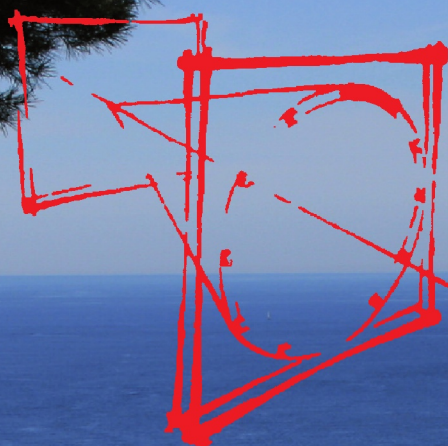


<http://RICH2010.in2p3.fr>

# RICH 2010

7<sup>th</sup> International Workshop  
on Ring Imaging Cherenkov Detectors  
Cassis, Provence, France

**May 3<sup>rd</sup> – 7<sup>th</sup> 2010**



## Topics

- Cherenkov light imaging in particle and nuclear physics experiments
- Cherenkov detectors in astroparticle physics
- Novel Cherenkov imaging techniques
- Photon detection for Cherenkov counters
- Technological aspects of Cherenkov detectors
- Pattern recognition and data analysis
- Research & Development for future experiments



### Conference Hotline:

06.72.69.28.80  
(inside France)

+336.72.69.28.80  
(outside France)



UNIVERSITÉ  
DE LA MÉDITERRANÉE  
AIX-MARSEILLE II

## Conference Bulletin #3

# Conference Schedule

## Sunday, May 2<sup>nd</sup>

18:00 – 21:00	Registration
20:00 – 21:30	Welcome Apéritif

## Monday, May 3<sup>rd</sup>

08:30 – 13:00	Registration
09:00	Welcome messages
09:30	Cherenkov light imaging fundamentals and recent developments <i>J. Engelfried</i>
10:30	Coffe break
11:00	Cherenkov Imaging in particle and in nuclear physics experiments
13:00	Lunch
14:30	Cherenkov Imaging in particle and in nuclear physics experiments
15:00	Cherenkov detectors in astroparticle physics
16:00	Coffe break
16:30	Cherenkov detectors in astroparticle physics

## Tuesday, May 4<sup>th</sup>

09:00	Cherenkov detectors in astroparticle physics
10:15	Poster Session 1 Summary: <b>Cherenkov Detectors in Nuclear, Particle and Astroparticle Physics; Photon Detection Techniques</b> <i>P. Krizan</i>
10:35	Coffee break / Poster Session 1
11:00	Cherenkov detectors in astroparticle physics
11:25	Status and perspectives of solid state photon detectors <i>S. Korpar</i>
12:15	Photon detection for Cherenkov Counters – solid state and hybrid devices
13:05	Lunch
14:30	Boat visit to 'Les Calanques de Cassis'
17:00	Coffee break / Poster Session 1 cont'd
17:30	Other PID techniques

## Wednesday, May 5<sup>th</sup>

09:00	Photon detection for Cherenkov Counters – solid state and hybrid devices
10:10	Photon detection for Cherenkov Counters – gaseous devices

10:40	Coffee break / Poster Session 1 cont'd
11:10	Photon detection for Cherenkov Counters – gaseous devices
12:30	Lunch
14:00	Status and perspectives of Vacuum-based photon detectors <i>T. Ijima</i>
14:45	Photon detection for Cherenkov Counters – vacuum based devices
15:55	Bandol wine Tasting, Concert and Banquet

## Thursday, May 6<sup>th</sup>

9:00	Novel Cherenkov imaging techniques
10:25	Poster Session 2 Summary: <b>Novel Detectors, Technology Issues, Pattern Recognition &amp; Data Analysis, R&amp;D Future Detectors</b> <i>P. Krizan</i>
10:45	Coffee break / Poster Session 2
11:15	Technology issues in Cherenkov light imaging <i>C. Matteuzzi</i>
12:00	Technological aspects of Cherenkov Detectors
13:00	Lunch
14:30	Technological aspects of Cherenkov Detectors
15:25	Pattern recognition and data analysis
16:15	Coffee break / Poster Session 2 cont'd
16:45	Pattern recognition and data analysis
18:20	Research and Development for future detectors
19:00	ISAC Closed Meeting

## Friday, May 7<sup>th</sup>

9:00	Research and Development for future detectors
10:30	Coffee break / Poster Session 2 cont'd
11:00	Research and Development for future detectors
12:10	Workshop Highlights <i>B. Ratcliff</i>
12:55	Thanks, Closeout, announcement of location of next RICH workshop <i>E. Nappi</i>
13:00	Departures

For session details see full program inside.

7<sup>th</sup> International  
Workshop  
on Ring Imaging  
Cherenkov Detectors  
Cassis, France : 3-7 May 2010



# Welcome to RICH 2010!

The 7<sup>th</sup> International Workshop on Ring Imaging Cherenkov Detectors, RICH2010, is being held from May 3-7, 2010 at the Oustau Calendal Conference Centre in Cassis, France, following on from the six previous workshops held in Bari, Italy (1993); Uppsala, Sweden (1995); Ein Gedi, Israel (1998); Pylos, Greece (2002); Playa del Carmen, Mexico (2004); and Trieste, Italy (2007).

