

Deutsche Physikalische Gesellschaft



# 86<sup>th</sup> Annual Meeting of the DPG and DPG-Frühjahrstagung 2023

## DPG Spring Meeting 2023 of the Matter and Cosmos Section (SMuK)

together with the Divisions

Environmental Physics

Short Time-Scale Physics and Applied Laser

Physics

and the Working Groups

Accelerator Physics

Energy

Equal Opportunities

Information

Philosophy of Physics

Physics and Disarmament

Physics, Modern IT and Artificial Intelligence

Young DPG

## Short Programme

20 – 24 March 2023

Technische Universität Dresden



Impressum:

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www.dpg-physik.de  
Gerichtsstand: Königswinter

Eingetragen in das Vereinsregister (VR 90474) des Amtsgerichtes Siegburg. Die DPG fördert wissenschaftliche Zwecke. Sie ist nach § 5 Abs. 1 Nr. 9 KStG von der Körperschaftsteuer befreit, weil sie ausschließlich und unmittelbar steuerbegünstigten gemeinnützigen Zwecken i. S. der §§ 51 ff. AO dient.

Verantwortlich für den Inhalt:  
Dr. Bernhard Nunner (Hauptgeschäftsführer)  
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## AUSSCHREIBUNG FÖRDERPROGRAMME



- WE-Heraeus-Seminare
- Binationale WE-Heraeus-Seminare
- WE-Heraeus-Physikschulen
- WE-Heraeus-Klausurtagungen
- WE-Heraeus Fast Track Workshops

- Einzelprojekte an Schulen und außerschulischen Lernorten
- Lehrerfortbildungen
- WE-Heraeus-Seniorprofessuren



Infos unter  
[www.we-heraeus-stiftung.de/  
aktivitaeten](http://www.we-heraeus-stiftung.de/aktivitaeten)

## Table of Content

Greeting .....	4
<b>Organisation</b> .....	7
Scientific Organisation .....	7
Chairs .....	7
Symposia.....	8
Organisation of the Exhibition of Scientific Instruments and Literature .....	8
<b>Information for Participants</b> .....	10
Conference Information / Venue .....	10
Conference Office / Information Desk .....	10
Lecture Rooms .....	11
With the DPG-App through the DPG-Meeting .....	11
Presentation.....	11
Oral Presentation.....	11
Poster Presentation .....	12
Notice Board .....	13
<b>General Information</b> .....	13
Internet .....	13
Message Board .....	14
Public Working Area .....	14
Cloakroom .....	14
Lost and Found Property .....	14
<b>Catering</b> .....	14
Coffee Breaks .....	14
Snacks / Lunch .....	15
<b>Events</b> .....	15
Opening of the Conference .....	15
Annual General Meeting of the DPG 2023 .....	15
Welcome Evening .....	16
jDPG Pub Crawl .....	16
jDPG Lunch Gathering .....	16
Physics in Industry .....	16
Ceremonial Session with Award Ceremony.....	17
Public Evening Lectures .....	18
Exhibition of Scientific Instruments and Literature .....	18
Video Competition .....	18
Wilhelm and Else Heraeus-Communication Programme..	18
Members' Assemblies of the Divisions and Working Groups..	18
Acknowledgement .....	19
CO <sub>2</sub> Compensation .....	19
SAY CHEESE!.....	19
Disclaimer of Liability .....	19
Synopsis of the Daily Programme.....	20
Index of Exhibitors .....	69
Campus Map .....	72

# Festakt

## Deutsche Physikalische Gesellschaft

### Preisverleihung

#### **Max-Planck-Medaille 2023**

an Prof. Dr. Rashid A. Sunyaev  
Max-Planck-Institut für Astrophysik, Garching

#### **Stern-Gerlach-Medaille 2023**

an Prof. Dr. Manfred Fiebig  
ETH Zürich

#### **Ehrenmitgliedschaft der DPG**

an Prof. Dr. Horst Schmidt-Böcking  
Goethe-Universität Frankfurt

#### **Ehrennadel der DPG**

an Prof. Dr. Ulrich Platt  
Universität Heidelberg

#### **Dissertationspreis der Sektion SMuK**

(Der/die Preisträger:in wird nach dem  
Dissertationspreissymposium SYMD ausgewählt.)

### Festvortrag

Prof. Dr. Monica Dunford  
Kirchhoff-Institut für Physik, Universität Heidelberg

*„The once unattainable –  
new breakthroughs in particle physics“*

**Dienstag, 21. März 2023, 14:00 Uhr**  
**HSZ/Audimax**



# Greeting

Dear Participants,

Welcome to the 86. Annual Meeting of DPG and DPG-Frühjahrstagung (DPG Spring Meeting) of the Matter and Cosmos Section (SMuK) with the participating divisions and working groups involved on the campus of the Technical University Dresden.

I am very pleased that with our DPG Spring Meetings, even more so in presence, we can once again set a widely visible and public sign for the outstanding importance of basic research for scientific and societal progress. Basic research is indispensable for tackling the major societal challenges. Above all a sustainable energy supply with regard to climate change with its dramatic consequences for all life on our planet. On the other hand, the Spring Meetings are probably the most important instrument of the DPG to enable as many scientists as possible, especially young scientists, to participate in a cross-border, international and peaceful scientific exchange.

The last year has shown us with full force how important and by no means self-evident such a necessary and international exchange is, how vulnerable our world order is, and how quickly a change can take place that even threatens the existence of countries. Therefore, it is the special responsibility of the DPG – guided by the values in our DPG Statutes, our compass – to stand up for freedom, tolerance, truthfulness and dignity in science and to act in awareness that we are particularly responsible for shaping the whole of human life: Especially and particularly in troubled times!

The DPG conference in Dresden plays an outstanding role for peaceful international scientific exchange and discourse as well as for the perception and appreciation of the work of the DPG. I would therefore like to thank all those involved for their great commitment to the success of this conference.

My special thanks go to the Technical University Dresden for its hospitality and support. I would like to sincerely thank the Wilhelm and Else Heraeus Foundation for once again generously supporting all DPG Spring Meetings. My great

appreciation goes to the participating divisions and working groups for a great programme. I would especially like to thank the Local Organising Committee, Dr. Frank Siegert und Prof. Kai Zuber, Technical University Dresden, and their entire team. For the support of all DPG Spring Meetings, my special thanks go to the DPG Head Office.

A handwritten signature in black ink, consisting of the name 'Joachim' followed by a stylized monogram 'Ullrich'.

Prof. Dr. Joachim Ullrich

President

Deutsche Physikalische Gesellschaft e.V.

Gefördert durch

WILHELM UND ELSE  
HERAEUS-STIFTUNG



Deutsche Physikalische Gesellschaft

# Leading for Tomorrow

Physikerinnen und Physiker in  
*Führungspositionen?*

*Trotz* oder *wegen* Physikstudiums?

*Wirtschaft* oder  
*Wissenschaftsmanagement?*

Ist das überhaupt was  
für *mich*?

Mehrtägige Intensivworkshops  
und Learning Expedition

Bewerbung möglich vom 1. bis 31. März 2023

Mehr Informationen und  
die Möglichkeit zur Bewerbung:  
[leading-for-tomorrow.dpg-physik.de](http://leading-for-tomorrow.dpg-physik.de)





# Organisation

## Organiser

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Email [dpg@dpg-physik.de](mailto:dpg@dpg-physik.de)

Homepage [www.dpg-physik.de](http://www.dpg-physik.de)

## Local Organiser

Dr. Frank Siegert

Technische Universität Dresden

Institut für Kern- und Teilchenphysik

Zellescher Weg 19, 01069 Dresden

Phone +49 (0) 351 463-33700

Email [frank.siegert@tu-dresden.de](mailto:frank.siegert@tu-dresden.de)

## Scientific Organisation

### Chair of the Matter and Cosmos Section (SMuK)

Prof. Dr. Silvia Masciocchi

GSI mbH

Planckstr. 1, 64291 Darmstadt

Email [s.masciocchi@gsi.de](mailto:s.masciocchi@gsi.de)

### Chairs of the Participating Divisions of the DPG:

(EP) Extraterrestrial Physics

– Dr. Miriam Sinnhuber ([miriam.sinnhuber@kit.edu](mailto:miriam.sinnhuber@kit.edu))

(GR) Gravitation and Relativity

– Prof. Dr. Bernd Brügmann

([bernd.bruegmann@uni-jena.de](mailto:bernd.bruegmann@uni-jena.de))

(HK) Hadronic and Nuclear Physics

– Prof. Dr. Bernhard Ketzer

([bernhard.ketzer@uni-bonn.de](mailto:bernhard.ketzer@uni-bonn.de))

(K) Short Time-scale Physics and Applied Laser Physics

– Dr. Andreas Görtler ([Agoertler@gmx.de](mailto:Agoertler@gmx.de))

(MP) Theoretical and Mathematical Physics

– Prof. Dr. Johanna Erdmenger

([erdmenger@physik.uni-wuerzburg.de](mailto:erdmenger@physik.uni-wuerzburg.de))

(P) Plasma Physics

– Prof. Dr. Ronny Brandenburg

([brandenburg@inp-greifswald.de](mailto:brandenburg@inp-greifswald.de))

- (ST) Radiation and Medical Physics
  - M.Sc. Anna Bakenecker  
(bakenecker@dpg-mail.de)
- (T) Particle Physics
  - Prof. Dr. Kerstin Borras (kerstin.borras@desy.de)
- (UP) Environmental Physics
  - Prof. Dr. Christian von Savigny  
(csavigny@physik.uni-greifswald.de)

### **Chairs of the Participating Working Groups**

- (AGA) Physics and Disarmament
  - Prof. Dr. Götz Neuneck (neuneck@ifsh.de)
- (AGI) Information
  - Dr. Uwe Kahlert  
(kahlert@physik.rwth-aachen.de)
- (AGPhil) Philosophy of Physics
  - Prof. Dr. Dennis Lehmkuhl  
(dennis.lehmkuhl@uni-bonn.de)
- (AKBP) Accelerator Physics
  - Prof. Dr. Kurt Aulenbacher  
(aulenbac@kph.uni-mainz.de)
- (AKC) Equal Opportunities
  - OStR Agnes Sandner (akc@dpg-physik.de)
- (AKE) Energy
  - Dr. Karl-Friedrich Ziegahn (ziegahn@kit.edu)
- (AKjDPG) Young DPG
  - Sonja Schneidewind (schneidewind@jdpdg.de)
- (AKPIK) Physics, Modern IT and Artificial Intelligence
  - Dr. Tim Ruhe (tim.ruhe@tu-dortmund.de)

### **Symposia**

- SYMD – SMuK Dissertation Prize
- SYSC – Strange Clouds – from the Earth to Exoplanets


### **Organisation of the Exhibition of Scientific Instruments and Literature**

DPG-Ausstellungs-, Kongreß- und Verwaltungsgesellschaft mbH  
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 Phone +49 (0)2224 9232-0  
 Fax +49 (0)2224 9232-50  
 Email dpg@dpg-physik.de  
 Website www.dpg-gmbh.de

## Programme

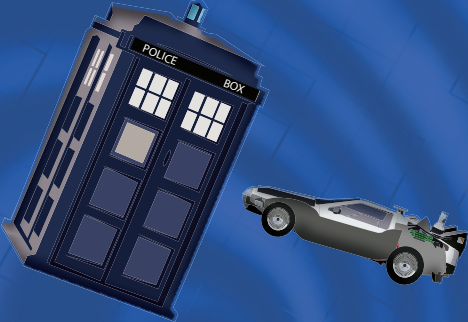
The scientific programme consists of **1.929** contributions:

10	Plenary Talks
2	Evening Talks
7	Prize Talks
1	Ceremonial Talk
1	Lunch Talks
95	Invited Talks
24	Topical Talks
65	Group Reports
1.519	Talks
205	Posters

Deutsche Physikalische Gesellschaft  DPG

**Video Contest:**  
**Physics in the Future**  
20 – 24 March 2023

What are the major challenges for physics in the future?  
Which research areas will come into focus?  
Or will time travel even be possible?



