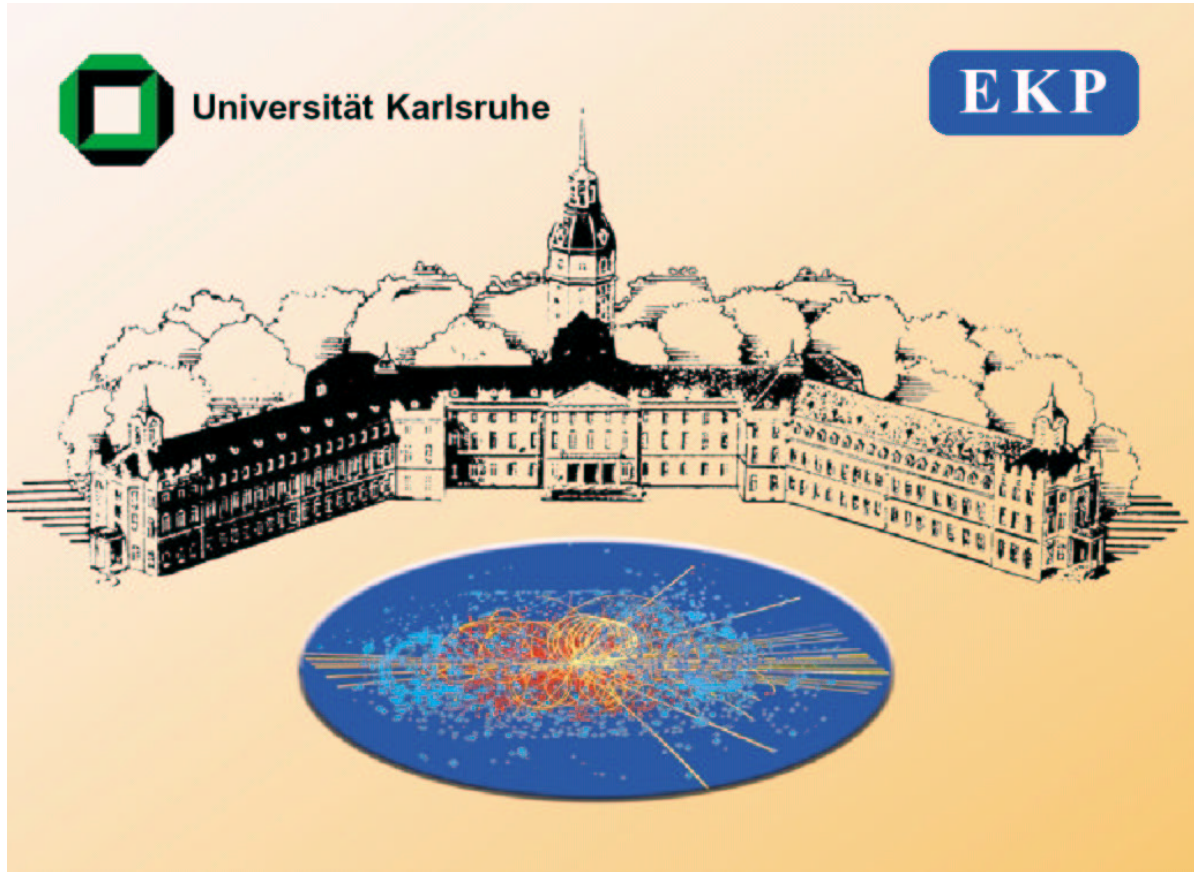


# 14<sup>th</sup> Topical Conference on Hadron Collider Physics

## **HCP 2002**



September 29th until October 4th, 2002  
Universität Karlsruhe (TH), Germany

### ***Bulletin 3, September 2002***

#### **1. General Information**

The 14th Topical Conference on Hadron Collider Physics, **HCP2002**, will be held in Karlsruhe, Germany, from Sunday, September 29th until Friday, October 4th, 2002 on the campus of the Universität Fridericana.

The conference is jointly organized by the Institut für Experimentelle Kernphysik and the Institut für Theoretische Teilchenphysik der Universität Karlsruhe (TH).

Information on the conference is available from the conference website:

<http://hcp2002.physik.uni-karlsruhe.de/>

This final bulletin will present the conference program, give some update information on the conference facilities, proceedings requirements, and social program.

