HGSFP

42nd HEIDELBERG PHYSICS GRADUATE DAYS APRIL 8 –12, 2019

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 five days either in a morning or afternoon slot.

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

RANDOM MATRICES: UNIVERSALITY IN DISORDERED QUANTUM SYSTEMS
Torben Krüger, University of Bonn

PAST, PRESENT AND FUTURE CHALLENGES IN THE DETERMINATION OF THE STRUCTURE OF THE PROTON
Maria Ubiali, University of Cambridge

SHINING LIGHT ON QUANTUM MATERIALS: LESSONS FROM OPTICAL SPECTROSCOPY
Ana Akrap, Université de Fribourg

APPLICATIONS OF NMR IN BIOMEDICINE
Lothar Schad and Mathias Davids, Heidelberg University

CLIMATE SCIENCE AND ITS IMPLICATIONS
Werner Aeschbach, Heidelberg University

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

FROM COSMOLOGICAL OBSERVATIONS TO DARK ENERGY AND MODIFIED GRAVITY
Andy Taylor, University of Edinburgh

INTRODUCTION TO PYTHON FOR PHYSICISTS
Thomas Erben, University of Bonn

PROTOCELLS AND THE ORIGIN OF LIFE
Judith Peters, Université Grenoble Alpes

COMPUTATIONAL APPROACHES FOR QUANTUM MANY-BODY SYSTEMS
Martin Gärttner, Heidelberg University

ADDITIONAL LECTURE
MONDAY, APRIL 8, 2019, 17:30

FROM PHYSICS TO MACHINE LEARNING
Björn Andres, Bosch Center for AI

FOLLOWED BY A **GENERAL WELCOME PARTY**

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

STUDENT REPRESENTATIVES' WELCOME
TUESDAY, APRIL 9, 2019, 17:15

HANS JENSEN INVITED LECTURE
THURSDAY, APRIL 11, 2019, 17:30

QUANTUM LEGO: BUILDING AND EXPLORING QUANTUM MATTER ATOM BY ATOM
Markus Greiner, Harvard University

FOLLOWED BY THE **D-FINE BARBECUE**

Published by the Central Office of the Heidelberg Graduate School for Physics, INF 226, 69120 Heidelberg,

MAX-PLANCK-INSTITUT FÜR KERNPHYSIK

Center for Quantum Dynamics

d-fine

PHOTO: CPN / FOTOLIA / STOCK.ADOBE.COM, COMPOSITION AND GRAPHIC DESIGN: ANKE HEINZELMANN