Join in and win!

**What will the physics of the future look like and what will it be used for? Share your vision with us!**

The aim of this video competition is to bring together these different ideas for the future of physics. Even without a Police Box or a converted DeLorean, the competition promises numerous exciting answers. Tell us your vision – only time will tell if it comes true.

More information:  
[www.smuk23.dpg-tagungen.de/veranstaltungen/wettbewerb](http://www.smuk23.dpg-tagungen.de/veranstaltungen/wettbewerb)

# Information for Participants

The conference will be held March 20 – 24, 2023.

## 1. Conference Information

### 1.1 Conference Venue

Technische Universität Dresden  
Campus Südvorstadt  
Bergstraße 64  
01069 Dresden

The central activities like registration etc. will take place in the Lecture Hall Center (HSZ) of the TU Dresden (Bergstraße 64). For a detailed map of the campus and the buildings please see end of this booklet. The position of the lecture rooms on the campus can be found at the campus navigator of TU Dresden <https://navigator.tu-dresden.de/> or the DPG-App (see 1.3.1).

### 1.2 Conference Office / Information Desk

The conference office and the information desk are located in the Lecture Hall Center, HSZ E01.

		Registration	Information Desk
Sunday	March 19	closed	closed
Monday	March 20	08:00 – 19:00	08:00 – 18:00
Tuesday	March 21	08:00 – 17:00	08:00 – 18:00
Wednesday	March 22	08:00 – 17:00	08:00 – 18:00
Thursday	March 23	08:00 – 17:00	08:00 – 18:00
Friday	March 24	08:00 – 12:00	08:00 – 16:00

You will receive your name tag, a receipt for your conference fee, the short programme and the Login-Password for using WLAN (WiFi) at the conference office. The name tag must be worn visibly during the entire conference.

**Please note: This year, no conference ticket for public transportation is included in the conference pass. We kindly ask you to buy a ticket yourself if you need it (the DVB one-week-ticket price level A1 Dresden tariff zone at the normal price of 22,90 EUR is transferable, i.e. it is not personal).**

The organisers, staff of the conference desk and student assistants will be identifiable by colored name tags and T-shirts. Please contact them if you have any questions. Do not hesitate to come to the information desk and inquire

about the conference, orientation in Dresden, accommodation, restaurants, going out and cultural events.

### 1.3 Lecture Rooms

The lecture rooms will be signposted by abbreviations for the respective buildings and the room number. The campus map and location of the buildings are printed at the end of this booklet.

<b>Abbr.</b>	<b>Building</b> (see also: <a href="https://navigator.tu-dresden.de/">https://navigator.tu-dresden.de/</a> )
CHE	Chemiegebäude (Chemistry Building)
GER	von-Gerber-Bau
HSZ	Hörsaalzentrum (Lecture Hall Center)
JAN	Jante-Bau
MOL	Mollier-Bau
POT	Gerhard-Potthoff-Bau
REC	Recknagel-Bau
SCH	Georg-Schumann-Bau
Tent	Tent behind the Lecture Hall Center
WIL	Willers-Bau
ZEU	Zeuner-Bau

#### 1.3.1 With the DPG-App through the Spring Meetings!

With the app you can find out not only about the conference programme but also about the venue and exhibitors at the industry and book exhibition. With the help of new functions such as “What’s going on now?” or the building plan overview it is now even easier to find your way around on site. Download the free “DPG Spring Meetings” app for Android or iOS now!

### 1.4 Presentation

Scientific presentations will be held either orally or by poster. Presentations with a German abstract will be given in German.

#### 1.4.1 Oral Presentation

All lecture halls will be equipped with a projector and a computer. Speakers are requested to upload their presentations on the conference website one day before the corresponding session. An email with the access data and the upload deadlines was sent to the lecturers before the conference. If you require to change your uploaded contribution, you may again upload the document at latest 4 hours before the session starts (not before the talk starts). In any case you should

also bring a copy your presentation on an USB drive as a backup.

The file format accepted for all parallel sessions is PDF or Powerpoint. Own laptops cannot be used for the presentation. The presentations will be transferred to the provided PCs/laptops in the lecture hall before the session. The lecturers are asked to keep the presentation file on a USB stick and to bring it into the session.

All lecture theatres will be opened, at the latest, 30 minutes prior to the talks. Speakers are requested to be in the lecture hall at least 20 minutes prior to the start of the session, reporting to the chairperson of the session as well as the technical staff to ensure that the presentation upload was successful and to receive a brief introduction to the equipment in the lecture hall. If you need other presentation facilities, please ask for availability at the information desk as soon as you arrive at the conference.

Usually, presentations will have the following durations. For exact information, please refer to your division.

- Contributed talks are 15 minutes including discussion and speaker change (12 min talk + 3 min discussion / speaker change).
- Invited talks are 30 minutes including discussion and speaker change (25 min talk + 5 min discussion / speaker change).
- Plenary presentations are 45 minutes without discussion.

#### **1.4.2 Poster Presentation**

Sites for poster sessions are named and located as follows:

HSZ EG	HSZ: ground floor (foyer)
HSZ OG1	HSZ: 1st floor (hallway)
HSZ OG2	HSZ: 2nd floor (hallway)
HSZ OG3	HSZ: 3rd floor (hallway)

Posters must fit within a rectangle 90 cm wide and 120 cm high (DIN A0), portrait format!

The poster boards will be marked with the number accord-

ing to the scientific programme. Authors are asked to mount their poster when the poster board is prepared with the corresponding poster number. Usually this will be arranged in the morning, or one hour before the session when there are several poster sessions per day. Each poster should display the number according to the scientific programme.

For the mounting of the poster please use the prepared "power strips" at the poster frame or contact the available student staff. Please make sure to use only power strips for mounting the poster (residue-free removing). The presenting authors should be at hand for discussion at their poster during at least half of the poster session and should note this time at the poster.

The posters have to be removed after the poster session. Any posters remaining on display walls after the poster session will be removed and disposed of without requesting your permission. The conference management accepts no liability for the posters.

## **1.5 Notice Board**

All changes to the conference programme (i.e. cancellation of presentations, change of rooms, etc.) are also transferred directly to the online version of the programme which will be updated continuously and is available in different formats (sorted by publication date, filterable by conference parts and as an rss-feed). Please use the form <https://smuk23.dpg-tagungen.de/programm/notice-board-form> to notify changes or cancellations.

## **2. General Information**

### **2.1 Internet**

#### EDUROAM

The TU Dresden is member of the eduroam-network. Users from eduroam institutions, who have registered for eduroam, can use WLAN at the TU Dresden without local registration in Dresden. Eduroam in Dresden is possible with WLAN SSID eduroam.

#### WLAN (WiFi)

In addition, internet access is possible via WLAN network (WiFi) in almost all buildings of the TU-Campus.

## WLAN in the buildings of TU Campus

For internet access at TU Dresden, please use your individual login-password on your registration document. Please search for and connect to the network named „VPN/WEB“. If this network isn't shown in the list of available networks, the access isn't possible. After you have been connected, please visit any website with your browser to get redirected to the login page of the network. Enter your username and password and click on „Login“. Afterwards you should be able to access the internet. This connection is not encrypted.

## **2.2 Message Board**

Important general information about TU Dresden and the city of Dresden is displayed on a message board in the foyer of the Lecture Hall Center (HSZ). Alterations of the scientific programme however will be announced via the conference website "Notice Board".

## **2.3 Public Working Area**

Public working rooms where you can work on your laptop are located in GER 037, GER 050 und GER 054.

## **2.4 Cloakroom**

A guarded cloakroom is located in the basement of the Lecture Hall Centre (HSZ). The opening hours are as follows:

Monday	March 20	08:00 – 21:30
Tuesday	March 21	08:00 – 20:30
Wednesday	March 22	08:00 – 21:30
Thursday	March 23	08:00 – 20:30
Friday	March 24	08:00 – 15:00

## **2.5 Lost and Found Property**

You can bring found items to the Lecture Hall Center, room E03 (next to the information desk). There you can also get your lost property back.

# **3. Catering**

## **3.1 Coffee Breaks**

Coffee and tea are offered for free during the breaks in nearly all conference locations (see also in the legend of the campus map). You want actively contribute to protect our climate and environment? Then bring your own cup or use your paper cup several times. Thank you!



### 3.2 Snacks

You can get coffee, tea, refreshments and snacks as indicated in the campus map at the:

- Tent B behind the Lecture Hall Center  
Monday to Thursday: 08:00 – 19:00, Friday 08:00 – 14:00
- „Grill-Cube“ next to the exhibition tent B  
Monday to Friday: 09:00 – 15:00
- Zeuner-Bau (ZEU) in room ZEU 148  
Monday to Thursday: 08:00 – 18:00, Tuesday 08:00 – 14:00
- Restaurant of the Leibniz-Institute IFW Dresden  
Monday to Friday: 08:00 – 15:00
- „insgrüne coffeebar“ in the Georg-Schumann-Bau (SCH)  
Monday to Friday: 10:00 – 15:00
- Cafeteria & Mensa “Alte Mensa”, Mommsenstraße 13  
Monday to Thursday: 08:00 – 16:00, Friday 08:00 – 15:00
- Cafeteria & Mensa Zeltschlösschen, Nürnberger Str. 55  
Monday to Friday: 08:00 – 15:30
- Cafeteria & Mensa Siedepunkt, Zellescher Weg 17  
Monday to Friday: 11:00 – 15:00

as well as at Bergstr. 68 „FIRAT-Kebab-Haus“ and Münchner Str. „DERSIM-Dürüm-Kebab-Haus“ and bakery „Möbius“.

### 3.3 Lunch

The Mensa Zeltschlösschen, Mensa Siedepunkt and the Mensa Mommsenstraße offer plenty of opportunities for lunch at moderate prices (self-payment, please note the above mentioned opening hours).

**Please note:** only cash payments are possible in all mensas (no cards!).

## 4. Events

### 4.1 Opening of the conference

A short opening address will be given by the local organiser and the chair of the SMuK Section on Monday, March 20 from 08:45 until 09:00 in HSZ/AUDI.