## 2. Conference Program

### Welcome to the Conference

#### Monday 10:00-10:30

10:00-10:15 Prorektor Horst Hippler

10:15-10:30 Chairman Thomas Müller

### Scientific Program

#### 1) Opening Review on Hadron–Collider Physics

##### Monday 10:30-11:30 Hadron Colliders, the Standard Model and Beyond

Scott Willenbrock, University of Illinois at Urbana-Champaign

#### 2) Status of the Accelerators and Detectors

##### Monday 11:30-15:10

11:30-11:55 TEVATRON collider RUN II status

Elvin Harms, Fermilab

11:55-12:20 CDF

Frank Chlebana, Fermilab

12:20-12:45 D0

Volker Büscher, University of Mainz

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14:00-14:25 HERA and its experiments

Carsten Niebuhr, DESY

14:25-15:10 LHC and its technical challenges

Luigi Rolandi, CERN

#### 3) Precision Measurements of Standard Model Processes at Hadron Colliders

Monday 15:10-18:00, Tuesday 8:30-18:20, Wednesday 8:30-12:35, Thursday 8:30-10:55

##### Monday 15:10-18:00 Parton luminosities, QCD evolution

15:10-15:35 Proton structure

Henning Schnurbusch, University of Bonn

COFFEE

16:00-16:25 Low-x physics, ep scattering in the vicinity of hadronic i.a.

Olaf Behnke, University of Heidelberg

16:25-17:10 Global fits of the parton distributions in the proton

Robert Thorne, University of Cambridge

17:10-17:35 Progress in NNLO QCD

Nigel Glover, IPPP University of Durham

17:35-18:00 Saturation effects in Hadronic Cross Sections

Frank Steffen, University of Heidelberg

19:00 *Reception at the castle*

##### Tuesday 8:30-14:25 QCD at high pt

8:30-8:55 Heavy Quark production at D0

Daniela Bauer, Imperial College London

8:55-9:20 Heavy Quark production at CDF

Mary Bishai, Fermilab

- 9:20-9:45 Heavy Quark production at HERA  
Andreas Meyer, University of Hamburg
- 9:45-10:30 Theoretical developments on hard QCD processes at colliders  
Thomas Gehrmann, RWTH Aachen

COFFEE

- 11:00-11:25 Jet production at CDF  
Mario Martinez, Fermilab
- 11:25-11:50 Jet production at D0  
Elizabeth Gallas, Fermilab
- 11:50-12:15 Jet physics at HERA  
Oscar Gonzales, Universidad Autonoma de Madrid
- 12:15-12:40 Global Photon Summary  
Sungwon Lee, Texas A&M University

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- 14:00-14:25 Light-hadron production in hadron-hadron & lepton-hadron collisions  
Bernd Kniehl, University of Hamburg

**Tuesday 14:25-16:45 QCD: diffractive processes**

- 14:25-14:50 Measurements of diffractive processes at HERA  
Aharon Levy, University of Tel Aviv
- 14:50-15:15 Measurements of diffractive processes at D0  
Silvia Tentindo-Repond, Florida State University
- 15:15-15:40 Measurements of diffractive processes at CDF  
Konstantin Goulianos, Rockefeller University

COFFEE

- 16:00-16:45 Theoretical implications of diffractive processes  
Jeff Forshaw, University of Manchester

**Tuesday 16:45-18:00 Heavy ion collisions**

- 16:45-17:10 Recent results from STAR  
Markus Oldenburg, Max-Planck-Institut für Physik, Munich
- 17:10-17:35 Quark Gluon Plasma at low energies  
Lazlo Gutay, Purdue University
- 17:35-18:00 Physics expectations from heavy ion collisions at LHC  
Hannes Wessels, GSI Darmstadt

20:00 *concert*

**Wednesday 8:30-10:30 Heavy Flavour, CKM and CP-violation**

- 8:30-8:55 B-mass, -lifetime, prospects for B-oscillations, CP violation  
CDF including new charm results  
Sandro DeCecco, Universita' di Roma "La Sapienza"
- 8:55-9:20 Prospects for B lifetimes, Oscillations and CP violation at D0  
Wendy Taylor, Stony Brook University
- 9:20-9:45 Prospects for B-physics at LHC  
Marcel Merk, NIKHEF
- 9:45-10:30 Impact of bottom-quark measurements on our knowledge of the Standard Model  
Robert Fleischer, CERN

