

## Working Group "Young DPG" Arbeitskreis junge DPG (AKjDPG)

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### Overview of Invited Talks and Sessions

(Lecture halls ZHG007, ZHG008, and ZHG Foyer EG)

#### Invited Talks

AKjDPG 1.1	Mon	13:00–13:50	ZHG007	<b>Introduction to direct dark matter searches</b> — ●DANIEL WENZ
AKjDPG 2.1	Tue	12:30–13:20	ZHG007	<b>Overview of selected medical physics topics for young scientists</b> — ●JENS WEINGARTEN
AKjDPG 3.1	Tue	19:00–19:25	ZHG008	<b>From a clean lab to dirty barns</b> — ●SONJA ZEISSNER
AKjDPG 3.2	Tue	19:25–19:50	ZHG008	<b>From Academia to Actuarial: Bridging Science and Business</b> — ●REINKE SVEN ISERMANN
AKjDPG 3.3	Tue	19:50–20:15	ZHG008	<b>Enabling the future through light - Product Line Manager at Excelitas</b> — ●JULIA GRANGET
AKjDPG 3.4	Tue	20:15–21:30	ZHG008	<b>Podium discussion with the three speakers</b> — ●MICHAEL LUP- BERGER

#### Sessions

AKjDPG 1.1–1.1	Mon	13:00–13:50	ZHG007	<b>jDPG Tutorium – Dark Matter</b>
AKjDPG 2.1–2.1	Tue	12:30–13:20	ZHG007	<b>jDPG Tutorium – Medical Physics</b>
AKjDPG 3.1–3.4	Tue	19:00–21:30	ZHG008	<b>yHEP Physicists Beyond Academia</b>
AKjDPG 4	Tue	21:30–22:30	ZHG Foyer EG	<b>Bier &amp; Brezel</b>
AKjDPG 5.1–5.1	Wed	19:00–21:30	ZHG007	<b>jDPG/yHEP Discussion on current topics relevant to young researchers</b>

## AKjDPG 1: jDPG Tutorium – Dark Matter

Time: Monday 13:00–13:50

Location: ZHG007

**Invited Talk** AKjDPG 1.1 Mon 13:00 ZHG007  
**Introduction to direct dark matter searches** — ●DANIEL WENZ — University of Muenster

A large number of evidence from galactic to cosmic scales suggests the existence of a massive, non-luminous, and non-baryonic matter component which is five times more abundant than regular matter. This so-called dark matter (DM) represents an excellent window to the physics Beyond the Standard Model of particles. One well-motivated class of DM candidates are so called weakly interacting massive particles (WIMPs).

To directly search for WIMPs, highly sensitive experiments are re-

quired which utilize different techniques to discriminate environmental backgrounds from potential signals. Not only in the direct search for WIMPs, but also in other rare event searches like searches for the neutrinoless double beta decay, or solar neutrinos, similar techniques are used to measure these faint and rare signals.

In this tutorial we will discuss the fundamentals of the direct search of WIMP dark matter and use this as an example to illustrate how these challenging experiments in the field of rare event searches are designed. As an example, we will have a closer look at the XENONnT experiment which is one of the world leading experiments in the direct search of high mass WIMPs.

## AKjDPG 2: jDPG Tutorium – Medical Physics

Time: Tuesday 12:30–13:20

Location: ZHG007

**Invited Talk** AKjDPG 2.1 Tue 12:30 ZHG007  
**Overview of selected medical physics topics for young scientists** — ●JENS WEINGARTEN — Technische Universität Dortmund

”Medical Physics is the application of physics to healthcare; using physics for patient imaging, measurement and treatment.” This definition by the European Federation of Organisations for Medical Physics, as well as similar statements all over the web, show the vastness of of

this field.

In this tutorial, I will give a brief introduction and overview on selected topics in the field of medical physics. The overview is especially dedicated to young colleagues working on their MSc thesis or their PhD. We will focus on topics that are discussed in the specialized talks in various sessions at the DGP meeting. Thus the overview may serve to give some guidance for the meeting.

## AKjDPG 3: yHEP Physicists Beyond Academia

Time: Tuesday 19:00–21:30

Location: ZHG008

**Invited Talk** AKjDPG 3.1 Tue 19:00 ZHG008  
**From a clean lab to dirty barns** — ●SONJA ZEISSNER — VetVise GmbH, Hannover, Germany

If you happen to love academia, but you also have a family and don't want to move every two years, what do you do? Right, you leave academia. I, however, found a job that is still fairly close to doing research.

We are going to take a look at what I do as a data scientist at VetVise GmbH, a start-up that is using data analysis and machine learning to improve yields and animal welfare in livestock farming. We are going to find out about the similarities and differences of working with elementary particles and chickens. And we are going see if getting a Ph.D. in HEP can actually prepare you for working with data from pig barns.

**Invited Talk** AKjDPG 3.2 Tue 19:25 ZHG008  
**From Academia to Actuarial: Bridging Science and Business** — ●REINKE SVEN ISERMANN — Göttingen

In this talk, I'll share my journey from academia to the insurance industry, exploring how a background in theoretical high energy physics research led to a career as an actuary. I'll discuss the parallels between solving scientific problems and tackling actuarial challenges, as well as the hurdles and opportunities that come with transitioning between these fields.

**Invited Talk** AKjDPG 3.3 Tue 19:50 ZHG008  
**Enabling the future through light - Product Line Manager at Excelitas** — ●JULIA GRANGET — Excelitas - Qioptiq Photonics GmbH & Co. KG

Excelitas provides innovative photonic components and subsystems to global OEMs who are seeking the highest-performance solutions from a market-driven partner.

My path from a PhD in detector physics to product line management in the business unit Semiconductor Equipment will be presented in this talk. In addition, a brief introduction of Excelitas and my work in the Semiconductor business will be given.

**Invited Talk** AKjDPG 3.4 Tue 20:15 ZHG008  
**Podium discussion with the three speakers** — ●MICHAEL LUPBERGER — University of Bonn — yHEP

A podium discussion follows the presentations of the three speakers. They are all former particle physicists now working outside academia. The audience is welcome to ask questions, in particular regarding e.g. career path, skills learned in physics usable in the commercial sector, working atmosphere, decision-making for leaving academia and much more. I will moderate the discussion and co-chair the presentations of the speakers.

## AKjDPG 4: Bier &amp; Brezel

Time: Tuesday 21:30–22:30

Location: ZHG Foyer EG

get together

**AKjDPG 5: jDPG/yHEP Discussion on current topics relevant to young researchers**

Time: Wednesday 19:00–21:30

Location: ZHG007

AKjDPG 5.1 Wed 19:00 ZHG007

**Discussion – Future of Academic Work** — SIMON NEUHAUS<sup>1,3</sup>  
and MICHAEL LUPBERGER<sup>2,4</sup> — <sup>1</sup>jDPG — <sup>2</sup>yHEP — <sup>3</sup>University of  
Bonn, Bonn, Germany — <sup>4</sup>Bergische Universität Wuppertal, Wupper-  
tal, Germany

The jDPG and yHEP want to give in this session students, doctoral

candidates and post-docs on temporary contracts the opportunity to discuss important topics for their future work condition in academia. This are especially the topic of the new “Wissenschaftszeitvertragsgesetz” and residence permits. In the begin of the session there will be a short presentation about the basics of the both topics and the opinion of the yHEP Management board.