The conference consists of eight half-day plenary sessions, interspersed with poster sessions, and includes a social programme, including an excursion and a banquet. Participants are encouraged to arrive in time for a

**Provençal welcome aperitif and early registration at the Cassis harbor  
on Sunday May 2, 2010 after 18:00.**

The detailed scientific programme and its timetable, composed of invited and contributed talks and poster sessions is accessible via the conference web site (<http://rich2010.in2p3.fr>).

## Conference Fee and Payment

The deadline for payment of the conference fee at the reduced rate has expired and late registration is possible at the rate of 450 €. If you have not already paid the conference fee, payments can now be made *by Credit card only* using the secure payment server of the Azur Colloque conference payment system. Instructions on how to use the Azur Colloque payment system may be found under **Payment** on the conference web pages.

Although it will be possible to pay the conference fee at the workshop secretariat on your arrival, we recommend you do so in advance to avoid delays. We regret that we are unable to accept cash payments

The conference fee includes the welcome cocktail, the boat excursion, the conference banquet and concert, together with lunches on the four full days of the conference and all coffee breaks. The fee also includes a personal printed copy of the conference proceedings, which will be published in the journal *Nuclear Instruments and Methods A*.

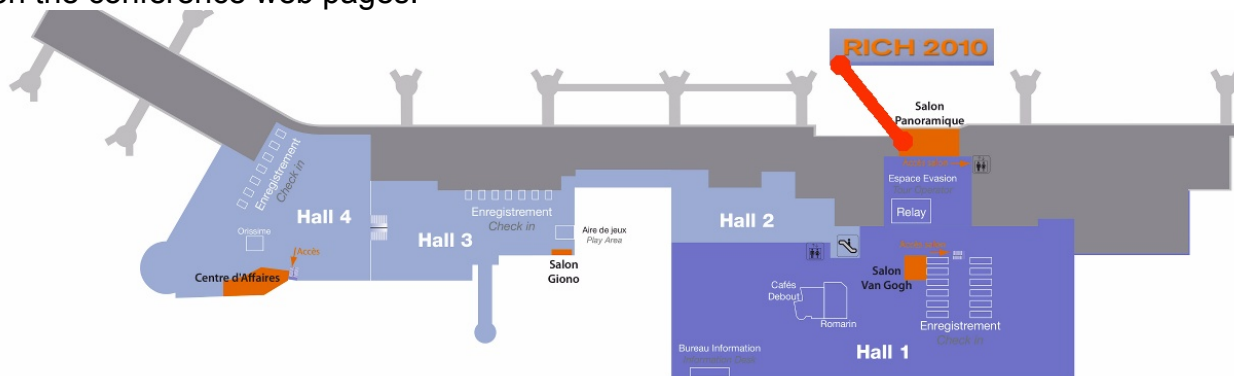
## Travel to and from Cassis – General

Cassis is a small port town around 12 km east of Marseille. The region is well served with rail and autoroute connections. Three international airports are located in the region: Marseille-Marignane (around 50 km), Toulon-Hyères-St. Tropez (around 60 km) and Nice-Côte-d'Azur (around 150 km), all with car rental facilities. Autoroutes link these airports to Cassis, and regular shuttle buses ("navettes") run between Marseille Marignane and the nearest main line railway stations – respectively Marseille Saint Charles (fare: 8.50 € one way as of December 2009) and Nice-Ville (fare: 4 € one way as of December 2009). From Marseille Saint Charles station TERs (Trains Express Regional) run to Cassis station (around 25

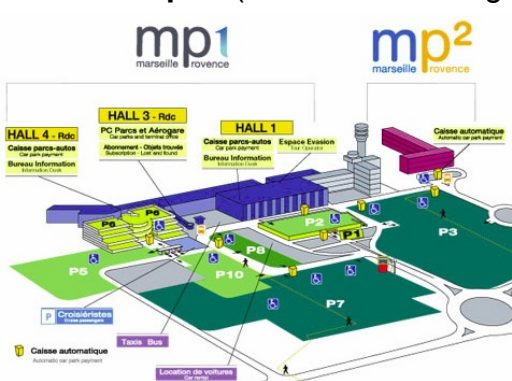
minutes). From Nice Ville station TGVs (Trains de Grande Vitesse – high speed trains) run to Toulon, where it is necessary to change to a TER in the direction of Marseille, getting off at Cassis (around a 40 minute journey from Toulon to Cassis). Cassis station is around 3 km from the town of Cassis.

## Travel from Marseille Airports to Cassis

Detailed information on how to reach Cassis from the Marseille airports (IATA code MRS or MP2), the arrival point of the majority of participants, is included under **Travel Information** on the conference web pages.



We suggest that participants following arrival meet our airport reception team at the **Salon Panoramique** (Panorama Lounge), which will be open from 12:00 to 19:00. It is



accessible through a lift or stair case from the ground floor (departures) in Hall 1/2 (see figure above) of airport MRS. This terminal is a 5' footwalk away from the MP2 low cost flight terminal to the west of hall 1 (see adjacent figure). Fully registered participants (payment received and confirmed) will be able to receive their conference material there, if they wish. The way to the "Salle Panoramique" will be labelled and the airport information desk can give directions. In addition there are several cafes and restaurants at the airport.

