HGSFP

45th HEIDELBERG PHYSICS GRADUATE DAYS OCTOBER 5–9, 2020

AT THE DEPARTMENT OF PHYSICS AND ASTRONOMY

UNIVERSITÄT HEIDELBERG
ZUKUNFT SEIT 1386

Courses are conceived for advanced students in physics, in particular for doctoral or masters 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

MODERN GALACTIC DYNAMICS IN THE ERA OF PLENTIFUL DATA
Eugene Vasiliev, University of Cambridge

ASYMPTOTIC SAFETY IN PARTICLE PHYSICS AND QUANTUM GRAVITY
Manuel Reichert, University of Southern Denmark, Odense

BATTERIES – FROM THE BASIC CONCEPT THROUGH THE PRESENT SYSTEM TO FUTURE APPLICATIONS
Karin Kleiner, University of Münster

FIELD THEORY OF DISSIPATIVE QUANTUM SYSTEMS
Jamir Marino, Johannes Gutenberg University Mainz

NEUTRINO ASTROPHYSICS AND ASTRONOMY
Irene Tamborra, University of Copenhagen

THE PHYSICAL BASIS OF CLIMATE CHANGE
André Butz, Heidelberg University

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

PHOTOVOLTAICS AND THE RENEWABLE TRANSFORMATION OF OUR ENERGY SYSTEM
Eicke R. Weber, University of California, Berkeley
Hans-Martin Henning, Lara Theiss, Fraunhofer ISE, Freiburg

AN INTRODUCTION TO GRAVITATIONAL-WAVE ASTROPHYSICS
Pau Amaro Seoane, Universitat Politècnica de València

QUANTUM INFORMATION PROCESSING WITH SUPERCONDUCTING CIRCUITS
Ioan Pop, KIT – Karlsruhe Institute of Technology

THE HOMOLOGY OF DATA
Nina Otter, UCLA – University of California, Los Angeles

THE PROTON, THE LEPTOQUARK, AND THE GRAVITON: SUBSTRUCTURE AND DISCOVERIES
Axel Maas, University of Graz

WHEN SMART MATTERS: BRINGING DIGITAL TECHNOLOGIES TO LIFE IN INDUSTRY AND FINANCE
Team d-fine, d-fine, Frankfurt am Main

ADDITIONAL LECTURE
MONDAY, OCTOBER 5, 2020, 17:30

FROM REUTLINGEN TO SPACE
Lisa Haas, Robert Bosch GmbH Reutlingen

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

STUDENT REPRESENTATIVES' WELCOME
TUESDAY, OCTOBER 6, 2020, 17:15

HANS JENSEN INVITED LECTURE
THURSDAY, OCTOBER 8, 2020, 17:30

TOPOLOGICAL INSULATORS: A NEW STATE OF MATTER
Laurens Molenkamp, University of Würzburg

Please see our website for info on precautionary measures due to COVID-19

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