

# MC group meeting - 04. May 09

## Announcements

# Monte Carlo school 2009



The poster for the Monte Carlo School 2009 features a blue background with a faint grid pattern. At the top right is the logo for 'PHYSICS AT THE TERA SCALE' with the text 'Helmholtz Alliance' below it. The main title 'Monte Carlo School' is in red, followed by 'PHYSICS AT THE TERA SCALE' in large, bold, multi-colored letters. Below this is 'Strategic Helmholtz Alliance' and a long list of participating institutions. The dates '20-24 April 2009, DESY Hamburg' are prominently displayed. A central graphic shows three overlapping cubes with Feynman diagrams on their faces. To the right of this graphic is a 'Topics' section listing the school's content. At the bottom left, a paragraph describes the school's focus on Monte Carlo techniques and automated matrix element calculations. The registration deadline and website are listed at the bottom, along with the organizing committee and the URL.

**Monte Carlo School**

**PHYSICS AT THE TERA SCALE**

Strategic Helmholtz Alliance

20-24 April 2009,  
DESY Hamburg

**Topics:**

- Monte Carlo techniques and standard physics (S. Gieseke)
- Automated matrix element calculations (Th. Ohl)
- Monte Carlo event generators
  - Herwig++ (P. Richardson)
  - PYTHIA8 (R. Corke)
  - Sherpa (S. Schumann)
  - MadEvent (T. Plehn)
  - Whizard (W. Kilian)
  - Helac-Phegas (M. Worek)
  - Searches (V. Büscher)
- Exercises

The school covers Monte Carlo techniques and automated calculation of matrix elements. The focus of the school is on Monte Carlo event generators for simulation of processes beyond the standard model. The simulation of QCD and electroweak "background" will also be covered. In practical exercises, BSM signal processes as well as standard model background will be simulated and analyzed.

Registration deadline: 31.03.2009  
Please register via the school webpage.

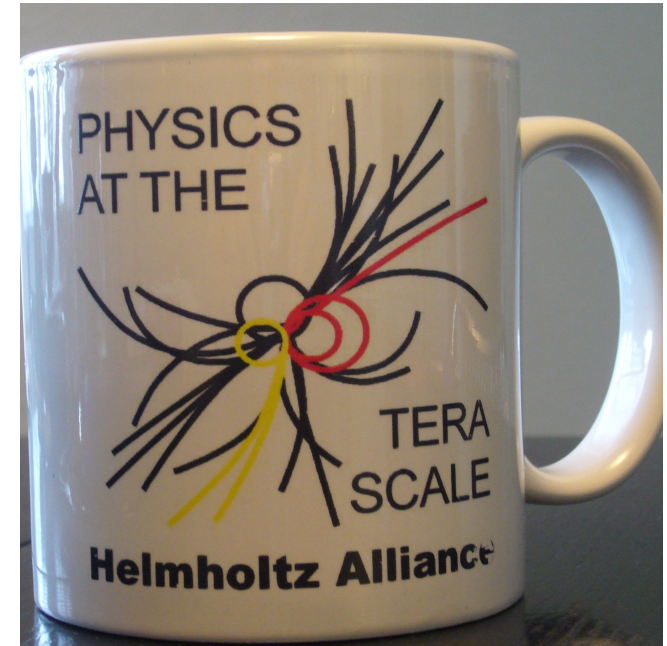
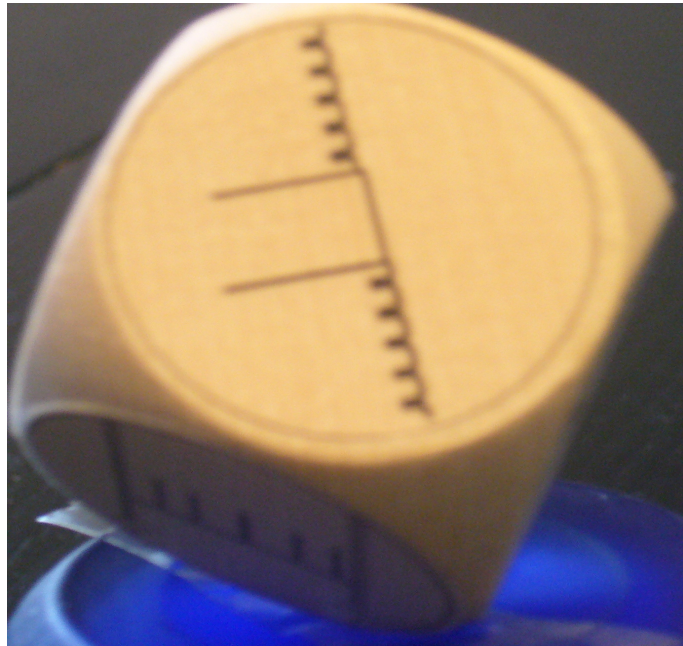
Organising Committee:  
W. Ehrenfeld, S. Gieseke, M. Grimm, H. Jung, J. Katzy, W. Kilian, S. Levonian, K. Mönig, Z. Nagy, Th. Schoerner-Sadenius