Based on arrival statistics for May 2nd 2010, we offer two dedicated RICH2010 RICH 2010 Airport – Cassis buses for RICH2010 conference participants leaving at **16:00** and at **19:00**.

These buses, operated by the company NAP Tourisme will leave from outside the MRS/MP1 terminal hall 1, where you can find them at the indicated times, if you do not want to come to the Panorama Lounge.

The RICH2010 airport reception team will crosscheck a list of arrivals and try to fetch participants from the gate where possible and accompany them to the buses. The RICH2010 workshop secretariat, which will be based in Cassis on Sunday May 2, will try to help in the case of problems. The conference hotline during the conference week is +33 6 72 69 28 80 (inside France dial 06 72 69 28 80).

Shuttle buses ("Navettes") from Marseilles Airports to Marseilles St. Charles (central) train station are running from 5:10 to 0:10 (delayed for last flight arrival, if necessary) every 20 minutes, every day. Fare for one way is 8.50 € as of December 2009. Tickets for these

buses can be purchased at a kiosk (silver and blue colour) by the taxi rank, which is situated between hall 1 (most international arrivals/departures) and hall 3 (domestic and Schengen flights). The kiosk is not far from a long moving ramp leading up to hall 3.

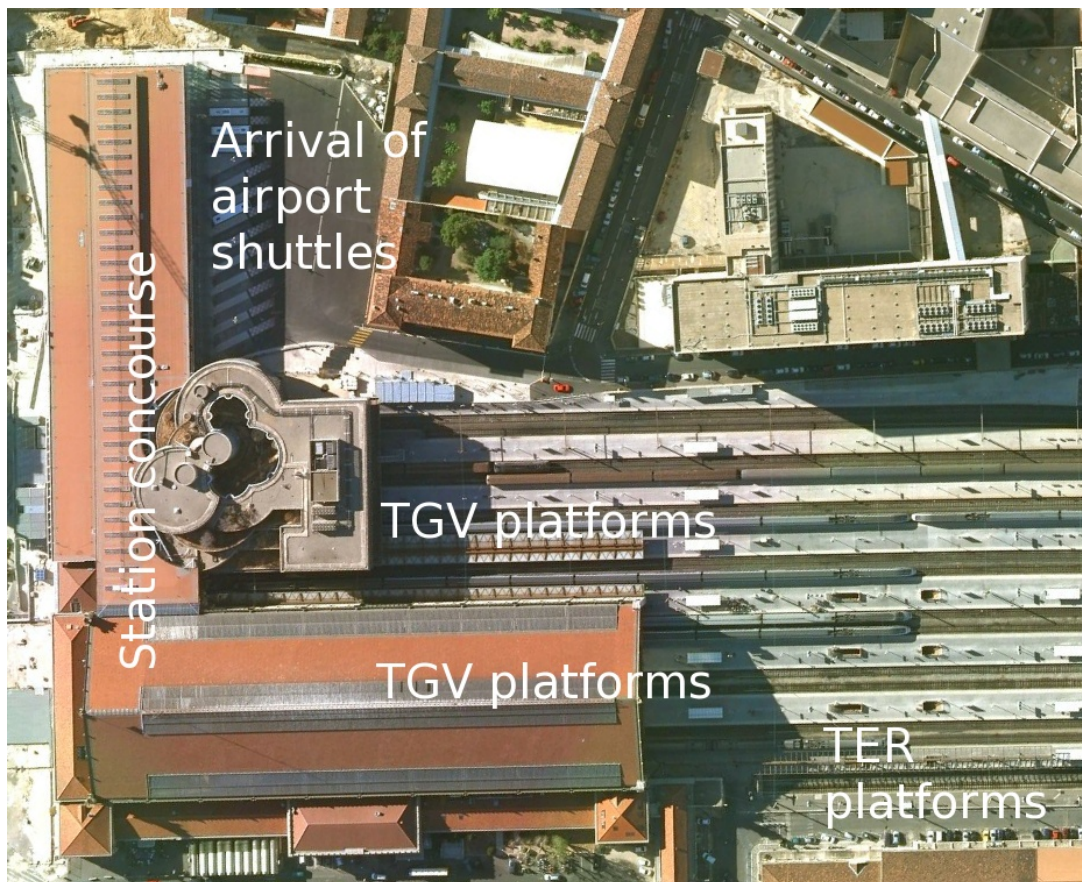
People arriving at Marseille airport late in the evening (after 22h30), will miss the last TER train from Marseille St Charles station to Cassis station. Night taxis from St. Charles railway station to Cassis cost around 70-75 €. Taxis from the airport to Cassis are probably the best option. The night rate for such a taxi is around 135 €, so we suggest taxi sharing.

## **Arrival at Marseille St. Charles train station**

The shuttle bus from the airport arrives at the west end of Marseille St. Charles station. It is necessary to pass right through the station concourse (past the various shops, McDonalds etc) to the eastern end where TER (train express regional) tickets can be bought from machines.

Participants arriving by train to Marseille St Charles station have less distance to walk to the TER train platforms (see below) and the ticket machines.

