

Working Group "Young DPG" Arbeitsgruppe junge DPG (AKjDPG)

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Overview of Invited Talks and Sessions

(Lecture halls Geb. 30.23: 3/1 and Geb. 30.22: Lehmann-HS)

Invited Talks

AKjDPG 2.1	Tue	19:00–19:25	Geb. 30.22: Lehmann-HS	"I could *Never* work for Industry!" - How life ignores your resolutions. — ●ISABEL BRAUN
AKjDPG 2.2	Tue	19:25–19:50	Geb. 30.22: Lehmann-HS	Als Physiker*in Krankenhäuser digitalisieren? Klar doch! — ●CHARLES MAJER
AKjDPG 2.3	Tue	19:50–20:15	Geb. 30.22: Lehmann-HS	From giant particle physics experiment to giant corporation — ●FLORIAN HERRMANN

Sessions

AKjDPG 1.1–1.2	Mon	9:00–12:15	Geb. 30.23: 3/1	Tutorials
AKjDPG 2.1–2.3	Tue	19:00–22:00	Geb. 30.22: Lehmann-HS	Physicists beyond Academia

AKjDPG 1: Tutorials

Time: Monday 9:00–12:15

Location: Geb. 30.23: 3/1

Tutorial AKjDPG 1.1 Mon 9:00 Geb. 30.23: 3/1
Meet the Higgs boson — ●SARAH HEIM — DESY

The Higgs boson was discovered in 2012 as the last missing piece of the Standard Model of Particle Physics. It is often seen as a key particle in our search for the origins of dark matter and the matter-antimatter asymmetry. In this tutorial, I will cover basic Higgs theory, the discovery of the Higgs boson, and our state-of-the-art knowledge of the Higgs boson properties, as well as possible connections to physics beyond the Standard Model.

15 min. break

Tutorial AKjDPG 1.2 Mon 10:45 Geb. 30.23: 3/1
Introduction to particle physics detectors — ●MICHAEL LUPBERGER — Research and Technology Center for Detector Physics, Bonn, Germany — Helmholtz-Institut für Strahlen- und Kernphysik, Bonn, Germany — Physikalisches Institut, Bonn, Germany

Advancing humankind by gaining fundamental knowledge of what holds together the world at its core is the subject of particle physics. This knowledge gain requires efforts in several domains, such as theory, experiment design, detector development and construction, electronics, big data computing and data analysis and interpretation. In all of these domains, cutting-edge methods and concepts are required. For example, due to the exceptional and demanding requirements, the majority of our experimental setups to probe nature are not available off-the-shelf.

Detector physics, R&D, construction, and instrumentation hence are one domain of particle physics equally relevant as the others.

In this tutorial, I will briefly introduce the basic concepts of the physics of particle detectors. Taking the ATLAS and other experiments as examples, we will walk through the different technologies, their strengths and weaknesses as well as recent developments. We will also look at "services" for the detectors and how information is transferred out of the detector.

AKjDPG 2: Physicists beyond Academia

Time: Tuesday 19:00–22:00

Location: Geb. 30.22: Lehmann-HS

Invited Talk AKjDPG 2.1 Tue 19:00 Geb. 30.22:
 Lehmann-HS

"I could *Never* work for Industry!" - How life ignores your resolutions. — ●ISABEL BRAUN — Vector Academy, Vector Informatik GmbH, Stuttgart, Germany

Working as a scientist is amazing and few things are as satisfying as studying nature to a depth where you are creating new knowledge. Picking physics was the best decision I could make at the time - and so was leaving it eventually. When I left astro-particle physics, I had noticed that conferences and lectures are closer to my heart than writing grant proposals and even coding analysis tools. Hence, I studied the science of teaching, which happened to include business leadership - which turned out not as evil as I had imagined. I tried to leave academia *just a little*, hoping to return to a university for applied sciences after 3 years. Within weeks I realized I never would, because a job *found me* that simply covers those points that I enjoy most (in my case digging into complex topics, search for patterns, explain them as if they were simple and see others master them) - with an unlimited contract, paid travel and a good family income. And you know what? An actual 40h week leaves time for whatever you miss doing! When life happens (and it will), keep those elements of your work that empower you and let go of others. In presenting some of my choices, failures and sheer luck and a cool job (technical trainer) in a wonderful company, I hope to inspire you to master your own career jumping puzzle: hang on to whatever you are struggling with for as long as necessary, and jump off to the next platform if it takes you closer to yourself and who you want to become.

Invited Talk AKjDPG 2.2 Tue 19:25 Geb. 30.22:
 Lehmann-HS

Als Physiker*in Krankenhäuser digitalisieren? Klar doch! — ●CHARLES MAJER — Siemens Healthineers AG, Weissacher Str. 11, 70499 Stuttgart, Deutschland

Als Physiker*in ist man bestens vorbereitet neue, komplexe und viel-

fältige Themenfelder zu erfassen und sich diese zu Eigen zu machen. In diesem Sinne sind auch der Gesundheitssektor und im Besonderen Krankenhäuser ein spannendes Entwicklungsfeld für Physiker*innen * und das nicht nur als Medizophysiker*in. Als Digital Portfolio Expert bin ich vertrieblich verantwortlich für das gesamte digitale Portfolio von Siemens Healthineers. Zu meinen Aufgaben gehört es, dieses bei Kund*innen vorzustellen und vor allem zu erklären.

Da digitale Systeme hochspezialisiert sind und individuell an jeden Einzelfall und die bereits vorhandene IT-Infrastruktur angepasst werden müssen, ist ein konzeptionelles Arbeiten ein Muss. Aber nicht nur die IT-technischen Voraussetzungen müssen Berücksichtigung finden, sondern auch die individuellen Bedürfnisse der Anwender*innen und gegebenenfalls der Patient*innen. Bereits aus diesen beiden Anforderungen können sehr komplexe Projekte entstehen.

Zudem ergibt sich durch sich immer schneller entwickelnde Trends und Änderungen im Gesundheitswesen, der Geschäftsmodelle unserer Kund*innen und der gesetzlichen Rahmenbedingungen ein hoch spannendes klinisches Ökosystem. Sich in diesem komplexen System tagtäglich zu bewegen ist eine meiner vielen spannenden Aufgaben als Physiker bei Siemens Healthineers.

Invited Talk AKjDPG 2.3 Tue 19:50 Geb. 30.22:
 Lehmann-HS

From giant particle physics experiment to giant corporation — ●FLORIAN HERRMANN — Stryker Leibinger GmbH, Freiburg, Germany

Can I Make the move from academia to industry? What will be the main difference between my familiar academic environment and the world of industrial R&D and business?

Let me try to share with you my personal experience as an educated particle physicist over the last 10 years in the medical device industry at Stryker Corporation.

Discussion with beer and brezels