COFFEE

**Wednesday 11:00-12:35 W, Z-bosons, electroweak parameters**

- 11:00-11:25 Measurements of the W,Z production cross section, W-  
asymmetry at CDF  
Eric James, University of Michigan
- 11:25-11:50 Measurements of the W,Z production cross section at D0  
Andrew Alton, University of Michigan
- 11:50-12:35 Theoretical aspects of vector boson production associated  
with jets  
Walter Giele, Fermilab

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13:30 *Afternoon Excursion*

**Thursday 8:30-9:20 W, Z-bosons, electroweak parameters continued**

- 8:30-8:55 Associated production of intermediate vector bosons and  $J/\Psi$   
Caesar Palisoc, University of Phillipines
- 8:55-9:20 Review of potential for precision EW studies at LHC  
Dominique Pallin, LPC Clermont Ferrand

**Thursday 9:20-10:55 Top quark**

- 9:20-9:45 Top quark physics at D0  
Ken Johns, University of Arizona
- 9:45-10:10 Top quark physics at CDF  
Wolfgang Wagner, University of Karlsruhe
- 10:10-10:55 The top quark in the Standard Model and beyond  
Elizabeth Simmons, Boston University

COFFEE

**4) Searches for New Phenomena**

**Thursday 11:15-18:05**

**Thursday 11:15-14:25 Higgs in the Standard Model, SUSY**

- 11:15-12:00 Recent theoretical progress on Higgs production  
Robert Harlander, CERN
- 12:00-12:25 Higgs searches and prospects at CDF  
Pasha Murat, Fermilab
- 12:25-12:50 Higgs searches and prospects at D0  
Suyong Choi, University of California, Riverside

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- 14:00-14:25 Prospects for Higgs physics at LHC  
Elzbieta Richter-Was, University of Cracov

**Thursday 14:25-18:05 Alternative symmetry breaking mechanisms, SUSY, extra dimensions, anomalous couplings, leptoquarks and compositness**

- 14:25-15:10 Extra dimensions and string physics at low energies  
Ignatios Antoniadis, CERN
- 15:10-15:35 Isolated lepton signatures at HERA  
Elisabetta Gallo, INFN Firenze

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- 16:00-16:25 Searches, discovery windows, expected signatures at CDF  
Hyunsoo Kim, University of Illinois At Urbana-Champaign
- 16:25-16:50 Searches, discovery windows, expected signatures at D0  
Andrei Nomerotski, Fermilab

- 16:50-17:15 Searches, discovery windows, expected signatures at HERA  
Yves Sirois, LLR Polytechnique IN2P3-CNRS
- 17:15-17:40 Searches, discovery windows, expected signatures of SUSY phenomena at ATLAS/CMS  
Darin Acosta, University of Florida
- 17:40-18:05 Searches, discovery windows, expected signatures of new phenomena at ATLAS/CMS  
Pamela Chumney, University of Wisconsin
- 19:30 *conference dinner*

## 5) Tools and Techniques for Physics Analysis

### Friday 8:30-14:45

#### Friday 8:30-9:45 Luminosity determination in hadron-hadron collisions

- 8:30-8:55 Luminosity determination at the TEVATRON  
Sergey Klimenko, University of Florida
- 8:55-9:20 Luminosity determination at LHC  
Michael Rijssenbeek, Stony Brook University
- 9:20-9:45 Luminosity and precision cross section measurements at LHC  
Michael Dittmar, ETH Zürich

#### Friday 9:45-11:25 Event generators

- 9:45-10:30 Event generators – new developments  
Stefan Gieseke, University of Cambridge

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- 10:50-11:15 Event generators at HERA  
Victor Lendermann, DESY

#### Friday 11:15-12:55 New developments in analysis techniques

- 11:15-11:40 New technique to extract the top quark mass  
Juan Estrada, Fermilab
- 11:40-12:05 Multivariate analysis techniques for final state reconstruction  
Birger Koblitz, MPI for Physics, Munich
- 12:05-12:30 Jet reconstruction algorithms  
Sergei Chekanov, Argonne National Lab
- 12:30-12:55 Novel di-tau → lepton + isolated track triggers for CDF  
John R. Smith, UC Davis

