



# 33rd HEIDELBERG PHYSICS GRADUATE DAYS

OCTOBER 6–10, 2014  
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

MONTE CARLO GENERATORS IN HIGH ENERGY PHYSICS  
**Frank Krauss**, Durham University

GRAVITATIONAL WAVE DETECTORS:  
OBSERVING TINY JITTERS IN SPACE-TIME  
**Harald Lück**, Leibniz Universität and Max-Planck-Institut für Gravitationsphysik, Hannover

QUANTUM NONLOCALITY AND CONTEXTUALITY  
**Markus Müller**, Heidelberg University

ALGEBRAIC GEOMETRY FOR PHYSICISTS  
**Ana Peón-Nieto**, Heidelberg University

MANY-BODY PHYSICS WITH RYDBERG ATOMS  
**Shannon Whitlock**, Heidelberg University

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

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

MODERN SOLAR PHYSICS  
**Team Sun**, Kiepenheuer Institut für Sonnenphysik, Freiburg

QUANTUM SPACE TIME  
**Bianca Dittrich**, Perimeter Institute, Waterloo

HEAVY ION PHYSICS AND THE QUARK-GLUON-PLASMA  
**Yvonne Pachmayer**, Heidelberg University

THE SEARCH FOR DARK MATTER  
**Marc Schumann**, University of Bern

ELASTICITY AND DIFFERENTIAL GEOMETRY OF BIOLOGICAL SHAPES  
**Ulrich Schwarz**, Heidelberg University

HAMILTONIAN CHAOS  
**Sandro Wimberger**, Parma University and INFN Section Milan Bicocca

PHYSICISTS IN FINANCE  
**Team d-fine**, d-fine, Frankfurt am Main

## ADDITIONAL LECTURE MONDAY, OCTOBER 6, 2014, 17:30

INDUSTRIAL METROLOGY AND THE INTERNATIONAL SYSTEM OF UNITS  
**Thomas Bruns**, Physikalisch-Technische Bundesanstalt, Braunschweig

## FOLLOWED BY A GENERAL WELCOME PARTY

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

## STUDENT REPRESENTATIVES' WELCOME TUESDAY, OCTOBER 7, 2014, 17:15

**Walter Hahn, Puneet Murthy**

## HANS JENSEN INVITED LECTURE THURSDAY, OCTOBER 9, 2014, 17:30

FROM EINSTEIN'S QUESTIONS TO QUANTUM BITS:  
A NEW QUANTUM REVOLUTION  
**Alain Aspect**, Institut d'Optique, Palaiseau

## FOLLOWED BY THE D-FINE BARBECUE