### 4.2 Ordentliche Mitgliederversammlung der DPG 2023 (Annual General Meeting of the DPG 2023)

Date: Monday, March 20, 18:00, Room HSZ 0304 (3rd floor), Bergstraße 64, 01069 Dresden

The Annual General Meeting of the Deutsche Physikalische

Gesellschaft will take place on Monday evening. Members of the DPG are kindly requested to attend the meeting. Please bring your membership card.

#### **4.3 Welcome Evening**

On Monday, March 20, at 19:30 the Welcome Evening will be held in the Tent A close to the Main Lecture Hall Centre. When registering for the conference you will receive your badge and **food and drink vouchers** for the Welcome Evening. Small food, beer and soft drinks will be served. Do not miss the opportunity to register (08:00 to 19:00) before the official beginning of the conference and to meet people in an informal atmosphere. Please wear your name tag which you have received at the registration.

#### **4.4 jDPG Pub Crawl**

Time: Monday, March 20, from 19:30

Meeting place: in front of the HSZ (Bergstraße side)

On Monday evening, the young DPG invites to a pub crawl through Dresden. Next to the opportunity to be on a move outside and network with others, the members of the local regional group will tell about the Dresden physics, the life in the city and other facts worth knowing.

#### **4.5 jDPG Lunch Gathering**

Monday, March 20 + Tuesday, March 21 + Friday, March 24, from 13:00

Meeting place: will be announced on the conference website  
On several days, the jDPG regional group of Dresden meets to lunch gatherings. During these meetings, young conference participants shall get to know each other better and especially make contact to local (PhD-)students. An intensive exchange of experiences is also intended to take place there, concerning important topics like e.g. starting a doctorate and mental health during the studies.

#### **4.6 Physicists in Industry**

Tuesday, March 21, 19:00 – 21:00, HSZ 0004

How do physicists work in industry? How does everyday life differ from the life at university and the institute? Which additional skills should students acquire beside their curriculum? We will investigate these and other questions with three colleagues who work in different areas of industry. They will provide insights into their career path and their daily work and will be available to answer questions afterwards.

## **4.7 Ceremonial Session with Award Ceremony** *(in German language)*

On Tuesday, March 21, at 14:00 the Ceremonial Session with Award Ceremony will take place in HSZ/AUDI. The programme is as following:

### **Music**

„Viviendo Trio“

### **Welcome**

Dr. Frank Siegert, TU Dresden

Local Organiser

Prof. Dr. Michael Kobel

Vice-Rector Education at the TU Dresden

### **Speech**

Dr. Lutz Schröter, DPG e.V., Bad Honnef

Vice-President of the Deutsche Physikalische Gesellschaft

### **Music**

## **Award Ceremony**

### **Max Planck Medal 2023**

to Prof. Dr. Rashid A. Sunyaev, Max-Planck-Institut für Astrophysik, Garching

### **Stern Gerlach Medal 2023**

to Prof. Dr. Manfred Fiebig, ETH Zürich

### **Honorary Membership of the DPG**

to Prof. Dr. Horst Schmidt-Böcking, Goethe-Universität Frankfurt

### **Pin of Honor of the DPG**

to Prof. Dr. Ulrich Platt, Universität Heidelberg

### **SMuK Dissertation Prize 2023**

(The Laureate will be announced after the Dissertations-Prize Symposium (SYMD))

### **Music**

### **Ceremonial Lecture**

Prof. Dr. Monica Dunford, Kirchhoff-Institut für Physik, Universität Heidelberg

*„The once unattainable – new breakthroughs in particle physics“*

#### **4.8 Public Evening Lectures (in German language)**

All Evening Talks will be held at the Audimax (Hörsaalzentrum) and are open for the interested public and all conference participants. The entrance is free.

##### **Max-von-Laue-Lecture**

Wednesday, March 22, 20:00 - 21:00, Audimax (HSZ 01)

Prof. Dr. Gerd Gigerenzer, Universität Potsdam will speak about: *„Risikokompetenz – informiert und entspannt mit Risiken umgehen“*

##### **Public Evening Talk**

Thursday, March 23, 20:00 - 21:30, Audimax (HSZ 01)

Prof. Dr. Christian Stegmann, DESY, Zeuthen will speak about: *„Von Sachsen ins Universum“*

#### **4.9 Exhibition of Scientific Instruments and Literature**

From Tuesday to Thursday there will be an exhibition of Scientific Instruments and Literature. The exhibition will take place in the Lecture Hall Center (Foyer). Several companies (see list of exhibitors at the end of this booklet) will present their products. Opening hours are from 10:00 to 18:00. All conference participants are welcome to attend the exhibition. The entrance is free.

#### **4.10 Video competition: Physics in the Future**

The public and also the physics community have various imaginations of how physics will look like in the future and what physics will be needed for in the future. The aim of this video competition is to bring together these different views and ideas for the “future of physics”. Even without a modified DeLorean and flux capacitor, the competition will bring to light many exciting answers. Time will show which ones will come true.

A Video box will be available from Monday to Friday in Tent A to help you easily participate in the video competition. Take part and tell us what you think about “physics in the future”.

#### **5. Wilhelm and Else Heraeus-Communication Programme**

Important notes for participants who apply for a grant of the Wilhelm and Else Heraeus Foundation:

At the beginning of the conference you will receive an identification form at the conference office. The participation in the conference must be certified by the conference desk. You have the possibility to leave this certificate by the staff

members of the DPG (recommended!) in the conference office or submit it to the DPG head office (DPG-Geschäftsstelle, Hauptstr. 5, 53604 Bad Honnef, Germany) by April 14, 2023 at the latest.

For more detailed information refer to <https://smuk23.dpg-tagungen.de/registrierung/weh>.

The Deutsche Physikalische Gesellschaft thanks the Wilhelm and Else Heraeus Foundation for the generous financial support of young academic talents. We hope that young physicists will continue to seize the offered opportunity for active scientific communication at scientific conferences. A total of about 37,800 young academics were supported by this programme so far.

## **6. Members' Assemblies of the Divisions and Working Groups**

During the DPG Spring Meeting, Members' Assemblies of the divisions and working groups take place. Please refer to the scientific programme for the time and place of the meetings.

## **7. Acknowledgement**

The organisers want to thank

- the Wilhelm and Else Heraeus Foundation, Hanau
- the TU Dresden

for supporting the conference and all staff, who make the conference possible.

## **8. CO<sub>2</sub> compensation for the DPG conferences**

By decision of the Executive Board, the DPG will compensate for fossil CO<sub>2</sub> emissions resulting from mobility for DPG conferences and committee meetings.

## **9. SAY CHEESE!**

The DPG Spring Meetings are basically public to the press. Please note: On behalf of DPG, photos and videos will be recorded during the Spring Meetings. In the context of public relations, these recordings (as the case may be) will be published on our website, in social media or within prints of the DPG for example.

## **10. Disclaimer of liability**

Participants are asked to look carefully after their wardrobe, valuables, laptops, and other belongings. The organisers are not liable.

# Synopsis of the Daily Programme

## Monday, March 20, 2023

Mon

### Conference Opening

08:45 – 09:00 HSZ/AUDI

### Plenary Talks, Prize Talk

PV I 09:00 – 09:45 HSZ/AUDI

Low Temperature Plasma – About a Hidden Champion or a Silent Revolution

•*Klaus-Dieter Weltmann*

PV II 09:45 – 10:30 HSZ/AUDI

Thin film technology for fabrication of nonlinear active optical components and its future application in photonic circuits

•*Marco Jupe*

PV III 12:30 – 13:00 HSZ/AUDI

Two milestones in the life of the Universe: Last Scattering Surface and Black Body Photosphere

•*Rashid Sunyaev (Laureate of the Max-Planck-Medal 2023)*

### Symposium SMuK Dissertation Prize 2023 (SYMD)

#### Session

SYMD 1 14:00 – 16:00 HSZ/AUDI

SMuK Dissertation Prize 2023

### Extraterrestrial Physics Division (EP)

#### Invited Talks

EP 1.1 10:45 – 11:15 HSZ/0004

A Melting Probe for the Exploration of Subglacial Lakes within the TRIPLE project line

•*Mia Giang Do*

EP 2.1      16:15 – 16:45    ZEU/0160  
 The exoplanet revolution: towards habitable worlds  
 •*Alexis Smith*

### Sessions

EP 1      10:45 – 13:00    HSZ/0004  
 Planets and small Objects

EP 2      16:15 – 17:45    ZEU/0160  
 Exoplanets and Astrobiology

## Gravitation and Relativity Division (GR)

### Sessions

GR 1      16:30 – 18:10    ZEU/0260  
 Black Holes

GR 2      16:30 – 18:30    ZEU/0255  
 Cosmology I

## Hadronic and Nuclear Physics Division (HK)

### Invited Talks

HK 1.1      11:00 – 11:30    HSZ/0002  
 Nucleosynthesis of heavy nuclei – moving a supernova into the laboratory  
 •*Felix Heim*

HK 1.2      11:30 – 12:00    HSZ/0002  
 Exploring the 3D nucleon structure with CLAS and CLAS12 at JLAB  
 •*Stefan Diehl*

HK 1.3      12:00 – 12:30    HSZ/0002  
 Lattice simulations with chiral effective field theory at N3LO  
 •*Serdar Elhatisari*

### Sessions

HK 1      11:00 – 12:30    HSZ/0002  
 Invited Talks I

HK 2	16:30 – 18:00	SCH/A251	Instrumentation I
HK 3	16:30 – 18:00	SCH/A.101	Instrumentation II
HK 4	16:30 – 18:00	SCH/A117	Instrumentation III
HK 5	16:30 – 18:00	SCH/A216	Heavy-Ion Collisions and QCD Phases I
HK 6	16:30 – 18:00	SCH/A315	Heavy-Ion Collisions and QCD Phases II
HK 7	16:30 – 18:00	SCH/A316	Hadron Structure and Spectroscopy I
HK 8	16:30 – 18:00	SCH/A419	Nuclear Astrophysics I
HK 9	16:30 – 18:00	SCH/A118	Structure and Dynamics of Nuclei I
HK 10	16:30 – 18:00	SCH/A215	Structure and Dynamics of Nuclei II
HK 11	16:30 – 18:00	HSZ/0204	Outreach Public/Teilchenwelt

## Theoretical and Mathematical Physics Division (MP)

### Invited Talk

MP 1.1	11:00 – 11:30	HSZ/0003	Insights from random matrices on dissipative quantum dynamics • <i>Pedro Ribeiro</i>
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### Sessions

MP 1	11:00 – 12:30	HSZ/0003	Quantum Dynamics and Quantum Information
MP 2	16:30 – 18:00	ZEU/0250	Quantum Field Theory I



## Plasma Physics Division (P)

### Invited Talks

P 1.1      11:00 – 11:30    CHE/0089  
 Ion Beam Sputter Deposition –  
 Fundamentals and Applications

•*Carsten Bundesmann*

P 2.1      11:00 – 11:30    CHE/0091

Deuterium-Tritium Plasmas at JET with ITER-  
 like Wall and the Role of Isotope Mass and  
 Transport for H-mode Access