Most machines are credit card only, but a few take cash. Also there should be a ticket counter open, depending on arrival time. The one way ticket price is 5.20 €. Departures of the TER to Cassis are usually from platforms 3 or 5 at the extreme east end of the station, and are shorter platforms (by about 200 m) than those of the TGV trains which are generally designated by letters rather than numbers. On week-ends there is approximately one TER leaving per hour, and the journey time to Cassis is 22-30 minutes.



## Arrival at Cassis train station

From Cassis station to Cassis port (a distance of around 3 km) there are local taxis whose phone numbers are listed under **Travel Information** on the conference website. The evening price is likely to be in the range 20-25 €.

## Car parking at the Conference Centre

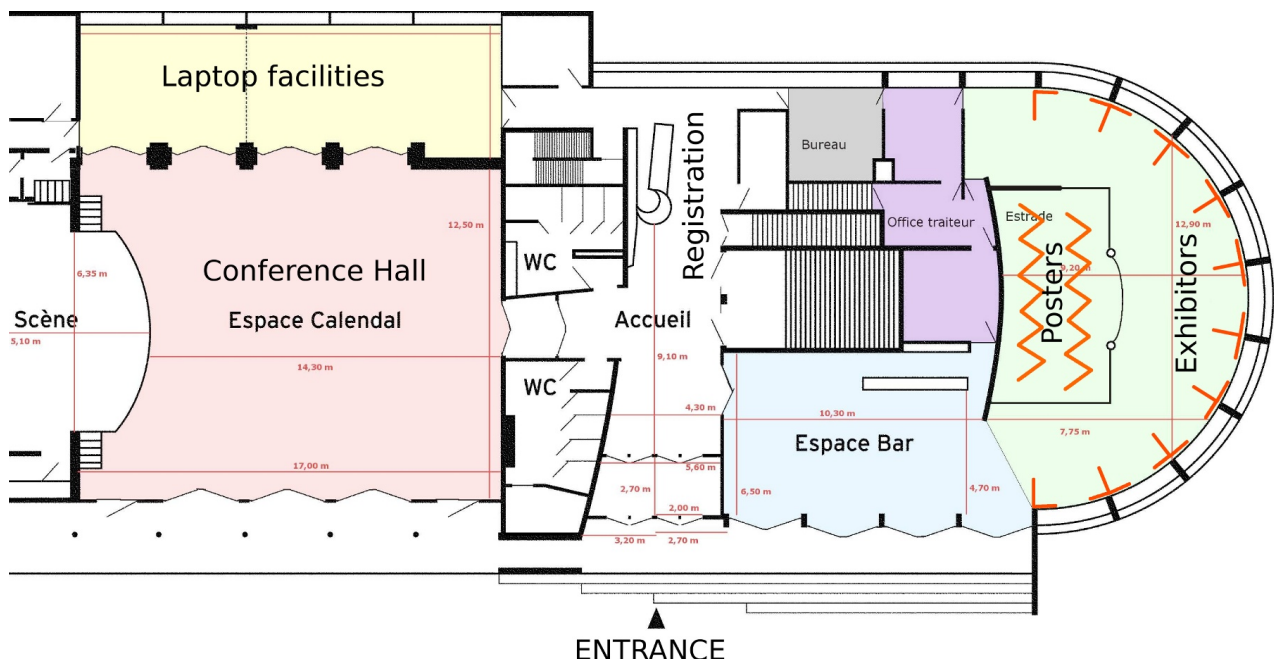
Please note that, although there are several metered car parks in Cassis, with one near the port, car parking and car access are difficult in the narrow streets of Cassis port. Conference attendees staying at hotels in Cassis will not generally need a car to get to the conference centre as distances are short. We will endeavour to secure additional car parking at the limited conference centre car park, and priority will be given to companies exhibiting at the conference. The car parking rate, reservation and payment details will be communicated in the final conference bulletin. Participants wishing to use the conference centre car park should make a request via [RICH2010@cppm.in2p3.fr](mailto:RICH2010@cppm.in2p3.fr) no later than April 2, 2010, indicating the driver(s) name(s) and the number of days requested and car registration, when known.

## Exhibitors and Poster Space

RICH2010 has been generously sponsored by companies who will exhibit their products during the conference in the coffee break area (Rotonde). The same room will be used for the presentation of all contributed posters in two distinct sessions:

- Session 1, Tuesday/Wednesday:  
“Cherenkov Detectors in Nuclear, Particle Physics and Astroparticle Physics; Photon Detection Techniques”
- Session 2, Thursday/Friday:  
“Novel Detectors, Technology Issues, Pattern Recognition & Data Analysis, R&D Future Detectors”.

All posters will be presented in an introductory plenary talk on Tuesday and Thursday respectively.



## Internet access and laptop facilities

Wireless internet access is available at the Oustau Calendal conference centre from Sunday to Friday. You will need to configure your wireless access device with a WPA2 key:

**CASSISrich2010**

Laptop battery charging points will be available in a meeting room alongside the conference hall and also in the space used for the conference exhibition and poster sessions. Due to recent changes in the seating arrangements in the conference hall, only limited 230 V access is available in this space.

## Social Program

RICH2010 will feature a varied social programme, beginning with a welcome cocktail at the Oustau Calendal conference centre in the Cassis port on the evening of Sunday May 2.

