April 2008,
DESY Hamburg

Topics:

- Monte Carlo techniques and physics (L. Lönnblad)
- NLO Calculations (NN)
- NLO and parton showers (M. Dinsdale)
- Monte Carlo event generators
 - CASCADE (H. Jung)
 - HERWIG (S. Gieseke, P. Richardson)
 - PYTHIA (T. Sjöstrand)
 - SHERPA (F. Krauss)
- Exercises (L. Sonnenschein et al.)

The school covers Monte Carlo techniques and applications in NLO calculations as well as full hadron level Monte Carlo event generators. Predictions coming from different generators will be compared in practical exercises and first steps for comparison with measurements will be shown in tutorials.

Registration deadline: 15.03.2008
Please register via the school webpage.

Organising Committee: Hannes Jung, J. Katzy, A. Knutsson, K. Kutak, Serguei Levonian
<http://www.terascale.de/mcs2008>

MC school (program I)

Monday

morning: arrival

14:00 – 15:00 Monte Carlo techniques and physics 1 (L. Lonnblad)

15:00 – 15:30 Coffee

15:30 – 16:30 NLO Calculations (Z. Merebashvili)

16:30 – 17:30 Monte Carlo techniques and physics 2 (L. Lonnblad)

Tuesday

09:00 – 10:00 Monte Carlo techniques and physics 3 (L. Lonnblad)

10:00 – 10:30 CASCADE H. Jung) Each generator to give a 15 minute

10:30 – 11:00 PYTHIA T. Sjostrand) (maximum!) overview followed by a

11:00 – 11:30 Coffee

11:30 – 12:00 HERWIG S. Gieseke) 15 minute (maximum!) 'simplified

12:00 – 12:30 SHERPA F. Krauss) user guide/introduction to tutorial

14:00 – 15:30 Exercises and practical work (hannes, judith, herwig, pythia, sherpa)

use HEPMC for W/Z pt spectrum

compare PYTHIA / HERWIG / CASCADE / SHERPA

possibly parallel for the generators

15:30 – 16:00 coffee

16:00 – 18:00 Exercises and practical work

effect of parton shower

possibly parallel for the generators

MC school (program II)

Wednesday:

- 09:00 – 09:45 MC and NLO (M. Dinsdale)
- 09:45 – 10:30 Minimum bias/underlying event physics with PYTHIA (T. Sjostrand)
- 10:30 – 11:00 Coffee
- 11:00 – 11:45 Spin Correlations with HERWIG (P. Richardson, S. Gieseke)
- 11:45 – 12:30 Multijet matching (L. Lonnblad)

- 14:00 – 15:30 Exercises and practical work (L Sonnenschein, hannes, judith,+MCs)
calculation of W/Z, Higgs, top and jet production
compare PYTHIA / HERWIG / CASCADE/ SHERPA / [MC@NLO](#)
- 15:30 – 16:00 coffee
- 16:00 – 18:00 where are NLO corrections important
where is PS better than NLO, how do different PS compare
effects of UE and MI

Thursday:

- 09:00 – 10:00 Parameter fitting and PDF4MC (A. Knutsson, K.Kutak, H. Hoeth)
- 10:30 – 11:00 Coffee
- 11:00 – 12:30 Presentation of comparison of MC generators (Hannes, Judith + all)
End of school

Comments to school proposal

- MCNET:

- wanted more clear connection to MCnet
- MCnet is now mentioned on web page
- will also include link to school of MCnet in summer (Mcnet/CTEQ school)
- questions/comments to tutorials..... how they will be organised

- WHIZARD

- W. Kilian et al were asking to include WHIZARD

- Comment:

Idea of MC school was to teach basic MC methods and how MC generators do QCD: ME, parton shower, hadronization and underlying events/Multiple interaction

Next years school should address other issues: BSM etc

- How to proceed - comments ?

Next steps

- Do advertisement ... need more participants
- Planing for tutorials
- ... produce Dice game ?
- Any further issues... give input to org.com.