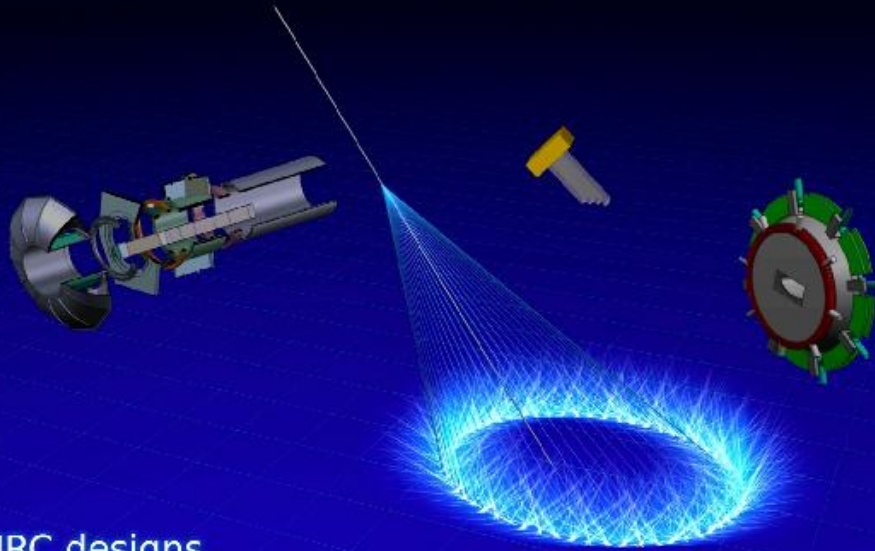


# Workshop on Fast Cherenkov Detectors

Photon detection, DIRC design and DAQ

May 11-13, 2009 - Justus-Liebig-Universität Giessen

[www.physik.uni-giessen.de/dueren/workshop.htm](http://www.physik.uni-giessen.de/dueren/workshop.htm)



DIRC designs  
Photon detection  
Frontend electronics  
Data acquisition  
DIRC reconstruction

European Graduate School  
Complex Systems  
of  
Hadrons and Nuclei



The workshop will focus on the design of fast DIRC Cherenkov detectors as they are currently being planned for the PANDA experiment at FAIR. Common issues like the fast data acquisition of arrival times and photon amplitudes make the subject interesting for other projects in PANDA and also for ATLAS, WASA and other experiments. We will try to make the workshop effective and inspiring as well for experts as for students.

JUSTUS-LIEBIG-  
 UNIVERSITÄT  
GIESSEN

Local organizers:

Anatoli Astvatsatourov, Michael Düren, Klaus Föhl, Avetik Hayrapetyan,  
Wolfgang Kühn, Sören Lange, Volker Metag, Rainer Novotny, Wolfgang Plaß  
Christof Scheidenberger, Hasko Stenzel

Sponsored by HIC for FAIR (Helmholtz International Center for FAIR) and DFG (European Graduate School)

# Welcome!

~80 registrations

Conference fee 50 €  
(students free)

Sponsored by

- European graduate school  
“Complex systems of Hadrons  
and Nuclei”
- Helmholtz International Center  
for FAIR

# Monday

13:00	--- Welcome coffee and registration ---
<b>14:00</b>	<b>Photon detection-</b> Michael Düren ( <i>Univ. Giessen</i> ) Rainer Novotny (until 19:00) (Physics lecture hall ( Hörsaal IV ) )
14:00	Welcome and scope of the workshop - Michael Düren, Univ. Giessen
14:15	Overview on APDs and SiPMTs - Dieter Renker, PSI
15:00	Application and detection of Cherenkov radiation - Peter Krizan, Ljubljana
15:45	--- Coffee ---
16:00	Report by Hamamatsu - Siegfried Schmid ( <i>Hamamatsu, Germany</i> )
16:20	Report by Photonique - David McNally ( <i>Switzerland</i> )
16:40	Report by Photek (Diamond PMTs) - Jon Howorth, UK
17:00	MCP detectors for picosecond timing - Wolfgang Plaß, Giessen
17:20	Studies of MCP properties - Albert Lehmann, Erlangen
17:40	Studies of APD properties - Hannes Marton, Vienna
19:30	--- Dinner at the brewery ---

