

## **5th International Conference on New Frontiers in Physics (ICNFP 2016)**

### **July 6 – 14, 2016, Kolymbari, Crete, Greece**

<http://indico.cern.ch/e/icnfp2016>

### **1st Bulletin**

The International Conference on new Frontiers in Physics aims to promote scientific exchange and development of novel ideas in science with a particular emphasis on interdisciplinarity. The conference will bring together worldwide experts and promising young scientists working on experimental and theoretical aspects of Particle and Nuclear physics, Astrophysics, Cosmology, Gravity, Mathematical Physics, Quantum Physics, Quantum Entanglement, studies of Foundations of Quantum Mechanics and other.

The conference will be hosted in the Conference Center of the Orthodox Academy of Crete (OAC), a beautiful location only a few meters from the Mediterranean sea. OAC offers a rare combination of a modern conference center, full accommodation with excellent local cuisine, in an inspiring environment of pure nature near Chania, the most charming city of Crete, and other cultural and natural beauties.



## Aim and Scientific program of ICNFP 2016

The conference series "**New Frontiers in Physics**" aims to promote interdisciplinarity and cross-fertilization of ideas between different disciplines addressing fundamental physics. While different fields each face a distinct set of field-specific challenges in the coming decade, a significant set of commonalities has emerged in the technical nature of some of these challenges, or are underlying the fundamental concepts involved. A Grand Unified Theory should in principle reveal this underlying relationship.

For instance, techniques from string theory have become relevant in recent years for improving perturbative techniques in high energy physics or identifying material properties of non-abelian plasmas that share essential features with the systems studied in heavy ion collisions. Fluctuation analyses of the cosmic microwave background involve techniques and concepts that are becoming increasingly relevant for the study of the quickly expanding little bangs in heavy ion collisions. Cosmological models are developed in close interplay with searches for new physics at the LHC. There is a multitude of examples illustrating that crosstalk between neighboring fields is relevant or even crucial for progress in either field.

The conference series "**New Frontiers in Physics**" aims at identifying interdisciplinary topics on which crosstalk between different disciplines of fundamental physics can contribute to further progress. The conference series aims at bringing together key scientists of different fields to discuss the state of the art and the nature of open questions in a language suitable for a physics educated interdisciplinary audience, and to discuss avenues for further progress.

## Main topics of the Conference

### A) High Energy Particle Physics:

Searches for new particles and new phenomena (Higgs boson, SUSY, top quarks, extra dimensions, flavor physics, precision electroweak measurements and other), hadron physics, neutrino physics.

### B) Heavy Ion Collisions and Critical Phenomena :

The properties of QCD matter at extreme conditions and the QCD phase diagram. Branching out to neighboring disciplines: Superconductivity, Neutron Stars, Quark Stars, Exotics.

### C) Quantum Physics and Quantum Entanglement :

Quantum Optics, foundations of Quantum Mechanics, Quantum information, Quantum Entanglement and the Universe: Black Holes and Cosmology, Quantum Non-Locality.

### D) Cosmology, Astrophysics, Gravity, Mathematical Physics :

Cosmic Microwave Background, Dark Energy, Modified Gravity, Dark Matter, Astroparticle Physics, Quantum Gravity, String Theory, Non Commutative Geometry, Holography.

While the main body of the conference builds mostly on the above mentioned topics, presentations on yet different disciplines are invited and vary every year. Such topics include nuclear structure, atomic physics, plasma physics, physics applications (biophysics, medical science), biology, mathematics, computing science and other.