LUNCH

#### Friday 14:00-14:45 Computing and GRID used by BABAR, TEVATRON and LHC

Matthias Kasemann, CERN

## 6) Future Colliders

### Friday 14:45-15:10 Linear Colliders

Sally Dawson, BNL

### Friday 15:10-15:35 Super LHC and the VLHC

Dieter Zeppenfeld, Madison University

## Summary Talk

### Friday 15:35-16:35 Summary, Highlights of the conference

John Womersley, Fermilab

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### 3. How to reach the conference

Most participants will arrive at Frankfurt or Stuttgart Airport, which both have good connections by train to Karlsruhe main station ( Hauptbahnhof ). In front of the main station you will find a tram stop. There you can choose one of the following tramways:

- 2 (Direction Durlach),
- 3 (Direction Siemensallee),
- 4 (Direction Waldstadt) or
- S4 (Direction Eppingen/Heilbronn).

Leave the tram at the tram stop "Kronenplatz/Universität" and follow signs to the conference secretariat.



If arriving by car via the Autobahn A5 (Motorway) leave at the exit "Durlach" and continue in the direction "Stadtmitte" (city center). Follow this road until you see a big cross-road ("Durlacher Tor"). From there on the university is indicated by road signs. Please note that there is restricted access by car to the university campus before 4pm. A big public parking area is located north-east of the campus (cf. [campus map](#)).

Finding your way on the campus: The city of Karlsruhe offers a city map on their webserver. <http://stadtplan.karlsruhe.de/>

On this plan you will find the tram stop "Kronenplatz" as well as the University and the cross-road "Durlacher Tor" (quadrants I10 and K10). On the campus you can use the [Campus Map](#).

Conference secretariat, registration desk, and lecture hall are located in building 30.22.

### 4. Conference Facilities

The conference registration desk will be open on the arrival day, Sunday 29, 15:00 – 20:00 and during conference daily from 8:30 – 18:00. **Please, pay attention to the change of conference location.**

The talks will take place in the Gaede-Hörsaal building 30.22. Speakers will find overhead projectors, beamer with standard interface for their presentations.

Computer terminals and interfaces will be available during daytime.

## 5. Transparencies and Proceedings

Copies of the transparencies will be available on the conference website. Speakers are kindly asked to provide a pdf-file of their transparencies at the conference.

All write-ups of the talks will be included in the proceedings, which will appear at Springer Publishing Company. A volume of the proceedings will be provided to every participant with the cost included in the registration fee.

The write-ups should be provided as camera-ready postscript-files using the following latex example, [hcp2002.tex](#), and the latex style file, [hcp2002.sty](#). Deadline for write-ups to be included in the conference proceedings is Monday, November 18th, 2002.

## 6. Excursions and Accompanying Persons Program

On Wednesday afternoon two excursions will be offered which have to be booked not later than Monday, 30 September 2002.

- Visit to Heidelberg with its world-famous castle. A boat trip on the river Neckar shows the breathtakingly beautiful landscape of the surroundings. On the boat a snack will be served. After a visit to the Castle a romantic stroll through the picturesque Old Town with its historic streets and Germany's oldest University gives the impression of a lively and attractive town. **EUR 25,-**
- Visit of the imperial Cathedral of Speyer, one of the largest and the most significant Romanesque edifices in Germany, burial church of the Salic Emperors. In 1980, the cathedral was added to the UNESCO World Heritage program. **EUR 25,-**

The excursion continues through the seasonal colored wine-growing area of Palatinate and ends with a wine tasting (including bread, sausage, ham and cheese) in a winery.

The accompanying Persons Program as described on the [conference web page](#) will only take place with a reasonable number of participants. Please, contact the conference desk.

## 7. Important Dates and Deadlines

Start of registration: April 15, 2002

Deadline for prepaid registration: July 1, 2002

Deadline for hotel booking: August 12, 2002

Deadline for booking excursions: September 2, 2002

Deadline for cancellation/refunds of registration fee: September 2, 2002

Deadline for proceedings contributions: November 18, 2002

## 8. Further Information

The conference website at <http://hcp2002.physik.uni-karlsruhe.de/> will be updated as information becomes available. Further questions and special requests can be addressed to the conference secretariat:

**HCP2002 Sekretariat:**

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**List of Conference Sponsors:**

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