



Con il patrocinio dell'Università degli Studi di Modena e Reggio Emilia
e del Dipartimento di Scienze Fisiche, Informatiche e Matematiche

In the Higgs era.

A new travel in the infinitesimal architecture of the elementary particles

Photographic exhibition and book presentation:



THE RINGS OF KNOWLEDGE. INFN x LHC.

The Italian contribution to the world's largest particle physics research project at CERN, Geneva

GLI ANELLI DEL SAPERE. INFN x LHC.

Il contributo italiano alla più grande ricerca sulla fisica delle particelle al CERN di Ginevra

Istituto Nazionale di Fisica Nucleare / CERN / Dept. Design
- Politecnico di Milano / ed.Abitare Segesta RCS Mediagroup

CERN (European Organization for Nuclear Research) in Geneva is the largest particle physics laboratory, where scientists from all over the world have spent decades studying the particles that constitute matter, through a series of international programs. In 2008, a new series of experiments was launched to understand fully the nature of elementary particles and their interactions. This opened unprecedented opportunities to understand both the forces that hold together the matter of which we are made and the Universe's origins and evolution.

After the construction of the giant Large Hadron Collider (LHC), the largest particle accelerator in the world (a 27-km long underground ring equipped with highly sophisticated detectors), the two large experiments ATLAS and CMS investigated the collisions of high-energy subatomic particles and discovered the existence of the Higgs Boson (2012).

Following this experimental discovery, the Nobel Prize in Physics 2013 has been awarded to Francois Englert and Peter Higgs, who, in collaboration with Robert Brout, had introduced the theoretical mechanism which contributes to our understanding of the origin of the elementary particles mass and which predicted the existence of this new particle.

The book and the exhibition present a fascinating photographic survey describing the essential phases of constructing the LHC accelerator and the colossal equipment to perform the four main experiments.

They are enriched by a sophisticated, experimental graphic design and the stories of the Italian scientists from the INFN (National Institute of Nuclear Physics), who made vital contributions to the project and constructing the LHC and by descriptions illustrating the important contribution that Italian companies made to this major project, demonstrating Italy's competitive capacity for excellence in the most important technological undertakings in Europe.

The exhibition also shows visual representations of some proton-proton collision events recorded by LHC experiments.

Opening and presentation talk:

Modena, 3th november 2014 4p.m.

**FIM Department, University of Modena and Reggio Emilia
Edificio Fisica, first floor; via G. Campi 213/a,**

Speakers:

- prof. **Sergio Valeri**, Director of Dipartimento di Scienze Fisiche, Informatiche e Matematiche
- prof. **Andrea Bizzeti**, Associate Professor in Nuclear and Subnuclear Physics, University of Modena and Reggio Emilia, Dipartimento di Scienze Fisiche, Informatiche e Matematiche
- **Federico Brunetti**, editor of the book, Arch. PhD. Scuola del Design, Politecnico di Milano
Visiting professor and photographer;

under the supervision of Ufficio Comunicazione INFN
www.infn.it/comunicazione <http://cern60.web.cern.ch/en>

The exhibition will be open until: 28.11.2014
Monday to friday, 9:30 am to 5 pm

Groups of more than 20 people are required to contact in advance the organizers, e-mail:
Andrea.Bizzeti@unimore.it

With visual technical support of EPSON Italia

and Modena industrial district Partners of the Book:



www.euomeccsrl.eu

and kind collaboration of: Livio Scalmati

The book will be available at bookshop: **ATHENA Audiovisuals**
Via G. Campi 284/a 41125 Modena - Italy
tel. 059 370842 athena@athenamedica.com

www.glianellidelsapere.info www.theringsofknowledge.info
info: federico.brunetti@polimi.it



www.sciencecommunicationdesign.eu/events.php