•*Gregor Birkenmeier*

### Sessions

P 1        11:00 – 12:45    CHE/0089

Low Pressure Plasmas and their Application I

P 2        11:00 – 13:10    CHE/0091

Magnetic Confinement I/HEPP I

P 3        16:30 – 17:45    CHE/0089

Astrophysical Plasmas

P 4        16:30 – 18:35    CHE/0091

HEPP II

## Particle Physics Division (T)

### Invited Talks

T 1.1      11:00 – 11:30    HSZ/AUDI

What we learned about the Higgs Boson from  
 the LHC so far

•*Duc Bao Ta*

T 1.2      11:30 – 12:00    HSZ/AUDI

QCD at the LHC – Precision for Discoveries

•*Malgorzata Worek*

T 1.3      12:00 – 12:30    HSZ/AUDI

The charm and beauty of flavour physics

•*Marco Gersabeck*

**Sessions**

T 1	11:00 – 12:30	HSZ/AUDI	Invited Overview Talks I
T 2	16:30 – 18:00	HSZ/0004	Flavor I
T 3	16:30 – 18:00	HSZ/0401	Top I
T 4	16:30 – 18:00	HSZ/0403	Searches I
T 5	16:30 – 18:00	HSZ/0101	Higgs Searches
T 6	16:30 – 18:00	HSZ/0103	Other Exp., EW
T 7	16:30 – 18:00	HSZ/0105	Higgs, Di-Higgs I
T 8	16:30 – 18:00	HSZ/0204	Outreach Public/Teilchenwelt
T 9	16:30 – 18:00	HSZ/0301	DAQ NN/ML – HW
T 10	16:30 – 18:00	HSZ/0405	ML Methods I
T 11	16:30 – 18:00	POT/0051	Neutrinos, Dark Matter I
T 12	16:30 – 18:00	POT/0151	Gamma Astronomy I
T 13	16:30 – 18:00	POT/0251	Neutrinos I
T 14	16:30 – 18:00	POT/0361	Neutrinos, Dark Matter II
T 15	16:30 – 18:00	POT/0006	Neutrinos, Dark Matter III
T 16	16:30 – 18:00	POT/0112	Neutrino Astronomy I

T 17	16:30 – 18:00	POT/0013	Cosmic Ray I
T 18	16:30 – 18:00	POT/0351	Exp. Methods, CTA, others
T 19	16:30 – 17:45	POT/0106	Detector Systems, Electronics
T 20	16:30 – 17:45	WIL/A317	Pixel ITk, Si-Strips/Other
T 21	16:30 – 18:00	WIL/A124	Si-Strips/CMS, Pixel/Sensor
T 22	16:30 – 18:00	WIL/C133	Calorimeter / Detector Systems I
T 23	16:30 – 18:00	WIL/A120	Gas-Detectors / Muon MDT

## Working Group on Accelerator Physics (AKBP)

### Sessions

AKBP 1	16:00 – 17:45	CHE/0183	Particle and Photon Sources
AKBP 2	16:00 – 17:45	CHE/0184	Advanced Light Sources and their Instrumentation

## Working Group on Energy (AKE)

### Invited Talks

AKE 1.1	11:00 – 11:30	GER/038	Zellulare Energiesysteme – Zukunft der Energietechnik ? • <i>Joachim Seifert</i>
AKE 2.1	16:30 – 17:00	GER/038	The German primary energy consumption – status and trends • <i>Larissa Breuning</i>

**Sessions**

- AKE 1      11:00 – 12:45   GER/038  
Konzepte und Technologien
- AKE 2      16:30 – 17:30   GER/038  
Energieversorgung

**Working Group on Physics, Modern IT and Artificial Intelligence (AKPIK)****Session**

- AKPIK 1      16:00 – 18:00   HSZ OG2  
Poster

**Working Group on Philosophy of Physics (AGPhil)****Session**

- AGPhil 1      11:00 – 13:00   JAN/0027  
Quanten und Prozesse
- 13:00                      (refer to website)  
jDPG Lunch Gathering

**Annual General Meeting of the DPG**

(for DPG members only)

18:00 – 19:30   HSZ/0304

**jDPG Pub Crawl**

19:30                      In front of the HSZ

**Welcome Evening** (for registered participants)

19:30                      Tent A

# Tuesday, March 21, 2023

## Plenary Talks, Prize Talk, Ceremonial Talk

- PV IV 09:00 – 09:45 HSZ/AUDI  
Characterising exoplanet atmospheres with the Webb space telescope  
•*Pierre-Olivier Lagage*
- PV V 09:45 – 10:30 HSZ/AUDI  
The European Destination Earth initiative – a paradigm change for weather and climate prediction  
•*Peter Bauer*
- PV VI 12:30 – 13:00 HSZ/AUDI  
The Higgs boson at the (HL)LHC – precisely!  
•*Adinda de Wit (Laureate of the Hertha-Sponer-Prize 2023)*

## Special Plenary Session with Award Ceremony

- 14:00 – 16:30 HSZ/AUDI  
The once unattainable – new breakthroughs in particle physics  
•*Monica Dunford*

## Symposium Strange Clouds – from the Earth to Exoplanets (SYSC)

### Invited Talks

- SYSC 1.1 11:00 – 11:20 HSZ/0004  
Not all clouds are created equal – strange clouds in our solar system  
•*Thomas Leisner*
- SYSC 1.2 11:20 – 11:45 HSZ/0004  
Clouds to the Edge of Space  
•*Gerd Baumgarten*
- SYSC 1.3 11:45 – 12:10 HSZ/0004  
The dynamic clouds of Venus  
•*Javier Peralta*

- SYSC 1.4      12:10 – 12:35    HSZ/0004  
 Observational constraints of exoplanet  
 clouds  
 •*Nicolas Iro*
- SYSC 1.5      12:35 – 13:00    HSZ/0004  
 Gemstone clouds in JWST target exoplanets  
 •*Dominic Samra*
- Session**
- SYSC 1        11:00 – 13:00    HSZ/0004  
 Strange Clouds – From the Earth to  
 Exoplanets

## Extraterrestrial Physics Division (EP)

### Sessions

- EP 3            16:45 – 18:00    ZEU/0160  
 Clouds in Planetary Atmospheres
- EP 4            18:00 – 19:00    ZEU/0160  
 Planetary atmospheres

## Gravitation and Relativity Division (GR)

### Invited Talk

- GR 3.1        11:00 – 11:45    HSZ/0401  
 Scalaron-Higgs inflation  
 •*Christian Steinwachs*

### Sessions

- GR 3            11:00 – 12:25    HSZ/0401  
 Cosmology II
- GR 4            17:00 – 18:20    ZEU/0260  
 Quantum Gravity
- GR 5            17:00 – 18:00    ZEU/0255  
 Classical Relativity

## Hadronic and Nuclear Physics Division (HK)

### Invited Talks

- HK 12.1      11:00 – 11:30    HSZ/0002  
Baryon spectroscopy at ELSA and MAMI  
•*Farah Afzal*
- HK 12.2      11:30 – 12:00    HSZ/0002  
ALICE upgrades, status and perspectives for  
ALICE-3  
•*Robert Muenzer*
- HK 12.3      12:00 – 12:30    HSZ/0002  
Nuclear parton distribution functions  
•*Michael Klasen*

### Sessions

- HK 12      11:00 – 12:30    HSZ/0002  
Invited Talks II
- HK 13      17:00 – 18:15    SCH/A251  
Instrumentation IV
- HK 14      17:00 – 18:45    SCH/A.101  
Instrumentation V
- HK 15      17:00 – 18:45    SCH/A117  
Instrumentation VI
- HK 16      17:00 – 18:30    SCH/A216  
Heavy-Ion Collisions and QCD Phases III
- HK 17      17:00 – 18:30    SCH/A315  
Heavy-Ion Collisions and QCD Phases IV
- HK 18      17:00 – 19:00    SCH/A316  
Hadron Structure and Spectroscopy II
- HK 19      17:00 – 18:30    SCH/A419  
Nuclear Astrophysics II
- HK 20      17:00 – 18:45    SCH/A118  
Structure and Dynamics of Nuclei III
- HK 21      17:00 – 18:45    SCH/A215  
Structure and Dynamics of Nuclei IV

HK 22      17:00 – 18:45    SCH/A252  
Outreach

## Theoretical and Mathematical Physics Division (MP)

### Invited Talks

MP 3.1      11:00 – 11:30    HSZ/0304  
Renormalization of singular stochastic partial  
differential equations

•*Pawel Duch*

MP 3.2      11:30 – 12:00    HSZ/0304  
Integral decomposition of modular operators  
in QFT

•*Daniela Cadamuro*

MP 3.3      12:00 – 12:30    HSZ/0304  
Emergence of gravity from conformal field  
theory

•*Nele Callebaut*

### Sessions

MP 3      11:00 – 12:30    HSZ/0304  
Quantum Field Theory II

MP 4      10:30 – 14:00    HSZ OG3  
Poster

MP 5      17:00 – 19:00    ZEU/0250  
Scattering Amplitudes and Conformal Field  
Theory

## Plasma Physics Division (P)

### Invited Talks

P 5.1      11:00 – 11:30    CHE/0089  
Diagnostics of metal-grid micro cavity  
plasma arrays

•*Marc Böke*

P 6.1      11:00 – 11:30    CHE/0091  
The physics of ELM-free regimes

•*Michael Dunne*



- P 8.1      17:00 – 17:30    CHE/0091  
 Fuel retention and removal in the JET tokamak  
 •*Dmitry Matveev*
- Sessions**
- P 5      11:00 – 13:00    CHE/0089  
 Atmospheric Pressure Plasmas and their  
 Applications I
- P 6      11:00 – 12:50    CHE/0091  
 Magnetic Confinement II/HEPP III
- P 7      17:00 – 19:00    CHE/0089  
 Atmospheric Pressure Plasmas and their  
 Applications III
- P 8      17:00 – 19:10    CHE/0091  
 Plasma Wall Interaction I/HEPP IV

## Radiation and Medical Physics Division (ST)

### Sessions

- ST 1      11:00 – 12:30    GER/038  
 Accelerators for Radiation Therapy
- ST 2      17:00 – 18:30    ZEU/0146  
 Medical Imaging Concepts

## Particle Physics Division (T)

### Invited Talks

- T 24.1      11:00 – 11:30    HSZ/AUDI  
 Searching for Long-Lived Particles at the LHC  
 and Beyond  
 •*Juliette Alimena*
- T 24.2      11:30 – 12:00    HSZ/AUDI  
 The Neutrino-Dawn of Galaxies  
 •*Wolfgang Rhode*
- T 24.3      12:00 – 12:30    HSZ/AUDI  
 Galactic cosmic rays: What have we learned  
 and what's next?  
 •*Philipp Mertsch*