**This year one of the sessions will be devoted to the memory of Guido Altarelli,  
who would be 75 on 12.07.2016.**

### **Invited speakeres:**

- **Yuri Dokshitzer**, *Pierre and Marie Curie University - Paris 6, France*
- **Lev Lipatov**, *Petersburg Nuclear Physics Institute, Russia*
- **Luciano Maiani**, *Sapienza University of Rome, Italy*
- **Giorgio Parisi**, *Sapienza University of Rome, Italy*
- **Valentin Zakharov**, *Institute of Theoretical and Experimental Physics, Russia*



## Venue

The conference will take place at the **Orthodox Academy of Crete (OAC)** in **Kolymbari** on the north coast of the west part of the island of Crete, Greece. The OAC is a modern Conference Center situated in an exceptionally beautiful location, only a few meters from the sea and next to the 17th century Gonia Monastery. Following the inauguration of the new Conference Center in November 1995, the OAC offers all the facilities necessary to meet the most demanding requirements. It provides a multi-purpose hall with a capacity for 730 persons. In addition, the OAC has 7 meeting rooms, offices for consultations, secretariats, areas for displays, posters, exhibits, and areas for outdoor events. Most facilities are air-conditioned. The OAC is fully equipped with modern technology tools to cover all conference needs.

The conference rooms are equipped with all technical means necessary even for the most demanding conferences (video projector, screen, speaker-podium with microphone, table microphones for the panel as well as standing microphones for the aisles, laser pointer, but also OH-projector, slides-projector, 30 poster boards [can be used on both sides, dimensions 1,40x1,40m and 0,90x1,40m]), etc. OAC technicians provide technical support during the whole conference. An internet room is at the disposal of the conference participants. Furthermore, the venue provides free wireless connection (in the rooms also).

**Kolymbari** is about 30 km away from **Chania**, the most beautiful city of Crete.

### Contact details:

OAC administration  
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[www.oac.gr](http://www.oac.gr)



## Deadlines

<b>Registration opening:</b>	<b>1 January 2016</b>
<b>Abstract submission opening:</b>	<b>1 January 2016</b>
<b>Abstract submission deadline:</b>	<b>30 March 2016</b>
<b>Latest abstract acceptance notification:</b>	<b>15 April 2016</b>
<b>Registration deadline:</b>	<b>5 June 2016</b>
<b>Arrival day:</b>	<b>5 July 2016</b>
<b>Departure day:</b>	<b>15 July 2016</b>
<b>Deadline for proceedings:</b>	<b>15 October 2016</b>

Payment of the conference fee will be possible also in place upon arrival.

Please note: failure to pay the conference fee within two days after arrival will result in a “late payment” penalty of 50 EUR.

## Conference registration and fees

Registration, payment of conference fee and abstract submission are possible via the conference webpage <http://indico.cern.ch/e/icnfp2016>

### The conference fees:

- 300 EURO regular
- 200 EURO student

## Proceedings

There will be peer reviewed proceedings of the conference (EPJ Web of Conferences).

## Accommodation

OAC has 60 rooms, which are all double, with either two beds or a double bed, and out of which 5 are suites. All have their own bathroom and most have a sea-view and air-conditioning. The cost, which includes accommodation at OAC, full board, coffee breaks and conference facilities is **115 Euros** per day per person in a single occupation room and **90 Euros** per person per day in a double room.

The cost for accompanying persons staying in OAC and sharing a double room is **60 Euros** per day including accommodation and meals. OAC provides breakfast and two meals per day, following the traditional Cretan cuisine.

Payments at the academy can be made in one of the three following ways:

- In cash (in Euros only). Note that there is a bank with an ATM in Kolymbari accepting VISA, Master, and Maestro cards.
- By Credit Card (Mastercard or Visa)
- By bank transfer to the OAC Bank Account and Academia Europaea - Bergen (see the conference web page).

For Bank Transfers the participants should make sure to provide their name, the name of the conference, the dates of conference and they have to send to OAC an email with a confirmation of the payment.



