

Strasbourg, France

July 6-12, 2014

# European Summer School

Atelier de recherche franco-allemand

**European Summer Campus**

## From the Mystery of Mass to Nobel Prizes

### The Physics of the Higgs Boson

Spontaneous symmetry breaking

From condensed matter physics to the Higgs

The Standard Model (SM) and the Higgs mechanism

Discovery and characterization of the Higgs Boson

Analysis strategies and methods

The ATLAS and CMS experiments at the LHC

Detectors and accelerators for more discoveries

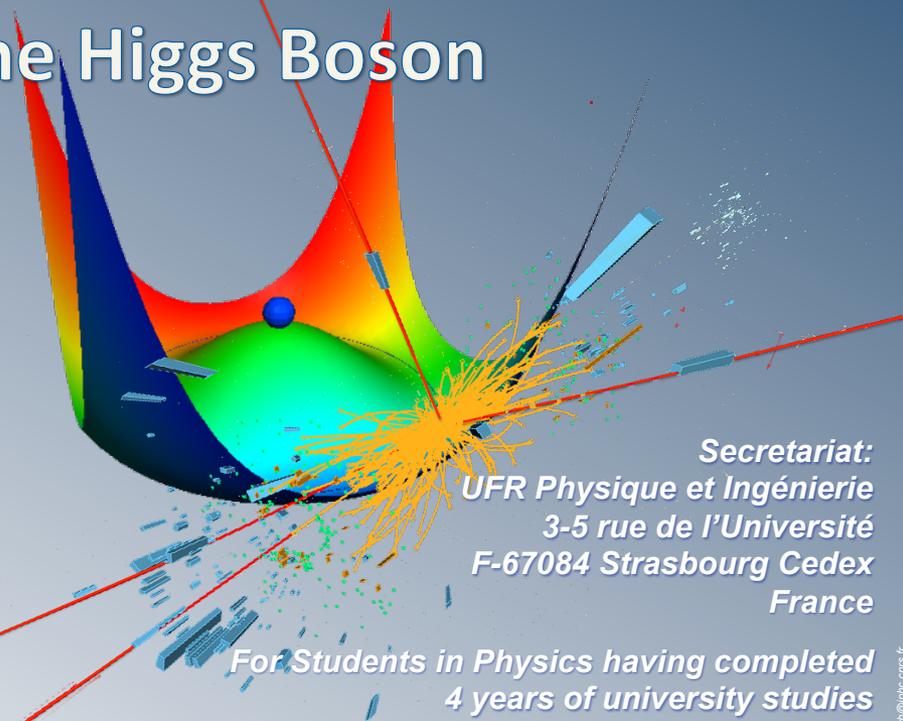
The future of the LHC, ILC and other machines

Neutrino masses and theories beyond the SM

Symmetry breaking and cosmology,

Higgs mechanism and Inflation

Working groups



Secretariat:  
UFR Physique et Ingénierie  
3-5 rue de l'Université  
F-67084 Strasbourg Cedex  
France

For Students in Physics having completed  
4 years of university studies

<http://esc.u-strasbg.fr>



### Monday 7/07/2014

<b>Morning 9h00-9h30</b>	<b>9h30-10h15</b>	<b>10h45 – 12h30</b>	
<b>Catherine Florentz</b> , Vice-president for research, Université de Strasbourg <b>Abdel-Mjid</b> <b>Nourreddine</b> , directeur UFR Physique et Ingénierie	<b>Alan Guth</b> (Video transmission from ICHEP 2014) <i><b>Inflationary Cosmology and Particle Physics</b></i>	<b>Margarete Mühlleitner</b> (KIT)  <i><b>The Higgs Mechanism part 1</b></i>	
<b>14h00-15h45</b>	<b>16h15-17h15</b>	<b>17h15-18h00</b>	<b>Evening 18h30</b>
<b>J.M. Brom</b> <i><b>Experimental Challenges 1 LHC and detectors</b></i>	<b>W. Rodejohann</b> <i><b>Lepton mixing and Neutrino masses 1</b></i>	<b>Presentation Poster session</b>	<b>Reception UFR physique</b>

***Abdel-Mjid Nourreddine,***  
***Directeur UFR Physique et Ingénierie***

***Catherine Florentz,***

***Vice-president for Research and doctoral studies  
of the University of Strasbourg***



# ***The Participating Institutes***

- **Faculty of Physics and Engineering (UFR) of the University of Strasbourg (UdS),**
- **Institute Pluridisciplinaire Hubert Curien (IPHC)**
- **Institut für Experimentelle Kernphysik, Karlsruher Institut für Technologie (KIT)**