## Sessions

T 24	11:00 – 12:30	HSZ/AUDI	Invited Overview Talks II
T 25	17:00 – 18:30	HSZ/0304	Flavor II
T 26	17:00 – 18:30	HSZ/0401	Flavor III
T 27	17:00 – 18:30	HSZ/0403	Searches II
T 28	17:00 – 18:30	HSZ/0101	Forward Physics
T 29	17:00 – 18:30	HSZ/0103	Other Exp., EW
T 30	17:00 – 18:30	HSZ/0105	Higgs Charm, Di-Higgs
T 31	17:00 – 18:15	HSZ/0201	Theory Higgs, BMS
T 32	17:00 – 18:30	HSZ/0204	Di-Higgs, Higgs BSM
T 33	17:00 – 18:30	HSZ/0301	DAQ NN/ML – GRID I
T 34	17:00 – 18:30	HSZ/0405	ML Methods II
T 35	17:00 – 18:30	POT/0051	Neutrino Astronomy II
T 36	17:00 – 18:30	POT/0151	Gamma Astronomy II
T 37	17:00 – 18:30	POT/0251	Neutrinos, Dark Matter IV
T 38	17:00 – 18:30	POT/0361	Neutrinos, Dark Matter V
T 39	17:00 – 18:30	POT/0006	Neutrinos, Dark Matter VI

T 40	17:00 – 18:00	POT/0112	Astro Particle Theory
T 41	17:00 – 18:30	POT/0013	Cosmic Ray II
T 42	17:00 – 18:30	POT/0351	Exp. Methods, IceAct, Auger, RNO-G
T 43	17:00 – 18:30	POT/0106	Electronics, DAQ, Exp. Methods
T 44	17:00 – 18:30	WIL/A317	Pixel/LHCb, Si-Strips/CMS
T 45	17:00 – 18:30	WIL/A124	Si-Strips, Pixel
T 46	17:00 – 18:30	WIL/C133	Calorimeter / Detector Systems II
T 47	17:00 – 18:30	WIL/A120	Gas-Detectors, Detector Systems
T 48	17:00 – 18:15	WIL/C129	Exp. Methods I
T 49	17:00 – 18:45	SCH/A252	Outreach

## Short Time-scale Physics and Applied Laser Physics Division (K)

### Invited Talk

K 1.1	11:00 – 11:35	REC/C213	Information, Abstände und Gravitation? • <i>Rudolf Germer</i>
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### Sessions

K 1	11:00 – 12:35	REC/C213	Laser Applications and Laser-Beam Material Interaction
K 2	12:35 – 13:00	REC/C213	Members' Assembly

K 3                    16:45 – 17:45    HSZ OG2  
Poster

## **Environmental Physics Division (UP)**

### **Session**

UP 1                    16:45 – 18:00    ZEU/0160  
Clouds in Planetary Atmospheres

## **Working Group on Accelerator Physics (AKBP)**

### **Sessions**

AKBP 3                11:00 – 12:30    GER/038  
Accelerator and Medical Physics

AKBP 4                16:30 – 19:00    CHE/0183  
Plasmas and Lasers

AKBP 5                16:30 – 18:00    CHE/0184  
Hadron Accelerators

## **Working Group on Energy (AKE)**

### **Invited Talk**

AKE 3.1              17:00 – 17:30    GER/038  
Activation calculations for decommissioning  
planning of NPPs  
•*Reuven Rachamin*

### **Session**

AKE 3                    17:00 – 18:15    GER/038  
Zukunftsperspektiven

## **Working Group on Physics, Modern IT and Artificial Intelligence (AKPIK)**

### **Session**

AKPIK 2                17:00 – 19:00    ZEU/0118  
Applications in Particle and Astroparticle  
Physics

## Working Group on Philosophy of Physics (AGPhil)

### Sessions

AGPhil 2 11:00 – 12:30 JAN/0027

Space and Time

AGPhil 3 17:30 – 19:00 JAN/0027

Philosophy of Physics

## Exhibition of Scientific Instruments and Literature

10:00 – 18:00 Foyer Lecture Hall Centre

## Physicists in Industry

19:00 – 21:00 HSZ/0004

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## Wednesday, March 22, 2023

### Plenary Talks, Prize Talk, Lunch Talk

PV VIII 09:00 – 09:45 HSZ/AUDI

25 years of the AdS/CFT correspondence:  
Current status and future prospects

•*Koenraad Schalm*

PV IX 09:45 – 10:30 HSZ/AUDI

The origin of the chemical elements

•*Marialuisa Aliotta*

PV X 12:30 – 13:00 HSZ/AUDI

News from the Flavour Expedition to the  
Zeptouniverse

•*Andrzej Buras (Laureate of the Max-Planck-  
Medal 2020)*

PV XI 13:15 – 13:45 HSZ/AUDI

From ab initio to nemo tenetur – Working on  
cyber crime as an IT analyst with the State  
Criminal Police Office

•*Wojciech Morawiec*

## Extraterrestrial Physics Division (EP)

### Invited Talks

- EP 5.1      10:45 – 11:15    ZEU/0160  
New insights into the elusive magnetic processes operating in the solar corona with SoHO/EUI  
•*Lakshmi Pradeep Chitta*
- EP 5.3      11:30 – 12:00    ZEU/0160  
Studying solar flares with the X-ray telescope STIX during the cruise and early science phase of Solar Orbiter  
•*Alexander Warmuth*
- EP 7.1      14:15 – 14:45    ZEU/0160  
Advances in energetic particle physics with Solar Orbiter & Parker Solar Probe  
•*Robert F. Wimmer-Schweingruber*
- EP 7.3      15:00 – 15:30    ZEU/0160  
New Insights in Simulations of SEP Events with the PARADISE+ICARUS Model  
•*Edin Husidic*
- EP 8.1      16:00 – 16:30    ZEU/0160  
Precision measurements of cosmic ray fluxes from AMS-02 with a daily time resolution  
•*Stefan Schael*

### Sessions

- EP 5      10:45 – 12:45    ZEU/0160  
Sun and heliosphere I
- EP 6      13:00 – 14:00    ZEU/0160  
Members' Assembly
- EP 7      14:15 – 15:45    ZEU/0160  
Sun and heliosphere II
- EP 8      16:00 – 17:15    ZEU/0160  
Sun and heliosphere III
- EP 9      17:30 – 19:00    HSZ OG1  
Poster

## Gravitation and Relativity Division (GR)

### Invited Talks

- GR 6.1      11:00 – 11:45    ZEU/0260  
Geodesic motion in relativistic astrophysics  
•*Eva Hackmann*
- GR 6.2      11:45 – 12:30    ZEU/0260  
Modelling the multi-messenger signals of  
gravitational wave sources  
•*Stephan Rosswog*

### Sessions

- GR 6          11:00 – 12:30    ZEU/0260  
Relativistic Astrophysics
- GR 7          14:00 – 15:20    ZEU/0260  
Gravitational Waves I
- GR 8          14:00 – 15:20    ZEU/0255  
Foundations and Alternatives I
- GR 9          16:00 – 18:00    ZEU/0260  
Gravitational Waves and Astrophysics I
- GR 10        16:00 – 17:40    ZEU/0255  
Foundations and Alternatives II

## Hadronic and Nuclear Physics Division (HK)

### Invited Talks

- HK 23.1      11:00 – 11:30    HSZ/0002  
High-Precision Laser Spectroscopy of  $C^{4+}$  for  
an All-Optical Determination of the Nuclear  
Charge Radius  
•*Phillip Imgram*
- HK 23.2      11:30 – 12:00    HSZ/0002  
ALICE determines the transparency of our  
galaxy to the passage of antihelium nuclei  
•*Laura Serksnyte*

HK 23.3      12:00 – 12:30    HSZ/0002  
The world of light and strange mesons: from spectroscopy puzzles to low energy QCD phenomena

•*Stephan Paul*

**Sessions**

HK 23      11:00 – 12:30    HSZ/0002

Invited Talks III

HK 24      14:00 – 15:30    SCH/A251

Instrumentation VII

HK 25      14:00 – 15:30    SCH/A.101

Instrumentation VIII

HK 26      14:00 – 15:30    SCH/A117

Instrumentation IX

HK 27      14:00 – 15:30    SCH/A216

Heavy-Ion Collisions and QCD Phases V

HK 28      14:00 – 15:30    SCH/A315

Heavy-Ion Collisions and QCD Phases VI

HK 29      14:00 – 15:30    SCH/A316

Hadron Structure and Spectroscopy III

HK 30      14:00 – 15:30    SCH/A419

Nuclear Astrophysics III

HK 31      14:00 – 15:30    SCH/A118

Structure and Dynamics of Nuclei V

HK 32      14:00 – 15:30    SCH/A215

Structure and Dynamics of Nuclei VI

HK 33      14:00 – 15:30    SCH/A252

Fundamental Symmetries I

HK 34      15:45 – 17:15    SCH/A251

Instrumentation X

HK 35      15:45 – 17:00    SCH/A.101

Instrumentation XI

HK 36      15:45 – 17:15    SCH/A117

Computing I



HK 37	15:45 – 17:15	SCH/A216	Heavy-Ion Collisions and QCD Phases VII
HK 38	15:45 – 17:15	SCH/A315	Heavy-Ion Collisions and QCD Phases VIII
HK 39	15:45 – 17:15	SCH/A316	Hadron Structure and Spectroscopy IV
HK 40	15:45 – 17:00	SCH/A419	Nuclear Astrophysics IV
HK 41	15:45 – 17:15	SCH/A118	Structure and Dynamics of Nuclei VII
HK 42	15:45 – 17:15	SCH/A215	Structure and Dynamics of Nuclei VIII
HK 43	15:45 – 17:15	SCH/A252	Fundamental Symmetries II
HK 44	17:30 – 19:00	SCH/A251	Instrumentation XII
HK 45	17:30 – 19:00	SCH/A.101	Instrumentation XIII
HK 46	17:30 – 19:00	SCH/A216	Heavy-Ion Collisions and QCD Phases IX
HK 47	17:30 – 18:45	SCH/A315	Heavy-Ion Collisions and QCD Phases X
HK 48	17:30 – 19:00	SCH/A316	Hadron Structure and Spectroscopy V
HK 49	17:30 – 19:00	SCH/A118	Structure and Dynamics of Nuclei IX
HK 50	17:30 – 19:00	SCH/A215	Structure and Dynamics of Nuclei X
HK 51	17:30 – 19:15	SCH/A252	Fundamental Symmetries III

## Theoretical and Mathematical Physics Division (MP)

### Invited Talk

- MP 6.2      11:30 – 12:00    ZEU/0250  
Deep neural networks and the renormalization group  
•*Ro Jefferson*

### Sessions

- MP 6      11:00 – 12:20    ZEU/0250  
AI Topical Day – Neural Networks and Computational Complexity
- MP 7      14:00 – 15:20    ZEU/0250  
Classical and Quantum Gravity
- MP 8      16:00 – 17:30    ZEU/0250  
Members' Assembly

## Plasma Physics Division (P)

### Invited Talks

- P 9.1      11:00 – 11:30    CHE/0089  
Modelling and analysis of single-filament dielectric barrier discharges at atmospheric pressure  
•*Markus M. Becker*
- P 10.1     11:00 – 11:30    CHE/0091  
Diagnosing the plasma edge with helium beam spectroscopy  
•*Michael Griener*

### Sessions

- P 9      11:00 – 13:00    CHE/0089  
Atmospheric Pressure Plasmas and their Applications III
- P 10     11:00 – 13:10    CHE/0091  
Magnetic Confinement III/HEPP V
- P 11     14:00 – 15:30    HSZ EG  
Poster I
- P 12     17:30 – 19:00    HSZ EG  
Poster II