<http://www.terascale.de/mcs2009>

- We had > 80 registrations
- positive response
- need to analyse the questionnaire....

# Get your Monte Carlo school toys ...

- The necessary tool for a true Monte Carlo event generator:  
Dices with LHC processes 2 Euro
- For your Coffee/Tea breaks:  
cups with Terascale Logo 2 Euro



# Thanks

- Many thanks for coming
- Many thanks to all lecturers
  - Stefan Gieseke, Thorsten Ohl, Juergen Reuter, Peter Richardson, Richard Corke, Steffen Schumann, Rikkert Frederix, Judith Katzy, Malgorzata Worek, Wolfgang Kilian, Volker Buescher
- Many thanks to MCnet for support
- Many thanks to all participants in the exercises



# Thanks

- Many thanks to those doing all the work (in the background)
  - R. Eisberg, O. Knak for recording, video and sound
  - H. Lehmann and crew for PCs, PC cluster
  - M. Ermisch and crew for computing
  - P. van der Reest for afs and disk space
  - Hostel: H. Hummerjohann and crew
  - B. Liebaug for poster
  - M. Mayer for poster, folder
- Many thanks to DESY and Alliance for support

# Thanks

- Many thanks to those helping preparing the exercises:  
A. Flossdorf, S. Johnert, N. Sen, E. Wuensch
- Many thanks to my co-organisers:  
W. Ehrenfeld, S. Gieseke, J. Katzy, S. Levonian

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W. Ehrenfeld, S. Gieseke, J. Katzy, S. Levonian
- Many, many thanks to:  
Michaela Grimm, Sabine Platz

# Critics on the school ....

- Exercise sessions could have a clearer structure
  - results of exercises were not fully clear from beginning
  - histogramming etc
  - $\eta < 2.5$  cut in HepMCAnalyser ?
- Explanation of cuts etc...
- Student presentation was not fully clear... who is doing what....


# Next MC school 2010

- CTEQ & MC net MC school will be held in Karlsruhe (somewhere in a black forest hut)
- We can think of either
  - participating in CTEQ&MCNET school
  - supporting this school but running our own in April 2010




# Institute on parton shower and resummation

[Welcome](#) [Purpose of meeting](#) [Poster](#) [Registration](#) [Program](#) [Contacts](#)



## Institute on Parton Shower and Resummation

DESY Hamburg, May 4-29, 2009



### Welcome to PSRI09

Parton Shower and Resummation Institute takes place in **DESY** Hamburg on May 4-29, 2009. Our aim is to bring together mainly theorists to discuss about various aspect of the parton shower algorithms and the re-summation schemes. The format of the workshop is rather unconventional. We would like to spend more time on discussion than having formal talks.

This event is supported by the Strategic Helmholtz Alliance '**Physics at the Terascale**'

Please note that the Photon09 International Workshop takes place in DESY on dates May 11-15. You can get more information from <http://photon09.desy.de> or [photon09@mail.desy.de](mailto:photon09@mail.desy.de).