# **Faculty of Physics and Engineering (UFR) of the University of Strasbourg (UdS),**

- **About 800 students and 250 PhD students**
- **About 120 university teachers and 100 externals**
- **Several major research laboratories associated with the UFR : IPCMS, IPHC, ICS and ICube, in all over 700 researchers**
- **Several other physics laboratories of CNRS (Astronomical Observatory, ISIS, many interdisciplinary programmes)**
- **5 Bachelor (Licence) programmes, 3 Masters with 8 research specialisation and 6 specialisation oriented towards “industrial” employment**

# CNRS

The *Centre National de la Recherche Scientifique* (National Center for Scientific Research) is a public organization under the responsibility of the French Ministry of Higher Education and Research

- Largest fundamental research organization in Europe,
- Research in all fields of knowledge, through its seven institutes
  - Institute of Biological Sciences (INSB)
  - Institute of Chemistry (INC)
  - Institute of Ecology and Environment (INEE)
  - Institute for Humanities and Social Sciences (INSHS)
  - Institute for Information Sciences and Technologies (INS2I)
  - Institute for Engineering and Systems Sciences (INSIS)
  - Institute of Physics (INP)
- Three national institutes:
  - National Institute for Mathematical Sciences (INSMI)
  - National Institute of Nuclear and Particle Physics (IN2P3)
  - National Institute for Earth Sciences and Astronomy (INSU)

## Scientific Programme

We are at a European Summer School and a French-German research workshop organized by the Physics Department of the University and the Institut Pluridisciplinaire Hubert Curien (IPHC) in collaboration with the Institut für Experimentelle Kernphysik (IEKP) of the KIT-KCETA in Karlsruhe .

Scientific topic is the Physics of the Higgs Boson discovered at the LHC

- Working groups
- Poster session
- Visit to labs at KIT

We would like to stimulate discussions between you, the other students, but also, very important, with the lecturers and the other researchers present

– **PLEASE DO ASK QUESTIONS!!!**

*Don't be afraid to speak incorrect English*

You are coming from many countries with many different nationalities

# Poster session

	Title	Family Name	First name	Country
1	Ms.	AKBIYIK	Melike	GERMANY (DE)
2	Mr.	BENETTI	Monã	ITALY (IT)
3	Mr.	BICZAK	Maciej	POLAND (PL)
4	Mr.	BINDER	Tobias	GERMANY (DE)
5	Ms.	BLAZHENETS	Ganna	UKRAINE (UA)
6	Mr.	EMOND	William	UNITED KINGDOM (UK)
7	Mr.	HAMON	Julien	FRANCE (FR)
8	Ms.	HETMAN	Valeriia	UKRAINE (UA)
9	Mr.	KALE SAYI	Kenny	FRANCE (FR)
10	Mr.	KUZNIETSOV	Pylyp	UKRAINE (UA)
11	Mr.	LI	Yichen	FRANCE (FR)
12	Mr.	LÖSCHNER	Maximilian	GERMANY (DE)
13	Mr.	LUEDTKE	Christian	GERMANY (DE)
14	Ms.	MALKO	Sophia	UKRAINE (UA)
15	Mr.	MOYNIHAN	Nathan	UNITED KINGDOM (UK)
16	Mr.	OLSZEWSKI	Michal	POLAND (PL)
17	Ms.	ONDERKO	Zuzanna	POLAND (PL)
18	Mr.	PATT	Antoine	FRANCE (FR)
19	Mr.	SCHWABE	Bodo	GERMANY (DE)
20	Mr.	SPOREA	Adrian Ciprian	ROMANIA (RO)
21	Ms.	TURIANSKA	Olena	UKRAINE (UA)
22	Ms.	VOLKOVA	Alisa	UKRAINE (UA)
23	Mr.	VOLOLONIAINA	Narisoa	FRANCE (FR)
24	Mr.	YANG	Chaoming	UNITED KINGDOM (UK)
25	Mr.	YERMAKOV	Oleh	UKRAINE (UA)
26	Ms.	ZELENINA	Irina	UKRAINE (UA)
27	Mr.	ZLYGOSTIEV	Mykola	UKRAINE (UA)



## Cultural and Social Programme

- Important part of the European Summer Campus
- Learn about Europe, the European Union and other countries (from the **other** students)
- Learn about Alsace
- Use the (little) free time to explore Strasbourg



# *Organization*

## How does it work

- **Conference Secretariat: Monique Dell**
- **Programme and Organizing Committee, working groups**
  - A. Allul, L. Basso, J. Baudot, A. Besson, D. Bloch, JM. Brom, C. Collard, E. Conte, M. Dracos, M. Rausch,
  - Th. Müller, U. Husemann, U. Nierste
- **Technical Support**
  - N. Busser (WWW), B. Speckel,
  - N. Rudolf and Ch. Helfer (vidéo recording)
  - P. Gilbert, (Finance, papers)
  - S. Prohaska (Preparation of bags)
  - **Many others (coffees etc.)**