## Radiation and Medical Physics Division (ST)

### Invited Talks

- ST 4.1      14:00 – 14:20    ZEU/0146  
Innovationen in die Praxis bringen – die  
EXIST Gründungsförderung  
•*Antje Dewitz*
- ST 4.2      14:20 – 14:40    ZEU/0146  
Development and Certification of an IGRT  
system  
•*Claus Promberger*
- ST 4.3      14:40 – 15:00    ZEU/0146  
Klinische Anwendung von Protonen/  
Partikeltherapie  
•*Esther Troost*

### Sessions

- ST 3      11:00 – 12:30    ZEU/0146  
Poster Session
- ST 4      14:00 – 15:30    ZEU/0146  
DPG meets DGMP: Von der Idee bis zur  
klinischen Anwendung
- ST 5      15:50 – 17:20    ZEU/0146  
Physics and Technology for Radiation Detection
- ST 6      17:45 – 18:45    ZEU/0146  
Members' Assembly

## Particle Physics Division (T)

### Invited Topical Talks

- T 50.1      11:00 – 11:20    HSZ/AUDI  
Search for leptoquarks at the ATLAS  
experiment  
•*Mahsana Haleem*
- T 50.2      11:20 – 11:40    HSZ/AUDI  
Making the most of Yukawa couplings:  
searching for Dark Matter accompanied by  
heavy quarks  
•*Danyer Perez Adan*

- T 50.3      11:40 – 12:00    HSZ/AUDI  
Precision predictions for transverse momentum distributions of Higgs and vector bosons at the LHC  
•*Maximilian Stahlhofen*
- T 50.4      12:00 – 12:20    HSZ/AUDI  
Axion fragmentation  
•*Enrico Morgante*
- T 51.1      11:00 – 11:20    HSZ/0003  
LUXE – A new experiment to study non-perturbative QED in electron-laser and photon-laser collisions  
•*Ruth Jacobs*
- T 51.2      11:20 – 11:40    HSZ/0003  
Precision timing with silicon sensors  
•*Annika Vauth*
- T 51.3      11:40 – 12:00    HSZ/0003  
Recent advancements in Micro-Pattern Gaseous Detectors: Exciting research ahead towards future experiments  
•*Michael Lupberger*
- T 51.4      12:00 – 12:20    HSZ/0003  
Recent Liquid Scintillator Developments for Astroparticle Physics  
•*Stefan Schoppmann*
- T 52.1      14:00 – 14:20    HSZ/AUDI  
Commissioning of the new LHCb trigger system  
•*Marian Stahl*
- T 52.2      14:20 – 14:40    HSZ/AUDI  
Alignment of the CMS Tracker: Automation is Key  
•*Marius Teroerde*
- T 52.3      14:40 – 15:00    HSZ/AUDI  
ITk – ATLAS tracker upgrade  
•*Dennis Sperlich*

- T 52.4      15:00 – 15:20    HSZ/AUDI  
 Role of simulation in silicon tracker sensors R&D  
 •*Anastasiia Velyka*
- T 53.1      14:00 – 14:20    HSZ/0003  
 LST-1: Initial scientific results from the first  
 CTA telescope  
 •*Dominik Elsaesser*
- T 53.2      14:20 – 14:40    HSZ/0003  
 Multimessenger astronomy with the Pierre  
 Auger Observatory  
 •*Marcus Niechciol*
- T 53.3      14:40 – 15:00    HSZ/0003  
 Positron annihilation as an astrophysical  
 messenger  
 •*Thomas Siegert*
- T 53.4      15:00 – 15:20    HSZ/0003  
 The first results of the XENONnT experiment  
 and an outlook to the future DARWIN  
 observatory  
 •*Andrii Terliuk*
- Sessions**
- T 50        11:00 – 12:20    HSZ/AUDI  
 Invited Topical Talks I-A
- T 51        11:00 – 12:20    HSZ/0003  
 Invited Topical Talks I-B
- T 52        14:00 – 15:20    HSZ/AUDI  
 Invited Topical Talks II-A
- T 53        14:00 – 15:20    HSZ/0003  
 Invited Topical Talks II-B
- T 54        15:50 – 17:20    HSZ/0304  
 Flavor IV
- T 55        15:50 – 17:20    HSZ/0401  
 Flavor V, Top-BSM
- T 56        15:50 – 17:20    HSZ/0403  
 Searches EW I

T 57	15:50 – 17:20	HSZ/0101	Single Top – Higgs Top
T 58	15:50 – 17:20	HSZ/0103	Other Exp. tt,
T 59	15:50 – 17:20	HSZ/0105	QCD Theory and Experiment I
T 60	15:50 – 17:05	HSZ/0201	Theory BMS
T 61	15:50 – 17:20	HSZ/0204	Higgs I
T 62	15:50 – 17:20	HSZ/0301	DAQ NN/ML – GRID II
T 63	15:50 – 17:20	HSZ/0405	ML Methods III
T 64	15:50 – 17:20	POT/0051	Neutrino Astronomy III
T 65	15:50 – 16:50	POT/0151	Gamma Astronomy III
T 66	15:50 – 17:20	POT/0251	Neutrinos II
T 67	15:50 – 16:50	POT/0361	Neutrinos, Dark Matter VII
T 68	15:50 – 16:50	POT/0006	Neutrinos, Dark Matter VIII
T 69	15:50 – 17:05	POT/0112	Neutrinos, Dark Matter IX
T 70	15:50 – 17:20	POT/0013	Cosmic Ray III
T 71	15:50 – 17:20	POT/0351	Exp. Methods AP, PMTs
T 72	15:50 – 17:05	POT/0106	Exp. Methods II

T 73	15:50 – 16:50	WIL/A317	Pixel/CMS
T 74	15:50 – 16:50	WIL/A124	DetSys MAGIX, DetSys KATRIN
T 75	15:50 – 16:35	WIL/C133	Calorimeter / Detector Systems III
T 76	15:50 – 16:50	WIL/A120	Gas-Detectors
T 77	17:20 – 18:50	HSZ/0401	Flavor VI
T 78	17:30 – 19:00	HSZ/0304	Flavor VII
T 79	17:30 – 18:45	HSZ/0403	Searches III
T 80	17:30 – 19:00	HSZ/0101	Searches EW II
T 81	17:30 – 19:00	HSZ/0103	Single Top, Top Properties
T 82	17:30 – 19:00	HSZ/0105	Higgs, Di-Higgs II
T 83	17:30 – 18:30	HSZ/0201	Theory BSM
T 84	17:30 – 19:00	HSZ/0204	Theory EW
T 85	17:30 – 18:45	HSZ/0301	DAQ, Data Techniques
T 86	17:30 – 19:00	HSZ/0405	ML Methods IV
T 87	17:30 – 19:00	POT/0051	Neutrinos III
T 88	17:30 – 19:00	POT/0151	Gamma Astronomy IV

T 89	17:30 – 19:00	POT/0251	DM, Neutrino Theory
T 90	17:30 – 19:00	POT/0361	Neutrinos, Dark Matter X
T 91	17:30 – 19:00	POT/0006	Neutrinos IV
T 92	17:30 – 19:00	POT/0013	Cosmic Ray IV
T 93	17:30 – 19:00	POT/0351	Exp. Methods – Scint., HESS, Auger
T 94	17:30 – 19:00	POT/0106	DAQ, Exp. Methods
T 95	17:30 – 19:00	WIL/A317	Pixel, Det/Sys LHCb, HGT
T 96	17:30 – 19:00	WIL/A124	TestBeam, RadHard for Si and Pixel
T 97	17:30 – 19:00	WIL/C133	Calorimeter / Detector Systems IV
T 98	17:30 – 19:00	WIL/A120	Gas-Detectors, Detector Systems
T 99	19:00 – 20:00	HSZ/0101	Annual Meeting of Young Scientists in High Energy Physics (yHEP)

## Short Time-scale Physics and Applied Laser Physics Division (K)

### Session

K 4	11:00 – 12:00	REC/C213	X-Ray Lasers
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## Environmental Physics Division (UP)

### Invited Talk

UP 2.1	11:00 – 11:30	MOL/0213	Volcanic radiative forcing: past and future •Anja Schmidt
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### Sessions

- UP 2            11:00 – 12:30    MOL/0213  
Volcanic Effects on Atmosphere and Climate
- UP 3            13:00 – 14:00    MOL/0213  
Members' Assembly
- UP 4            14:00 – 15:30    MOL/0213  
Aerosols & Hydrological Cycle
- UP 5            16:00 – 17:00    MOL/0213  
Measurement Techniques and Simulations
- UP 6            17:30 – 19:00    HSZ OG1  
Poster

### Working Group on Accelerator Physics (AKBP)

#### Sessions

- AKBP 6        11:00 – 12:30    HSZ/0304  
New Results from Accelerators for Hadron  
Physics
- AKBP 7        14:00 – 15:30    HSZ/0304  
Experiments for Advanced Light Sources
- AKBP 8        15:45 – 17:15    CHE/0183  
Advanced IT Tools
- AKBP 9        15:45 – 17:15    CHE/0184  
Beam Dynamics I
- AKBP 10       17:30 – 19:00    CHE/0183  
Instrumentation I
- AKBP 11       17:30 – 19:00    CHE/0184  
RF and SRF Research

### Working Group on Equal Opportunities (AKC)

#### Invited Talks

- AKC 1.1       11:00 – 11:45    HSZ/0004  
What's wrong with me?  
•*Pauline Gagnon*

AKC 1.2 11:45 – 12:30 HSZ/0004  
Workplace cultures in physics as a game changer for equal opportunities  
•*Martina Erlemann*

AKC 1.3 12:30 – 13:00 HSZ/0004  
Belonging – a key to success in STEM?!  
•*Barbara M. Gordalla*

### **Session**

AKC 1 11:00 – 13:00 HSZ/0004  
AKC

## **Working Group on Physics, Modern IT and Artificial Intelligence (AKPIK)**

### **Sessions**

AKPIK 3 14:00 – 15:30 ZEU/0118  
Neural Networks I

AKPIK 4 15:45 – 17:00 ZEU/0118  
Neural Networks II

AKPIK 5 11:00 – 12:20 ZEU/0250  
AI Topical Day – Neural Networks and Computational Complexity

## **Working Group on Physics and Disarmament (AGA)**

### **Invited Talk**

AGA 1.1 14:00 – 14:45 HSZ/0004  
Acoustic, Seismic and Magnetic Detection of Banned Activities – 3.5 Decades of Physics-based Peace Research  
•*Jürgen Altmann*

### **Sessions**

AGA 1 14:00 – 14:45 HSZ/0004  
Acoustic, Seismic and Magnetic Measurements

AGA 2 14:45 – 16:25 HSZ/0004  
New Verification Concepts and Forensics

AGA 3            16:25 – 17:05    HSZ/0004  
Simulation and Physics Teaching for Security  
and Disarmament

## **Working Group on Philosophy of Physics (AGPhil)**

### **Invited Talks**

- AGPhil 5.1      14:00 – 14:45    JAN/0027  
Physical probability is relative frequency  
•*Simon Saunders*
- AGPhil 5.2      14:45 – 15:30    JAN/0027  
Locality and the Metaphysics of Many Worlds  
Quantum Mechanics  
•*Alyssa Ney*
- AGPhil 6.1      16:00 – 16:45    JAN/0027  
The structure of entangled properties:  
Distributional holism  
•*Paul Näger*

### **Sessions**

- AGPhil 4        11:00 – 12:30    JAN/0027  
Quantum Foundations 1
- AGPhil 5        14:00 – 15:30    JAN/0027  
Quantum Foundations 2
- AGPhil 6        16:00 – 17:45    JAN/0027  
Quantum Foundations 3
- AGPhil 7        18:00 – 18:30    JAN/0027  
Members' Assembly

## **Exhibition of Scientific Instruments and Literature**

10:00 – 18:00    Foyer Lecture Hall Centre

## 62. Wochenendseminar „Physiker:innen im Beruf“



Der Übergang von der Hochschule in die **berufliche Karriere** fällt vielen nicht leicht:

Die Möglichkeiten und Aufgabengebiete sind vielfältig – und wer kennt schon nach Studium oder Promotion die verschiedenen Anforderungen und Arbeitsabläufe?