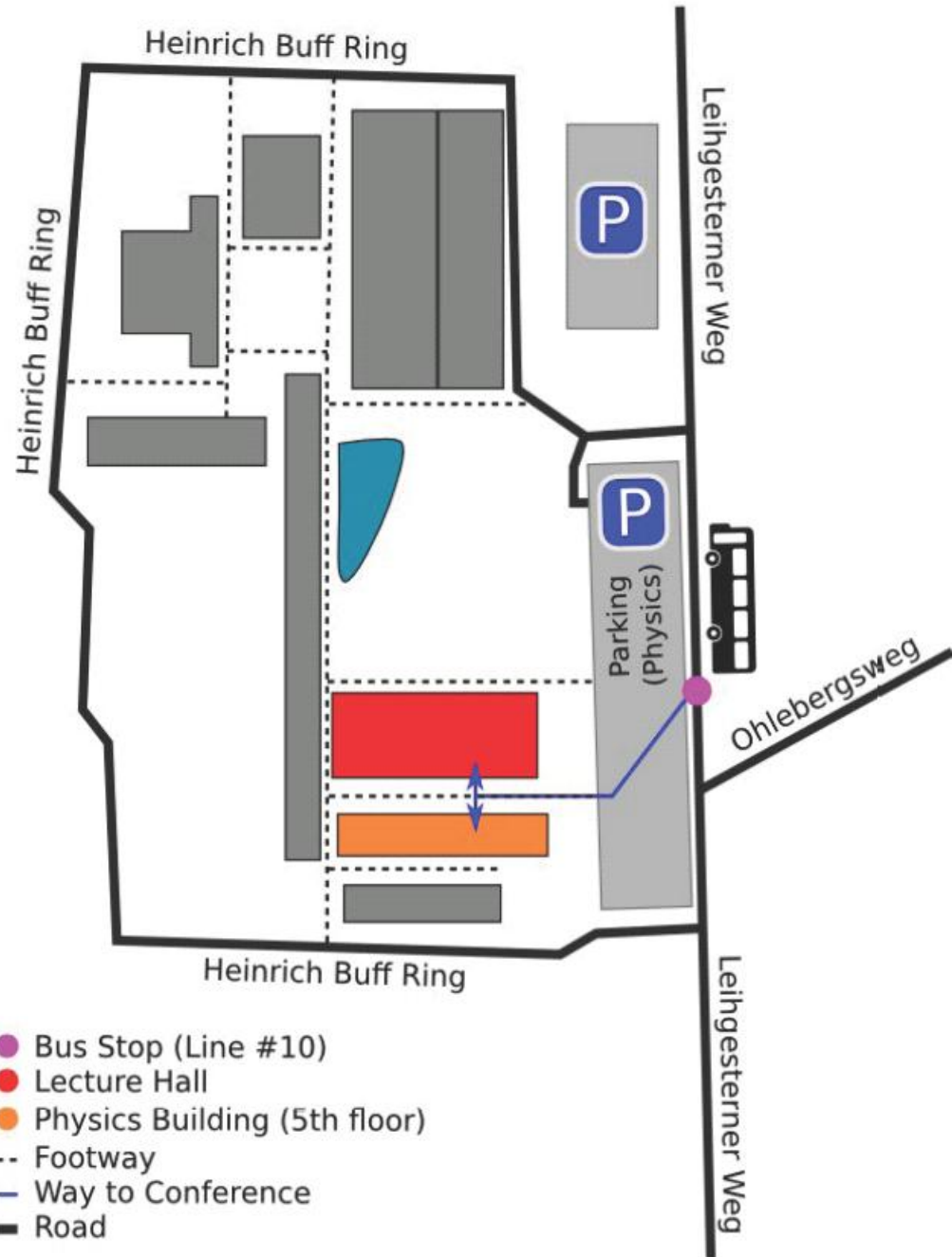


Dinner tonight:

Giessen, Westanlage 30–32

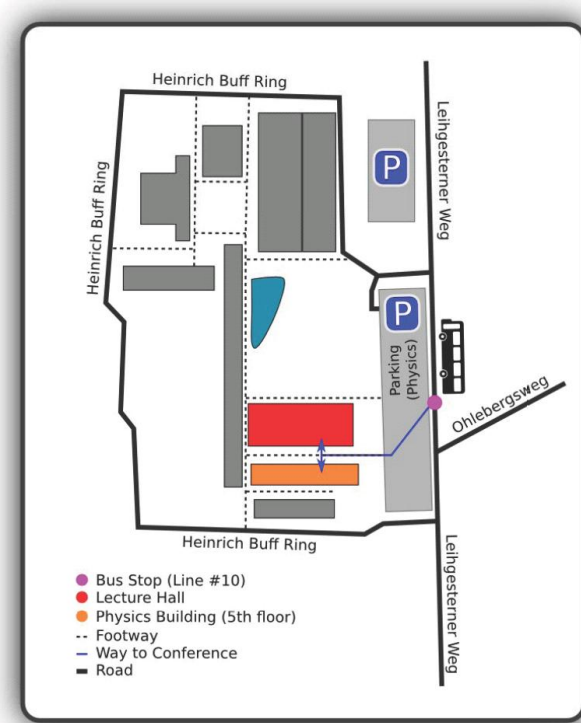
(not included in conference fee)