The afternoon of Tuesday May 4 will include a boat excursion to the beautiful Calanques of Cassis. Two boats will leave from Cassis harbor near the Conference Center at 14:30.

The conference banquet and concert at will take place at the prestigious Domaine Bunan vineyard, La Cadiere d'Azur on the evening of Wednesday May 5. Please note that the transfer to the cosy vineyard in the region of Bandol is a time critical operation, and the busses leave from two different places within Cassis:

- Two small busses (total capacity 44 seats) will leave **at 16:00 sharp** from the Conference Center. They need however to be filled up to the last place!
- Two bigger busses (total capacity 88 seats) will leave slightly later at 16:10 from the roundabout in front of the gendarmerie station.

Due to the difficult access to the vineyard, we will change busses on arrival.



## Social Program for Accompanying Persons

Accompanying persons are invited to participate in the social programme.

- The fee for accompanying persons attending the tour of the Domaine Bunan vineyard, the wine tasting, conference banquet and concert is 70 Euros.
- The fee for accompanying persons attending the boat tour of the Calanques de Cassis is 20 Euros.

If not done by the accompanied participant at the time of payment, accompanying persons should register on the **Azur Colloque** secure conference payment system for tickets for these activities. Instructions are given under **Payment** on the conference website.

# Conference Program

## 7th International Workshop on Ring Imaging Cherenkov detectors (RICH 2010)

### Sunday 02 May 2010

until 19:00	Arrivals
from 18:00	Registration (3h00')
20:00	Welcome Apéritif (1h30')

### Monday 03 May 2010

from 08:15	Registration
------------	--------------

09:00→09:30 Welcome messages

Cherenkov light imaging

09:30 fundamentals and recent developments (45')

Jurgen Engelfried (*Instituto de Fisica, Universidad Autonoma de San Luis Potosi, Mexico*)

10:30	coffee break (30')
-------	--------------------

11:00→13:00 Cherenkov Imaging in particle and in nuclear physics experiments  
(Convener: Roger Forty (CERN), Blair Ratcliff (SLAC))

11:00 The ALICE High Momentum Particle Identification system: an overview after the first LHC run. (30') Paolo Martinengo (CERN)

11:30 The Ring Imaging Cherenkov Detectors of the LHCb Experiment (30') Franz Muheim (University of Edinburgh)

12:00 The experience of building and operating COMPASS RICH-1 (30') Fulvio Tessarotto (INFN - Trieste)

12:30 Design, Construction, Operation and Performance of the Hadron Blind Detector for the PHENIX Experiment at RHIC (30') Itzhak Tserruya (Weizmann Institute of Science)

13:00	lunch (1h30')
-------	---------------

14:30→15:00 Cherenkov Imaging in particle and in nuclear physics experiments  
(Convener: Roger Forty (CERN), Blair Ratcliff (SLAC))

14:30 The NA62 RICH detector (30') Massimo Lenti (INFN)

15:00→16:00 Cherenkov detectors in astroparticle physics (1)  
(Convener: Werner Hofmann (MPI-Kernphysik, Heidelberg), Gregory Hallewell (CPPM))

15:00 Astrophysics with the H.E.S.S. Cherenkov Telescopes (30') Petter Hofverberg (MPI-K Heidelberg)

15:30 The ANTARES Deep-Sea Neutrino Telescope: Operation and Calibration (30') Heide Costantini (INFN-Genova)

16:00	coffee break (30')
-------	--------------------



## Monday 03 May cont'd

- 16:30→18:30 Cherenkov detectors in astroparticle physics (1)  
(Convener: Werner Hofmann (*MPI-Kernphysik, Heidelberg*), Gregory Hallewell (*CPPM*))
- 16:30 Gigaton Volume Detector in Lake Baikal (30') Vladimir Aynutdinov (*INR RAS*)
- 17:00 The Major Atmospheric Gamma Ray Imaging Cherenkov Telescope (30') Markus Garczarczyk (*IAC*)
- 17:30 The AMS-02 RICH detector: performance during ground-based data taking at CERN (30') Rui Pereira (*LIP Lisbon*)
- 18:00 Measurement of the Shower Maximum for Cosmic Ray showers above 10TeV using Two Cherenkov Telescopes at ARGO site in Tibet (25') jiali liu (*Institute of High Energy Physics, Chinese Academy of Sciences.*)

## Tuesday 04 May 2010

- 09:00→10:15 Cherenkov detectors in astroparticle physics (2)  
(Convener: Werner Hofmann (*MPI-Kernphysik, Heidelberg*), Gregory Hallewell (*CPPM*))
- 09:00 A new 1 km<sup>2</sup> EAS Cherenkov Array in the Tunka Valley (25') Bayarto Lubsandorzhev (*Institute for Nuclear Research of RAS*)
- 09:25 The Cerenkov Telescope Array (25') Jean-Francois Glicenstein (*CEA*)
- 09:50 The KM3NeT neutrino telescope (25') Ulrich Katz (*ECAP / University of Erlangen*)
- 10:15→10:35 Poster Session 1 (Summary) Peter Krizan (*University of Ljubljana*)
- Cherenkov Detectors in Nuclear, Particle Physics and Astroparticle Physics; Photon Detection Techniques
- Poster sessions Tuesday 4th and Wednesday 5th