Das Seminar bietet durch **Erfahrungsberichte** etablierter Physiker:innen sowie junger Berufsanfänger:innen Orientierung. Die 15 Vortragenden repräsentieren ganz verschiedene Arbeitsgebiete und zeigen damit das breite **Einsatzspektrum** von Physikerinnen und Physikern.

Neben den Vorträgen bietet der gemütliche Lichtenbergkeller des Physikzentrums Bad Honnef ein ideales Forum, mit den Vortragenden am Abend **in kleiner Runde offen zu diskutieren** und Erfahrungen zu sammeln.

### **Zielgruppe:**

Physikstudierende ab Bachelor bis zur Promotion. Max. 80 Personen.

**5. bis 7. Mai 2023**

**Physikzentrum Bad Honnef**

**Weitere Infos und Anmeldung: [www.pib.dpg-physik.de](http://www.pib.dpg-physik.de)**

## Evening Lecture

### Max-von-Laue-Lecture

- PV XII 20:00 – 21:00 HSZ/AUDI  
Max-von-Laue Lecture: Risikokompetenz – informiert und entspannt mit Risiken umgehen  
•*Gerd Gigerenzer*
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## Thursday, March 23, 2023

### Plenary Talks, Prize Talk

- PV XIII 09:00 – 09:45 HSZ/AUDI  
The role of artificial intelligence in modern radiation therapy  
•*Guillaume Landry*
- PV XIV 09:45 – 10:30 HSZ/AUDI  
Machine Learning Advances in Particle Physics  
•*Lukas Heinrich*
- PV XV 12:30 – 13:00 HSZ/AUDI  
Direct dark matter detection: What if there's no WIMP?  
•*Belina von Krosigk (Laureate of the Hertha-Sponer-Prize 2023)*

## Extraterrestrial Physics Division (EP)

### Invited Talks

- EP 10.1 11:00 – 11:45 ZEU/0160  
Arne-Richter Lecture: From nonthermal plasmaastrophysics to modeling of pandemic outbreaks  
•*Reinhard Schlickeiser*
- EP 11.1 14:00 – 14:30 ZEU/0160  
Energetic Particle Precipitation reflected in the Global Secondary Ozone Distribution  
•*Jia Jia*

- EP 12.1      15:45 – 16:15    ZEU/0160  
 Ultra-relativistic Electrons in the Earth's Van Allen Radiation Belts  
 •*Yuri Y. Shprits*
- EP 13.1      17:30 – 18:00    ZEU/0160  
 Time-dependent data analysis of a blazar flare  
 •*Maximilian Albrecht*
- Sessions**
- EP 10        11:00 – 13:00    ZEU/0160  
 Astrophysics: Cosmic Rays and Galaxies I
- EP 11        14:00 – 15:30    ZEU/0160  
 Near-Earth Space I
- EP 12        15:45 – 17:15    ZEU/0160  
 Near-Earth Space II
- EP 13        17:30 – 19:00    ZEU/0160  
 Astrophysics: Galaxies II

## Gravitation and Relativity Division (GR)

### Invited Talks

- GR 11.1      11:00 – 11:45    ZEU/0260  
 From quarks to black holes: micro- and macrophysics of neutron star mergers  
 •*Andreas Bauswein*
- GR 11.2      11:45 – 12:30    ZEU/0260  
 Tracing beyond GR physics with gravitational waves  
 •*Daniela Doneva*

### Sessions

- GR 11        11:00 – 12:30    ZEU/0260  
 Gravitational Waves and Astrophysics II
- GR 12        14:00 – 15:20    ZEU/0260  
 Relativistic Astrophysics and Scalar Fields
- GR 13        16:00 – 17:20    ZEU/0260  
 Relativity and Data Analysis

- GR 14            16:00 – 17:40    ZEU/0255  
Gravitational Waves II
- GR 15            18:30 – 20:00    ZEU/0260  
Members' Assembly

## Hadronic and Nuclear Physics Division (HK)

### Sessions

- HK 52            11:00 – 12:30    HSZ/AUDI  
AI Topical Day – Invited Talks
- HK 53            14:00 – 15:30    HSZ/0103  
AI Topical Day – Computing II
- HK 54            14:00 – 15:30    HSZ/0105  
AI Topical Day – Heavy-Ion Collisions and  
QCD Phases XI
- HK 55            14:00 – 15:30    SCH/A251  
Instrumentation XIV
- HK 56            14:00 – 15:30    SCH/A.101  
Instrumentation XV
- HK 57            14:00 – 15:30    SCH/A316  
Hadron Structure and Spectroscopy VI
- HK 58            14:00 – 15:30    SCH/A419  
Hadron Structure and Spectroscopy VII
- HK 59            14:00 – 15:30    SCH/A118  
Structure and Dynamics of Nuclei XI
- HK 60            14:00 – 15:30    SCH/A215  
Structure and Dynamics of Nuclei XII
- HK 61            14:00 – 15:15    SCH/A117  
Structure and Dynamics of Nuclei XIII
- HK 62            14:00 – 15:15    SCH/A252  
Astroparticle Physics I
- HK 63            15:45 – 17:00    SCH/A251  
Instrumentation XVI
- HK 64            15:45 – 16:45    SCH/A.101  
Instrumentation XVII

Thu

HK 65	15:45 – 17:15	SCH/A216	Heavy-Ion Collisions and QCD Phases XII
HK 66	15:45 – 17:15	SCH/A315	Heavy-Ion Collisions and QCD Phases XIII
HK 67	15:45 – 17:00	SCH/A316	Hadron Structure and Spectroscopy VIII
HK 68	15:45 – 17:00	SCH/A419	Hadron Structure and Spectroscopy IX
HK 69	15:45 – 17:15	SCH/A118	Structure and Dynamics of Nuclei XIV
HK 70	15:45 – 17:15	SCH/A215	Structure and Dynamics of Nuclei XV
HK 71	15:45 – 17:15	SCH/A117	Structure and Dynamics of Nuclei XVI
HK 72	15:45 – 17:00	SCH/A252	Astroparticle Physics II
HK 73	15:50 – 17:20	HSZ/0204	Outreach Diverse
HK 74	17:30 – 19:00	HSZ EG	Poster
HK 75	19:00 – 20:00	HSZ/0002	Members' Assembly

## Theoretical and Mathematical Physics Division (MP)

### Sessions

MP 9	11:00 – 12:30	ZEU/0250	AdS/CFT Correspondence and Hydrodynamic Transport
MP 10	14:00 – 15:20	ZEU/0250	AdS/CFT Correspondence II
MP 11	16:00 – 17:00	ZEU/0250	Quantum Field Theory III (QED and Particle Detection)



MP 12            17:05 – 17:45    ZEU/0250  
Quantengravitation und Thermodynamik

## Plasma Physics Division (P)

### Invited Talks

- P 13.1            11:00 – 11:30    CHE/0089  
Acceleration of spin-polarized ion beams  
from laser-plasma interaction  
•*Lars Reichwein*
- P 14.1            11:00 – 11:30    CHE/0091  
Experimental validation of turbulence codes  
•*Klara Höfler*
- P 15.1            14:00 – 14:30    CHE/0089  
Tumor irradiation in mice with a laser-  
accelerated proton beam  
•*Florian Kroll*
- P 16.1            14:00 – 14:30    CHE/0091  
Development of a Laser-based Diagnostic for  
in situ Monitoring of Fuel Retention in ITER  
and future fusion devices  
•*Alexander Huber*
- P 19.1            17:30 – 18:00    CHE/0089  
Numerical and experimental investigations of  
a linear microwave plasma source for metal  
foil pumps for DEMO  
•*Stefan Merli*
- P 20.1            17:30 – 18:00    CHE/0091  
Laser-Induced Breakdown Spectroscopy  
(LIBS) for the detection of hydrogen isotopes  
stored in high-Z metals tungsten and  
tantalum  
•*Steffen Mittelmann*

### Sessions

- P 13              11:00 – 13:00    CHE/0089  
Laser Plasmas I

- P 14            11:00 – 13:10    CHE/0091  
Magnetic Confinement IV/HEPP VI
- P 15            14:00 – 15:30    CHE/0089  
Laser Plasmas II/Low Pressure Plasmas and  
their Applications II
- P 16            14:00 – 15:30    CHE/0091  
Plasma Wall Interaction II/Codes and  
Modeling I
- P 17            15:45 – 17:15    CHE/0089  
Complex Plasmas and Dusty Plasmas/Codes  
and Modeling II
- P 18            15:45 – 17:00    CHE/0091  
HEPP VII
- P 19            17:30 – 18:40    CHE/0089  
Magnetic Confinement V/HEPP VIII
- P 20            17:30 – 18:45    CHE/0091  
Laser Plasmas III/Codes and Modeling III
- P 21            19:00 – 20:00    CHE/0089  
Members' Assembly

## Radiation and Medical Physics Division (ST)

### Invited Talk

- ST 10.1        17:30 – 18:00    ZEU/0146  
Online-adaptive particle therapy: Current  
status and vision for the future  
•*Christian Richter*

### Sessions

- ST 7            11:00 – 12:30    HSZ/AUDI  
AI Topical Day – Invited Talks
- ST 8            14:00 – 15:30    ZEU/0146  
AI Topical Day – AI in Medicine
- ST 9            15:50 – 17:20    ZEU/0146  
Radiation Therapy

- ST 10            17:30 – 18:00    ZEU/0146  
Keynote: Online-Adaptive Particle Therapy
- ST 11            18:00 – 18:15    ZEU/0146  
Prize Ceremony and Closing Session