Tuesday morning



- Bus Stop (Line #10)
- Lecture Hall
- Physics Building (5th floor)
- Footway
- Way to Conference
- Road

Tuesday  
morning



09:00

--- Bus from Giessen to Rauischolzhausen ---

10:00

**DIRC design I- Michael Düren (Univ. Giessen)** (until 13:00) (Castle Rauischolzhausen ( - ) )

10:00

The Babar DIRC - **Joe Schwiening, SLAC**

10:50

--- Coffee ---

11:10

Development of time of propagation counters - **Kenji Inami, Nagoya**

12:00

ATLAS Forward Proton Time-of-Flight Detectors - **Andrew Brandt, Arlington**

# Tuesday afternoon

13:00	--- Lunch and break (park of castle) ---
<b>14:30</b>	<b>DIRC design II- Albert Lehmann</b> (until 19:00)
14:30	The Panda Barrel DIRC - <b>Carsten Schwarz, GSI</b>
15:10	The Panda time-of-propagation DISC DIRC - <b>Michael Düren, Giessen</b>
15:50	--- Coffee ---
16:10	The focussing-lightguide DISC DIRC design - <b>Klaus Föhl, Giessen</b>
16:40	The Panda focussing-lightguide DISC DIRC - <b>Matthias Hoek, Glasgow</b>
17:10	The Wasa focussing-lightguide DISC DIRC - <b>Wolfgang Eyrich, Erlangen</b>
17:30	Discussion and brainstorming on design options - <b>all</b>
19:00	--- Dinner in Rauscholzhäuser ---
21:00	--- Bus back to Giessen ---

# Wednesday morning

- 09:00** **Front-end electronics and data acquisition** - **Lars Schmitt** (*Gesellschaft für Schwerionenforschung mbH*) (until 11:30) (Physics lecture hall ( Hörsaal III ) )
- 09:00 The Panda front-end electronics and data acquisition - **Igor Konorov, TU Munich**
- 09:45 Plans for PANDA online computing - **Sören Lange**
- 10:15 --- Coffee ---
- 10:40 Front-end electronics at ATLAS-AFP - **Anatoli Astvatsatourov, Giessen**
- 11:00 Microelectronics for SiPM readout - **Joel Pouthas (Orsay)**
- 11:30** **PANDA-DIRC Front-end electronics and DAQ (I)** (until 11:50)
- 11:30 Panda Barrel DIRC - **Carsten Schwarz, GSI**
- 11:50 --- lunch break (Sandwiches) ---
- 12:35** **PANDA-DIRC Front-end electronics and DAQ (II)**- **Sören Lange** (until 13:15)
- 12:35 Panda FL-DISC DIRC - **Tibor Keri, Glasgow**
- 12:55 Panda TOP-DISC DIRC - **Avetik Hayrapetyan, Giessen**

# Wednesday afternoon

13:15	<b>Reconstructon methods-</b> Matthias Hoek (until 14:30) (Physics institute ( Room ) )
13:15	Panda Barrel DIRC - Carsten Schwarz, GSI
13:30	Panda TOP-DISC DIRC - Oliver Merle, Giessen
13:45	Panda FL-DISC DIRC - Gordon Hill, Glasgow
14:00	DIRC reconstruction studies - Hartmut Machner, Jülich
14:15	Discussion
14:30	--- Coffee ---
14:45	<b>PANDA DIRC planning meeting-</b> Carsten Schwarz (until 18:00) (Physics institute ( Room 511 (5th floor) ) )
14:45	Progress report from GSI - Roland Hohler
15:00	Progress report from Erlangen - Alexander Britting
15:15	Further progress reports from the contributing institutes - Edinburgh, Erlangen, Krakow, Giessen, Glasgow, GSI, Jülich, Tübingen, Wien
15:45	Steps towards the Technical Design Report - Klaus Föhl, Giessen
16:05	Planning of the Panda test experiments - Avetik Hayrapetyan, Giessen
16:25	Open Issues and ToDo lists
17:05	AOB



# Today

14:00	Welcome and scope of the workshop - <b>Michael Düren, Univ. Giessen</b>
<b>14:15</b>	<b>Overview on APDs and SiPMTs - Dieter Renker, PSI</b>
15:00	Application and detection of Cherenkov radiation - <b>Peter Krizan, Ljubljana</b>
15:45	--- Coffee ---