### 10:35 Coffee break / Poster Session 1 (25')

- 11:00→11:25 Cherenkov detectors in astroparticle physics (2)  
(Convener: Werner Hofmann (*MPI-Kernphysik, Heidelberg*), Gregory Hallewell (*CePPM*))
- 11:00 Results of the prototype camera for FACT (25') Thomas Krähenbühl (*ETH Zurich*)
- 11:25 Status and perspectives of solid state photon detectors (45') Samo Korpar (*University of Maribor, Slovenia*)
- 12:15→13:05 Photon detection for Cherenkov Counters - solid state and hybrid devices  
(Convener: Christian Joram (*CERN / PH Department*), Antonello Di Mauro (*CERN*))
- 12:15 Operating the Hybrid Photon Detectors in the LHCb RICH counters (25') Ross Young (*Edinburgh University*)
- 12:40 Module of Silicon Photomultipliers as a single photon detector of Cherenkov photons (25') Rok Pestotnik (*Jozef Stefan Institute*)

### 13:05 lunch (1h25')

### 14:30→17:00 Boat visit to 'Les Calanques de Cassis' (Cassis harbour)

**2 Boats will leave from Cassis harbour at 14:30.**

### 17:00 Coffee break / Poster Session 1 cont'd (30')

- 17:30 Other PID techniques (45') Jerry Vavra (*SLAC*)
- 18:15 Recent advances in the development of gaseous detectors and MPGDs (45') Leszek Ropelewski (*CERN*)

## Wednesday 05 May 2010

- 09:00→09:25 Photon detection for Cherenkov Counters - solid state and hybrid devices  
(Convener: Christian Joram (*CERN / PH Department*), Antonello Di Mauro (*CERN*))
- 09:00 Study of 144 Channel Multi-Anode Hybrid Avalanche Photo-Detector For the Belle-II RICH Counter (25') Ichiro Adachi (*KEK*)
- 09:25 Status and perspectives of gaseous photon detectors (45') Silvia Dalla Torre (*INFN - Trieste*)
- 10:10→10:40 Photon detection for Cherenkov Counters - gaseous devices
- 10:10 THGEM/CsI: a potential UV-photon detector for RICH (30') Amos Breskin (*Weizmann Institute of Science, Rehovot, Israel*)
- 10:40 Coffee break / Poster Session 1 cont'd (30')
- 11:10→12:30 Photon detection for Cherenkov Counters - gaseous devices
- 11:10 Development of a gaseous PMT with micro-pattern gas detectors (25') Takayuki SUMIYOSHI (*Tokyo Metropolitan University*)
- 11:35 R&D on CsI-TGEM based photodetector (25') Vladimir Peskov (*CERN, Geneva (Switzerland) and UNAM Mexico*)
- 12:00 Progress towards a THGEM-based detector of single photons (25') Stefano Levorato (*INFN sez. di Trieste*)

## 12:30 Lunch (1h30')

- 14:00 Status and perspectives of Vacuum-based photon detectors (45') Toru Iijima (*Nagoya University*)
- 14:45→15:45 Photon detection for Cherenkov Counters - vacuum based devices
- 14:45 Systematic Studies of Microchannel Plate PMTs (30') Albert Lehmann (*Universität Erlangen-Nürnberg*)
- 15:15 Development of Sub-Nanosecond, High Gain Structures for Time-Of-Flight Ring Imaging in Large Area Detectors (25') Matthew Wetstein (*Argonne National Laboratory / Enrico Fermi Institute, University of Chicago*)

## 15:55→23:00 Bandol wine Tasting, Concert and Banquet (Domaine Bunan)

**Please note: Busses for the Bandol winery will leave from Cassis at 16:00 sharp!**

## Thursday 06 May 2010

- 09:00→10:25 Novel Cherenkov imaging techniques
- 09:00 Particle Identification for the PANDA Detector (30') Carsten Schwarz (*GSI*)
- 09:30 Detector concept combining Cherenkov and TOF information (25') Mat Charles (*University of Oxford*)
- 09:55 The time-of-propagation counter for Belle II (30') Kurtis Nishimura (*University of Hawaii*)
- 10:25→10:45 Poster Session 2 (Summary) Peter Krizan (*University of Ljubljana*)
- Novel Detectors, Technology Issues, Pattern Recognition & Data Analysis, R&D Future Detectors  
Posters sessions Thursday 6th and Friday 7th May
- 10:45 Coffee break / Poster Session 2 (30')
- 11:15 Technology issues in the Cherenkov light imaging (45') Clara Matteuzzi (*INFN and Università Milano-Bicocca*)

12:00→13:00 Technological aspects of Cherenkov detectors

Morning half-session

- 12:00 The use of saturated fluorocarbon fluids in high energy physics (30') Gregory Hallowell (Centre de Physique des Particules de Marseille)
- 12:30 The ALICE HMPID Detector Control system, its evolution towards an expert and adaptative system (25') Giacinto de Cataldo (INFN sez. Bari Italy and CERN CH)

13:00 Lunch (1h30')

