

# **32nd HEIDELBERG PHYSICS GRADUATE DAYS** 7–11 APRIL, 2014 AT THE DEPARTMENT OF PHYSICS AND ASTRONOMY



Courses are conceived for advanced students in physics, in particular for doctoral, masters or diploma students. The goal of the lecture series is to expand the general knowledge of students and to deepen their understanding of special topics and methods. Each course runs every day for five days either in a morning or afternoon slot.

#### **MORNING COURSES** MONDAY TO FRIDAY, 9:30-12:30

(THERMO) DYNAMICS OF LATTICE BOSONS **Pierfrancesco Buonsante,** QSTAR Center and CNR-INO Firenze

INFLATIONARY MODELS AND THEIR OBSERVATIONAL TESTS IN THE COSMIC MICROWAVE BACKGROUND Chris Byrnes, University of Sussex Björn Malte Schäfer, Heidelberg University

GPU COMPUTING Holger Fröning, Heidelberg University

GEOMETRY AND TOPOLOGY IN PHYSICS **Timo Weigand**, Heidelberg University

DARK MATTER Joachim Kopp, Max-Planck-Institut für Kernphysik

ANALYZING PERSONAL POTENTIAL FOR YOUR CAREER **Ute Leidig**, Heidelberg University

#### **AFTERNOON COURSES** MONDAY TO FRIDAY, 14:00–17:00

NUCLEAR ASTROPHYSICS Almudena Arcones, GSI, Darmstadt Camilla Juul Hansen, Heidelberg University

APPLICATIONS OF FREE-ELECTRON LASERS IN PHYSICS, CHEMISTRY, AND BIOLOGY José Ramón Crespo López-Urrutia, Max-Planck-Institut für Kernphysik Daniel Rolles and Robin Santra, DESY, Hamburg

DYNAMIC THERMALIZATION **Boris Fine,** Nazarbayev University, Astana, Kazakhstan

QUANTUM KEY DISTRIBUTION: FROM PRINCIPLES TO IMPLEMENTATIONS **Norbert Lütkenhaus**, University of Waterloo, Canada

EXPERIMENTAL ASPECTS OF MOLECULAR ELECTRONICS Elke Scheer, University of Konstanz

NEUTRINO ASTRONOMY AND ICECUBE Sebastian Böser, University of Bonn

#### **ADDITIONAL LECTURE** MONDAY, 07.04. 2014, 17:30

POWERING AUTOS TO 2020 – A STRATEGIC PERSPECTIVE ON E-MOBILITY **Albert Waas**, The Boston Consulting Group

## FOLLOWED BY A GENERAL WELCOME PARTY

For registration and further information, see http://gsfp.physi.uni-heidelberg.de/graddays

### **STUDENT REPRESENTATIVES' WELCOME** TUESDAY, 08.04. 2014, 17:15

Walter Hahn, Puneet Murthy

#### HANS JENSEN INVITED LECTURE THURSDAY, 10.04. 2014, 17:30

THE BOUNDARY LINE BETWEEN QUANTUM MECHANICS AND CLASSICAL LOGIC Gerard 't Hooft, Utrecht University

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FOLLOWED BY THE D-FINE BARBECUE

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