### OAC bank account

PIREUS BANK

Branch: 1377, Tzanakaki 82, Chania, Crete

Account holder: ORTHODOX ACADEMY OF CRETE

Address: ORTHODOX ACADEMY OF CRETE,  
GR-73006 KOLYMPARI

Account number: 6377101637911

IBAN: GR 04 0171377000 6377101637911

BIC: PIRBGRAA

with a message: ICNFP2016, Name of the participant  
or via bank transfer to:

**"Academia Europaea -Bergen"** (Den norske Bank)  
DNB bank

Torgallmenningen 2, 5020 BERGEN  
(Norsk Kontonummer: 15034464135)

Account number - IBAN: NO42 1503 4464 135

BIC/SWIFT code: DNBANOKKXXX

with the following message:

ICNFP2016, Name of the participant

## Webpage of the conference

<http://indico.cern.ch/e/icnfp2016/>

## Agenda

**The Program of the Conference foresees:**

- **Arrival** Tuesday the 5th or Wednesday the 6th July
- **Introductory (Student) Lectures** Wednesday the 6th July
- **Main part of the conference** Thursday the 7th - Thursday the 14th July
- The **Conference will be closed** on Thursday the 14th July

## Social events

We are planning to organize public talk, poster session, concert, excursion (on Sunday the 10th July) and conference dinner.

## Travel

There are many direct flights to Heraklion and Chania from various European cities.

The recommended airport, closest to the conference site, is Chania International Airport (CHQ). OAC is located 39 km west of CHQ airport. The best way to reach the conference site from the airport is by taxi. The full fare including airport surcharge is about 50 Euros. A cheaper way is by bus (line Chania - Castelli). However, the bus stop is located at a distance of about 1 km from OAC.

If you decide to fly to Heraklion, located in 165 km from OAC, you can reach the conference site by taxi (one-way fare around 140 Euros) or by bus from Heraklion to Chania (one bus per hour, line Heraklion- Rethymnon-Hania, duration about three hours) and then to the OAC as explained above.

Chania can also be reached from Athens daily by boat. The company operating the route is ANEK Lines (see ferry schedules at [this link](#)). Boats dock at Chania's port Souda bay, which is located about 7 km east of the city of Chania. From there you can reach Chania and Kolymbari by bus or taxi.



## Crete

Crete is the biggest island in Greece and the fifth in the Mediterranean. It consists of four prefectures: Chania, Rethymnon, Heraklion and Lasithi. The OAC is located at Kolymbari, a small scenic village on the coast, situated at the inlet of the homonymous bay.

Kolymbari is a waterfront village at the base of the Rodopou Peninsula with a long, pebble beach. Once a rural village with olive-trees and vineyards, today Kolymbari is a quiet, natural, holiday resort with a developing touristic village.

Kolymbari has several quality tavernas serving seafood and traditional food. You can try these special dishes in one of the downtown fish tavernas or at the waterfront next to the beach. There are few cafes and bars for a coffee or a drink. The village is served by a Post Office, the Bank of Chania, and several ATMs.

A short walk from downtown Kolymbari takes you to the 17th century Gonia Monastery, which is located 1 km to the north of the village and offers a magnificent view. The monastery was built as a fortress overlooking the bay and is surrounded by verdant vegetation. A centre of resistance during the revolution of 1821, today it hosts an important collection of precious post-Byzantine icons, relics, and other rare religious treasures.