14:30→15:25 Technological aspects of Cherenkov detectors

Morning half-session

- 14:30 Alignment and monitoring of the LHCb RICH detectors with data (30') Christopher Blanks (Imperial College, London)
- 15:00 Mirrors alignment control at Compass RICH-1 detector (25') Lukas Steiger (Technical University of Liberec)

15:25→16:15 Pattern recognition and data analysis

- 15:25 First identified charged hadrons with the HMPID detector in the ALICE experiment at LHC (25') Domenico Di Bari (Dipartimento IA di Fisica and INFN - Bari)
- 15:50 Measuring the masses of the charged hadrons using a RICH as a precision velocity spectrometer (25') Peter Cooper (Fermilab)

16:15 Coffee break / Poster Session 2 cont'd (30')

16:45→18:20 Pattern recognition and data analysis

- Method of identification of rings in spectra from RICH detectors using the deconvolution based pattern recognition algorithm (25') Vladislav Matoušek (Institute of Physics, Slovak Academy of Sciences)
- 17:10 Pattern recognition for TOP counter (25') Marko Staric (Jozef Stefan Institute Slovenia)
- 17:35 Particle identification with a track fit chi-square (25') Ferenc Sikler (KFKI Research Institute for Particle and Nuclear Physics)
- 18:00 Reconstruction and Particle Identification Performance of the LHCb RICH detector (20') Andrew Powell (University of Oxford)

18:20→18:50 Research and Development for future detectors

- 18:20 GasToF: A picosecond resolution ToF detector at the LHC. (25') Krzysztof Piotrkowski (UCLouvain/CERN)

19:00→20:00 RICH2010 ISAC Closed Meeting

## Friday 07 May 2010

09:00-→10:30 Research and Development for future detectors

- 09:00 The VHMPID RICH upgrade project for ALICE at LHC (25') Antonello Di Mauro (CERN)
- 09:25 New Focusing DIRC for Super B (25') Jerry Vavra (SLAC)
- 09:50 R&D towards the MEMPHYS detector (25') Thomas Patzak (Université Paris Diderot Paris 7)

10:30 Coffee break / Poster Session 2 cont'd (30')

11:00-→12:10 Research and Development for future detectors

- 11:00 Focusing Aerogel RICH for particle identification and momentum measurement. (25') Evgeniy Kravchenko (Budker Institute of Nuclear Physics)
- 11:25 Development of a RICH detector for electron identification in CBM (20') Claudia Hoehne (GSI - for the CBM collaboration)
- 11:45 TOP counter prototype R&D (25') Kenji Inami (Nagoya University)
- 12:10 Workshop highlights (45') Blair Ratcliff (SLAC)
- 12:55 Thanks, Closeout, announcement of location of next RICH workshop (05') Eugenio Nappi (INFN)

## **Poster Sessions 1: Titles and Presenters**

**Cherenkov Detectors in Nuclear, Particle and Astroparticle Physics; Photon Detection Techniques**  
Poster sessions Tuesday 4<sup>th</sup> and Wednesday 5<sup>th</sup> May

Comparison of Candidate Secondary Electron Emission Materials	Valentin Ivanov (Muons, Inc.)
Gain and Time Resolution Simulations in Saturated MCP Pores	Valentin Ivanov (Muons, Inc.)
Photonis MCP-PMT as a Light Sensor in the Belle II Aerogel Radiator RICH	Peter Krizan (University of Ljubljana and J. Stefan Institute)
Calibration and Optimization techniques for a Very Large Volume Cherenkov Neutrino Detector using Extensive Air Showers	Antonios Leisos, Apostolos Tsirigotis (Hellenic Open University)
Large area photodetectors for Astroparticle Physics Cherenkov arrays: PMTs vs HPDs	Bayarto Lubsandorzhev (Institute for Nuclear Research of RAS)
Pinhole Camera for Observation of Transient Luminous Events in the Atmosphere.	oscar martinez (Universidad autonoma de puebla)
Cherenkov, Co-operation with International Scientific Community.	Elena Pavlovna Cherenkova (P.N.Lebedev Physical Institute of the Russian Academy of Sciences)
Novel Large Format Sealed Tube Microchannel Plate Detectors for Cherenkov Timing and Imaging	Oswald Siegmund (University of California)
New Electronics for the Cherenkov Telescope Array	Serguei Vorobiov (LPTA UMR 5207 CNRS & UM2)
Background radiation measurement with Water Cherenkov Detectors	Xavier Bertou (Centro Atomico Bariloche)
Detector and Electronics R&D for picosecond resolution, single photon detection and imaging	Thomas Conneely (University of Leicester and Photek LTD)
Application of Geiger-mode photo sensors in Cherenkov detectors	Johann Marton (Stefan Meyer Institute)
Thick-COBRA, a New Thick-Hole Concept for Ion Back Flow Reduction	Joao Veloso (I3N, Physics Department - University of Aveiro)
FACT - the first Cherenkov Telescope using a G-APD Camera for TeV Gamma-ray Astronomy	Thomas Krähenbühl (ETH Zurich)
PMT Characterisation for the KM3NeT Project	Oleg Kalekin (Erlangen Centre for Astroparticle Physics)

