



38th HEIDELBERG PHYSICS GRADUATE DAYS

APRIL 10–13, 2017

AT THE DEPARTMENT OF PHYSICS AND ASTRONOMY



UNIVERSITÄT HEIDELBERG

ZUKUNFT SEIT 1386

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 four days either in a morning or afternoon slot.

MORNING COURSES MONDAY TO THURSDAY, 9:30–12:30

CORRELATED QUANTUM DYNAMICS OF ULTRACOLD FEW- TO MANY-BODY SYSTEMS

Peter Schmelcher, University of Hamburg

QUANTUM FIELD THEORY IN EXTREME ENVIRONMENTS

Kenji Fukushima, The University of Tokyo

SOLAR SYSTEM EXPLORATION MISSIONS AND THEIR SCIENTIFIC OUTCOME

Tra-Mi Ho, DLR-Institute of Space Systems, Bremen

BLACK HOLES AND QUANTUM GRAVITY CONSTRAINTS ON FIELD THEORIES

Pablo Soler, Heidelberg University

GREENHOUSE GASES AND CLIMATE CHANGE: INSIGHTS INTO THE GLOBAL CARBON CYCLE USING ISOTOPE STUDIES

Samuel Hammer, Heidelberg University

ANALYZING PERSONAL POTENTIAL FOR YOUR CAREER

Ute Leidig, Heidelberg University

AFTERNOON COURSES MONDAY TO THURSDAY, 14:00–17:00

THE FORMATION OF STRUCTURE IN COSMOLOGY

John Peacock, University of Edinburgh

PHYSICS WITH A FEW ATOMS, PHOTONS AND PHONONS

Manas Mukherjee, National University of Singapore

APPLICATIONS OF GROUP THEORY IN PHYSICS

Carsten Müller, Heinrich Heine University Düsseldorf

BASICS OF ION BEAM THERAPY AND APPLICATIONS

Gerhard Kraft, Wilma Kraft-Weyrather, GSI Darmstadt

MACHINE LEARNING IN SCIENCE AND INDUSTRY

Alex Rogozhnikov, Tatiana Likhomanenko, Yandex, Moscow

INTRODUCTION TO QUANTUM DYNAMICS IN ATOMS, MOLECULES AND SOLIDS

Maurits Haverkort, Heidelberg University

ADDITIONAL LECTURE

MONDAY, APRIL 10, 2017, 17:30

CAREER OPPORTUNITIES IN CONSULTING AND DEEP LEARNING

Engelbert Quack, Hinnerk Gildhoff, SAP SE, Walldorf

FOLLOWED BY A **GENERAL WELCOME PARTY**

STUDENT REPRESENTATIVES' WELCOME

TUESDAY, APRIL 11, 2017, 17:15

HANS JENSEN INVITED LECTURE

WEDNESDAY, APRIL 12, 2017, 17:30

QUANTUM SIMULATION WITH QUANTUM OPTICAL SYSTEMS – ATOMIC PHYSICS MEETS CONDENSED MATTER AND HIGH ENERGY PHYSICS

Peter Zoller, University of Innsbruck

FOLLOWED BY THE **D-FINE BARBECUE**

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



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