

AKjDPG 1: jDPG Tutorials

Time: Monday 9:00–12:00

Location: HS 3 Physik

Tutorial AKjDPG 1.1 Mon 9:00 HS 3 Physik
Overview talk on hadron and nuclear physics for young scientists — •JANA N. GUENTHER — University of Wuppertal, Germany

An introduction to selected topics in the fields of hadron and nuclear physics is provided, offering insights through the perspective of a researcher specializing in heavy-ion physics with lattice QCD. This overview is particularly designed for early-career scientists, including MSc and PhD students, to support their exploration of key concepts and help them to navigate the various sessions at the DGP meeting.

Tutorial AKjDPG 1.2 Mon 10:00 HS 3 Physik
Overview of nuclear astrophysics — •ARTEMIS SPYROU — Michigan State University, East Lansing, MI, USA

This talk will serve as an introductory overview of the field of nuclear astrophysics. The field addresses questions associated with the life and death of stars, the extreme conditions found in stellar cores and the synthesis of the chemical elements we see around us. To address these questions, a multidisciplinary approach is needed, which combines astronomical observations, astrophysical models, nuclear experiment and nuclear theory. I will discuss the interplay between the different sub-disciplines and focus, in particular, on the contributions

of experimental nuclear physics. How do we identify the nuclear properties that have an impact on a particular astrophysical process? How accurate should these properties be measured? What can we do if a direct measurement is not currently feasible? These and other questions will be discussed in this overview talk, preparing junior researchers for a week of an exciting immersion into current research in nuclear astrophysics (and more).

Tutorial AKjDPG 1.3 Mon 11:00 HS 3 Physik
Massenspektrometrie und Radioaktivität: Eine Erfolgsstory! — •CLEMENS WALTHER — Leibniz Universität Hannover, Institut für Radioökologie und Strahlenschutz

Was fällt einem so bei Radioaktivität ein? Schreckliche Dinge wie Unfälle, Bomben, Atommüll? Oder eher positive Anwendungen in der medizinischen Diagnose und Therapie, den Materialwissenschaften, physikalischer Grundlagenforschung und nicht zuletzt CO₂ arme Stromerzeugung? In allen genannten Themen spielt Massenspektrometrie eine kaum wegzudenkende Rolle. In diesem Tutorial geht es von Spurenanalytik z.B. zur Untersuchung von Meeresströmungen, über Aufnahme von Radionukliden in Pflanzen und die Nahrung bis zur nuklearen Forensik - und alles im Rahmen aktueller Forschung!