## Poster Sessions 2: Titles and Presenters

*Novel Detectors, Technology Issues, Pattern Recognition & Data Analysis, R&D Future Detectors*

Poster sessions Thursday 6<sup>th</sup> and Friday 7<sup>th</sup> May

GPUs for fast triggering and pattern matching at the CERN experiment NA62	Gianluca Lamanna (SNS & INFN Pisa)
Design of a disc DIRC detector for the WASA experiment	Klaus Föhl (Universität Gießen)
Silica Aerogel Cherenkov Counter for beta decay measurements	Gianpiero Gervino (Dipartimento di Fisica Sperimentale di Torino and INFN Torino)
Correlation Phenomena in the Cherenkov Radiation of multiply charged Ions	Vyacheslav Malyshevsky (Southern Federal University)
A Focussing Disc DIRC for PANDA	Euan Cowie (University of Glasgow)
Tailoring the Radiation Hardness of Fused Silica	Matthias Hoek (University of Glasgow)
Results from first beam tests for the development of a RICH detector for CBM	Juergen Eschke (GSI Darmstadt)
VHMPID detector for the ALICE experiment upgrade at LHC: simulation results from mirror segmentation studies	Giacomo Volpe (Università degli Studi di Bari & INFN Sezione di Bari)
Prototype tests for a DIRC detector at the WASA-at-COSY experiment	Adrian Schmidt (Physikalisches Institut IV, Universitaet Erlangen-Nuernberg)
Development of a CBM-RICH prototype in Pusan	JunGyu YI (Pusan National University)
The CLAS12 large area RICH detector	Marco Contalbrigo (INFN Ferrara)
The Barrel DIRC of the PANDA Experiment at FAIR	Jochen Schwiening (GSI Helmholtzzentrum für Schwerionenforschung GmbH)
Software Development of PANDA barrel DIRC	Dipanwita Dutta (GSI, Darmstadt, Germany)
Performance of the FARICH-detector for the ALICE HMPID system at CERN	Dmitry Finogeev (Andreevich)
Status of aerogel production in Novosibirsk	Alexander Danilyuk (Boreskov Institute of Catalysis)
The Cherenkov radiator system of the High Momentum Particle IDentification detector of the ALICE experiment at CERN-LHC	PASTORE COSIMO (POLITECNICO DI BARI & INFN)
Study of Transparent Silica Aerogel with High Refractive Index	Ichiro Adachi (KEK)
The LHCb RICH upgrade plans	Kim Young Min (Edinburgh University)
The LHCb RICH silica aerogel performance with LHC data	Davide L. Perego (Universita Milano-Bicocca and INFN)
Tools and Methods for simulation and evaluation of Very Large Volume Cherenkov Neutrino detectors	Apostolos Tsirigotis (Hellenic Open University)
The influence of gas refractive index to the RICH detector accuracy	Miroslav Sulc (Technical University of Liberec)
Magnetic calibration of the LHCb RICH detectors	Andrew Powell (University of Oxford)



# **RICH2010 Conference Secretariat**



Angélique Pèpe [RICH2010@cppm.in2p3.fr](mailto:RICH2010@cppm.in2p3.fr)  
Centre de Physique des Particules de Marseille,  
163 Avenue de Luminy, Case 902,  
13288 Marseille Cedex 20, France  
Tel: +33 4 91 82 72 03 Fax: +33 4 91 82 60 58

**Hotline during the conference week:  
+33 6 72 69 28 80 (inside France 06 72 69 28 80)**

## **International Scientific Advisory Committee**

Eugenio Nappi (Bari – Chair), Jacques Seguinot (Paris – Honorary),  
Jurgen Engelfried (San Luis Potosi), Silvia Dalla Torre (Trieste), Antonello Di Mauro (CERN), Roger  
Forty (CERN), Greg Hallewell (Marseille), Werner Hofmann (Heidelberg), Christian Joram (CERN),  
Peter Krizan (Ljubljana), Blair Ratcliff (SLAC), Sheldon Stone (Syracuse), Takayuki Sumiyoshi  
(Tokyo), Jaroslav Va`vra (SLAC)

## **Local Organizing Committee**

Greg Hallewell (CPPM: Chair), Angélique Pèpe (CPPM: Secretariat),  
Magali Damoiseaux (CPPM: Communications), Dirk Hoffmann (CPPM: Technical infrastructures),  
Eric Kajfasz (Director, CPPM), Elie Aslanides (CPPM), Jose Busto (CPPM), Paschal Coyle  
(CPPM), Stavros Katsanevas (IN2P3 Paris), Olivier Leroy (CPPM), Thomas Patzak (APC Paris),  
Pascal Vernin (CEA/IRFU/SPP)

# RICH 2010

## Industrial Sponsors / Exhibitors



 Centre de Physique des Particules de Marseille  
**CPPM**

**Conference Hotline:**  
06.72.69.28.80  
(inside France)  
+336.72.69.28.80  
(outside France)

 **IN2P3**  
Les deux infinis

 **UNIVERSITÉ DE LA MÉDITERRANÉE**  
AIX-MARSEILLE II

 **cea**

 **CERN**

 **G D R**  
neutrino

 **GDR PCHE**  
Groupement de Recherche  
Phénomènes Cosmiques de Haute Energie