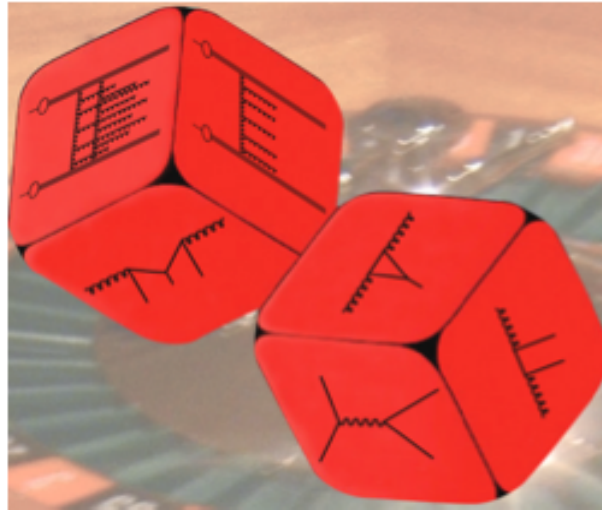
# Lecture on QCD & MC

9-10 July

16-17 July

- morning lectures
- afternoon exercises

## QCD AND MONTE CARLOS



- Lectures
- Exercises
  - ▶ How to get started
  - ▶ Root in 5 seconds

### QCD and Monte Carlos

#### Lecture Course

Hannes Jung (DESY, UC Antwerp)

DESY - Hamburg

9-10 July 2009

16-17 July 2009

The lecture course is intended for master students, PhD students and postdocs. It covers a basic introduction to QCD and the QCD evolution equations (DGLAP, BFKL and CCFM). A basic introduction to Monte Carlo methods will be given, and these methods will be applied to calculate cross sections and the evolution of parton densities.

During the course we will learn, how to write a small program to integrate a partonic cross section. We will apply Monte Carlo methods to solving the DGLAP evolution equation and to calculate the transverse momentum spectrum of Higgs production in proton-proton collisions at the LHC.

The course is held at DESY, in 2 blocks of 2 day lectures with exercise sessions in the afternoon.

The lectures will be from 9:15 - 12:00 on

9.-10. July Sem 2

16.-17. July Sem 2

with exercises in the afternoon from 14:00-17:00

[https://www.desy.de/~jung/qcd\\_and\\_mc\\_2009/](https://www.desy.de/~jung/qcd_and_mc_2009/)

# Monte Carlo position

## MONTE CARLO .

**DESY, Hamburg location, is seeking:  
Physicist Ph.D. (m/f)**

### DESY

DESY is one of the leading accelerator centres worldwide. The Laboratory's main research areas comprise a broad program of photon science, including construction, operation and use of synchrotron-light sources and of X-ray lasers, and research in elementary particle and astroparticle physics.

The Analysis Centre of the Helmholtz Alliance "Physics at the Terascale" at DESY supports German physicists working on analysis at ATLAS, CMS and ILC in areas like Monte Carlo generators, parton distribution functions and statistics tools. The Monte Carlo group is a major activity of the Analysis Centre. The group consists of theoretical and experimental physicists working on all aspects of MC generators. The group supports validation and tuning of existing Monte Carlo event generators. It also organizes schools, tutorials and discussion days on MC issues.

### The position

The successful candidate is expected to actively contribute to and shape these areas. He or she is expected to be active in the tuning and validation of existing Monte Carlo event generators. Therefore, experience in tuning and validation in either pp and/or ep environments is considered an advantage. A close collaboration with the experiment is necessary. The candidate is also expected to carry out research within one of the Alliance projects for about 50% of his or her time, preferably within one of the LHC experiments.

### Requirements

- Ph.D. in physics
- Interest and experience with Monte Carlo event generators, especially with their tuning and validation
- Good communication skills

For further information please do not hesitate to contact Thomas Schoerner-Sadenius (thomas.schoerner@desy.de), Judith Katzy (judith.katzy@desy.de) or Hannes Jung (hannes.jung@desy.de).

- Deadline was 27.04.2009
- 13 applications
- committee will meet this week
- aim is to fill position as soon as possible .....

# Discussion with MB and DESY DIR

- Mail from Thomas (on behalf of the MB... not MC):

Just to remind you, so that you can also prepare yourselves a bit for the meeting:

We would like to discuss

- the group plans and projects
- the means to achieve them
- the support of the group from the Alliance and from DESY
- ways to attract more people (students, fellows, ...)

I think at the end of the meeting we should have a clear (and common ;-)) perspective of the MC group for the next two years or so, a web page with more or less concrete projects we can offer to interested people, and an understanding of the necessary support.

# AOB

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