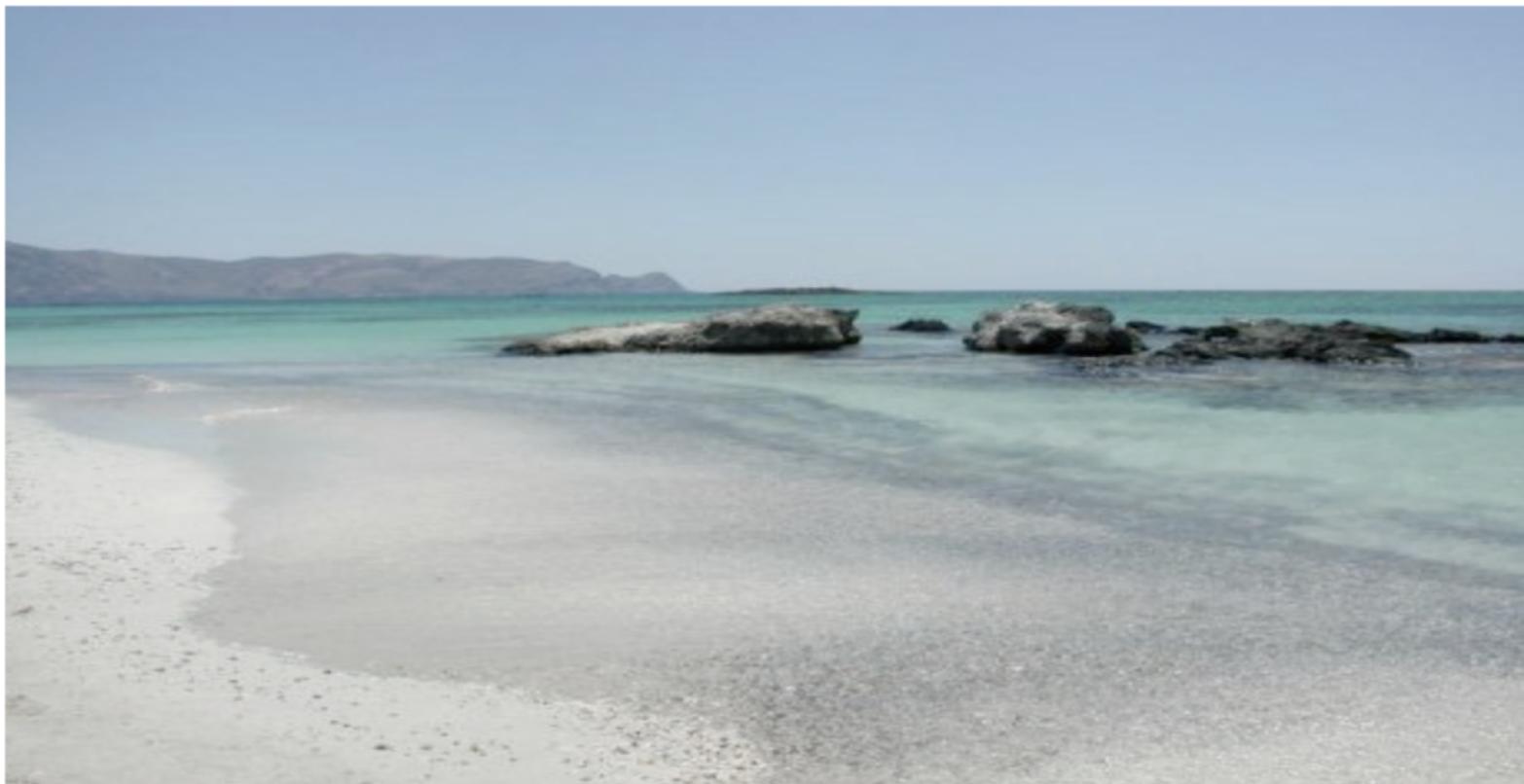
A short boat trip takes you to the north-eastern edge of the Rodopou Peninsula, where you can visit the ruins of the ancient town of Diktynna, the Gramvousa island with the Gramvousa castle at its top, and the beach Balos. (Balos can also be reached on foot from Kolymbari.)

The nearby beaches of Falasarna and Balos are regarded as two of the purest beaches of Crete. The famous Elafonissi beach is within one hour driving distance from Kolymbari.



## Weather in Crete

July is the sunniest and hottest month of the year in Crete with an average daytime temperature at a warm 26 degrees Celsius, the highest average of the year, while high peaks can go up to 29 degrees and lows never going below a comfy 22 degrees. Seawater temperatures are equally inviting, with averages floating around 24 degrees. July is a windy month, with the southern winds known as ‘sirocco’ heats the island during the day, while the famous north-western meltemi wind cools it down in the evenings.



Chrysoskalitissa - Elafonnisos

# Contacts

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