



# 41st HEIDELBERG PHYSICS GRADUATE DAYS

OCTOBER 8-12, 2018

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

STOCHASTIC PROCESSES, HYDRODYNAMICS AND ACTIVE MOTION  
**Roland Winkler**, Forschungszentrum Jülich

AXIONS  
**David J. E. Marsh**, University of Göttingen

B-PHYSICS: FROM THE SM FLAVOUR STRUCTURE TO NEW DISCOVERIES  
**Johannes Albrecht**, TU Dortmund

EXPLORING THE MILKY WAY: STATISTICAL ANALYSIS OF GAIA DATA  
**Jan Rybizki**, **Maria Süveges**, Max Planck Institute for Astronomy

QUANTUM DYNAMICS WITH X-RAYS  
**Adriana Pálffy**, Max-Planck-Institut für Kernphysik

PRESENTING RESEARCH RESULTS  
**Ute Leidig**, Heidelberg University

## AFTERNOON COURSES MONDAY TO FRIDAY, 14:00-17:00

ENTANGLEMENT IN QUANTUM MANY-BODY SYSTEMS  
**Norbert Schuch**, Max Planck Institute of Quantum Optics, Garching

PARTICLE PHYSICS WITH ORBIT BASED INSTRUMENTS  
**Stephan Zimmer**, University of Innsbruck

MORE PHYSICS IN LESS DIMENSIONS: TOPOLOGICAL PHASE TRANSITIONS, CRITICAL PHENOMENA FAR FROM THERMAL EQUILIBRIUM, AND GOLDSTONE-MODES IN 2D COLLOIDAL MONOLAYERS  
**Peter Keim**, University of Konstanz

COMPUTATIONAL PHYSICS WITH GPUS  
**Martin Weigel**, Coventry University

SIMULATIONS OF GALAXY FORMATION AND EVOLUTION  
**Annalisa Pillepich**, Max Planck Institute for Astronomy

DATA DRIVEN CONSULTING: TOPICS FOR TODAY AND TOMORROW  
**Team d-fine**, d-fine, Frankfurt am Main

## ADDITIONAL LECTURE

MONDAY, OCTOBER 8, 2018, 17:30

FROM PHYSICS STUDENT TO GLOBAL MARKET LEADER IN UNDER 20 YEARS  
**Christof Reinhart**, Volume Graphics, Heidelberg

FOLLOWED BY A **GENERAL WELCOME PARTY**

## STUDENT REPRESENTATIVES' WELCOME

TUESDAY, OCTOBER 9, 2018, 17:15

## HANS JENSEN INVITED LECTURE

THURSDAY, OCTOBER 11, 2018, 17:30

THE STANDARD COLD DARK MATTER MODEL OF COSMOGONY AND HOW TO RULE IT OUT  
**Carlos Frenk**, Durham University

FOLLOWED BY THE **D-FINE BARBECUE**

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



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