## Particle Physics Division (T)

### Invited Topical Talks

- T 101.1           14:00 – 14:20    HSZ/0003  
How to Study the Higgs Boson in its Bosonic  
Decays  
•*Benedict Winter*
- T 101.2           14:20 – 14:40    HSZ/0003  
Measuring  $H \rightarrow WW$  with the ATLAS  
Experiment  
•*Carsten Burgard*
- T 101.3           14:40 – 15:00    HSZ/0003  
Belle II opportunities in B-decays with  
invisible signatures  
•*Slavomira Stefkova*
- T 101.4           15:00 – 15:20    HSZ/0003  
Two Pieces of a Puzzle: Inclusive and  
Exclusive  $V_{cb}$   
•*Markus Prim*
- T 102.1           14:00 – 14:20    HSZ/0004  
Expanding the Frontiers of Galactic Neutrino  
Astronomy via Machine Learning  
•*Mirco Hünnefeld*
- T 102.2           14:20 – 14:40    HSZ/0004  
Enhancing the CMS Level-1 Trigger with real-  
time Machine Learning  
•*Artur Lobanov*
- T 102.3           14:40 – 15:00    HSZ/0004  
Higgsino Hunting at ATLAS  
•*Michael Holzbock*

T 102.4	15:00 – 15:20	HSZ/0004	New Ideas for Baryo- and Leptogenesis • <i>Kai Schmitz</i>
			<b>Sessions</b>
T 100	11:00 – 12:30	HSZ/AUDI	AI Topical Day – Invited Talks
T 101	14:00 – 15:20	HSZ/0003	Invited Topical Talks III-A
T 102	14:00 – 15:20	HSZ/0004	Invited Topical Talks III-B
T 103	15:45 – 17:15	HSZ/0004	AI Topical Day – Simulation, Inverse Problems and Algorithmic Development
T 104	15:50 – 17:20	HSZ/0304	Flavor VIII
T 105	15:50 – 17:20	HSZ/0401	Flavor IX
T 106	15:50 – 17:05	HSZ/0403	Searches IV
T 107	15:50 – 17:20	HSZ/0101	Searches – Neutrino at accelerators
T 108	15:50 – 17:20	HSZ/0103	Top, EW I
T 109	15:50 – 17:20	HSZ/0105	Higgs, Di-Higgs III
T 110	15:50 – 17:20	HSZ/0201	Other Theory
T 111	15:50 – 17:20	HSZ/0204	Outreach Diverse
T 112	15:50 – 17:20	HSZ/0301	DAQ Test/RO – GRID I
T 113	15:50 – 17:20	HSZ/0405	QCD Theory and Experiment II

T 114	15:50 – 17:20	POT/0051	Neutrinos V
T 115	15:50 – 17:20	POT/0151	Gamma Astronomy V
T 116	15:50 – 17:20	POT/0251	Neutrinos Legend, Neutrino Theory
T 117	15:50 – 17:20	POT/0361	Dark Matter I
T 118	15:50 – 17:20	POT/0006	Dark Matter II
T 119	15:50 – 17:05	POT/0112	Neutrino Astronomy IV
T 120	15:50 – 17:20	POT/0013	Cosmic Ray V
T 121	15:50 – 17:20	POT/0351	Cosmic Ray VI
T 122	15:50 – 16:50	POT/0106	DAQ Systems
T 123	15:50 – 17:20	WIL/A317	Pixel/Belle II, Si/Other
T 124	15:50 – 17:20	WIL/A124	Si-Strip/CMS, Pixel/DMAPS
T 125	15:50 – 17:20	WIL/C133	Calorimeter / Detector Systems V
T 126	15:50 – 17:20	WIL/A120	Gas-Detectors, Detector Systems
T 127	15:50 – 17:05	WIL/C129	Exp. Methods III
T 128	17:30 – 19:00	HSZ/0004	AI Topical Day – New Methods
T 129	17:30 – 19:00	HSZ/0304	Flavor X

T 130	17:30 – 18:45	HSZ/0401	Top II
T 131	17:30 – 18:45	HSZ/0403	Searches V
T 132	17:30 – 19:00	HSZ/0101	Searches VI
T 133	17:30 – 19:00	HSZ/0103	Top, EW II
T 134	17:30 – 19:00	HSZ/0105	Higgs, Di-Higgs IV
T 135	17:30 – 19:00	HSZ/0201	Top Mass, Top BSM
T 136	17:30 – 19:00	HSZ/0204	Higgs TH, VH
T 137	17:30 – 19:00	HSZ/0301	DAQ Test/RO – GRID II
T 138	17:30 – 18:45	HSZ/0405	QCD Experiment III
T 139	17:30 – 19:00	POT/0051	Neutrinos VI
T 140	17:30 – 19:00	POT/0151	Gamma Astronomy VI
T 141	17:30 – 19:00	POT/0251	Neutrino Astronomy V
T 142	17:30 – 19:00	POT/0361	Neutrinos, Dark Matter XI
T 143	17:30 – 19:00	POT/0006	Neutrinos VII
T 144	17:30 – 19:00	POT/0013	Cosmic Ray VII
T 145	17:30 – 19:00	POT/0351	Cosmic Ray VIII

Thu

T 146	17:30 – 19:00	POT/0106 DAQ Systems, Exp. Methods
T 147	17:30 – 19:00	WIL/A317 Pixel/HV-Maps, Si/Diamond
T 148	17:30 – 19:00	WIL/A124 Si/SiPM, Pixel/Other
T 149	17:30 – 19:00	WIL/C133 Detector Systems / Muon
T 150	17:30 – 19:00	WIL/A120 Gas-Detectors, Pixel/TANGERINE
T 151	17:30 – 19:00	WIL/C129 Exp. Methods IV
T 152	20:00 – 22:00	HSZ/0003 Members' Assembly

## Environmental Physics Division (UP)

### Invited Talks

UP 7.1	11:00 – 11:30	MOL/0213 Towards monitoring of anthropogenic greenhouse gas emissions from satellites • <i>Hartmut Bösch</i>
UP 8.1	14:00 – 14:30	MOL/0213 Destabilization of carbon in tropical peatlands by enhanced weathering • <i>Alexandra Klemme</i>
UP 8.2	14:30 – 15:00	MOL/0213 Widespread forest decline in central Europe following three extreme summers in 2018-2020 • <i>Ana Bastos</i>

### Sessions

UP 7	11:00 – 12:15	MOL/0213 Greenhouse Gases: Remote Sensing
UP 8	14:00 – 15:15	MOL/0213 Carbon Cycle & Climate Change

## Working Group on Accelerator Physics (AKBP)

### Prize Talks

AKBP 13.1 14:00 – 14:45 HSZ/0304

TBA

•*Carl A. Lindström*

AKBP 13.2 14:45 – 15:30 HSZ/0304

TBA

•*Ferdinand Willeke*

### Sessions

AKBP 12 11:00 – 12:30 HSZ/AUDI

AI Topical Day – Invited Talks

AKBP 13 14:00 – 15:30 HSZ/0304

Preisverleihung des AKBP Nachwuchspreises  
und des Horst-Klein Preises

AKBP 14 15:30 – 17:15 CHE/0183

Instrumentation II

AKBP 15 15:30 – 17:15 CHE/0184

New Accelerator Concepts

AKBP 16 15:45 – 18:30 HSZ OG3

Poster

AKBP 17 17:30 – 18:45 CHE/0183

Instrumentation III

AKBP 18 17:30 – 18:45 CHE/0184

Beam Dynamics II

AKBP 19 19:00 – 20:00 CHE/0091

Members' Assembly

## Working Group „Young DPG“ (AKjDPG)

### Invited Talk

AKjDPG 1.4 16:00 – 16:45 ZEU/0148

Open data and open-source tools throughout  
research data life cycle: KCDC example

•*Victoria Tokareva*



## Session

AKjDPG 1 14:00 – 17:30 ZEU/0148  
Hacky Hour

## Working Group on Physics, Modern IT and Artificial Intelligence (AKPIK)

### Invited Talks

- AKPIK 6.1 11:00 – 11:30 HSZ/AUDI  
AI Techniques for Event Reconstruction  
•*Ivan Kisel*
- AKPIK 6.2 11:30 – 12:00 HSZ/AUDI  
Accelerator operation optimisation using machine learning  
•*Pierre Schnizer*
- AKPIK 6.3 12:00 – 12:30 HSZ/AUDI  
Is this even physics? – Progress on AI in particle physics  
•*Gregor Kasieczka*

### Sessions

- AKPIK 6 11:00 – 12:30 HSZ/AUDI  
AI Topical Day – Invited Talks
- AKPIK 7 14:00 – 15:30 HSZ/0101  
AI Topical Day – Research Data Management and Medical Applications
- AKPIK 8 15:45 – 17:15 HSZ/0004  
AI Topical Day – Normalizing Flows and Invertible Neural Networks
- AKPIK 9 17:30 – 19:00 HSZ/0004  
AI Topical Day – New Methods
- AKPIK 10 14:00 – 15:30 HSZ/0103  
AI Topical Day – Computing II
- AKPIK 11 14:00 – 15:30 ZEU/0146  
AI Topical Day – AI in Medicine
- AKPIK 12 14:00 – 15:30 HSZ/0105  
AI Topical Day – Heavy-Ion Collisions and QCD Phases

## Working Group on Physics and Disarmament (AGA)

### Invited Talks

- AGA 4.1      14:00 – 14:45    HSZ/0002  
Mass Starvation? Impacts of Nuclear War on  
Climate Change and Food Security  
•*Lili Xia*
- AGA 5.1      15:45 – 16:30    HSZ/0002  
Nuclear forensic science – when nuclear  
scientists and law enforcement meet  
•*Maria Wallenius*
- AGA 5.2      16:30 – 17:15    HSZ/0002  
Applied Physics in the Alva Myrdal Centre for  
Nuclear Disarmament: Non-Proliferation and  
Safeguards Activities  
•*Sophie Grape*

### Sessions

- AGA 4      14:00 – 15:25    HSZ/0002  
Nuclear Weapons and the Atmosphere
- AGA 5      15:45 – 17:15    HSZ/0002  
Applied Nuclear Physics
- AGA 6      17:30 – 18:30    HSZ/0002  
Members' Assembly

## Working Group on Information (AGI)

### Invited Talks

- AGI 1.1      11:00 – 11:30    ZEU/0148  
Programming and Computational Physics  
Education in the Physics Curriculum at  
University of Göttingen  
•*Fabian Heidrich-Meisner*
- AGI 1.2      11:30 – 12:00    ZEU/0148  
Integrating Digitalization and Research Data  
Management (RDM) into the Curricula of  
Bachelor and Master Students in Chemistry  
•*Fabian Fink*

AGI 1.3      12:00 – 12:30    ZEU/0148  
News from PUNCH4NFDI: Education of students  
•*Carsten Burgard*

**Sessions**

AGI 1      11:00 – 12:30    ZEU/0148  
Data Literacy in the Physics Curriculum

AGI 2      14:00 – 17:30    ZEU/0148  
Hacky Hour

**Working Group on Philosophy of Physics (AGPhil)**

**Invited Talks**

AGPhil 8.1    11:00 – 11:45    JAN/0027  
Interpreting Quantum Mechanics on an Informational Approach  
•*Michael Cuffaro*

AGPhil 8.2    11:45 – 12:30    JAN/0027  
Does science need intersubjectivity?  
The problem of confirmation in orthodox interpretations of quantum mechanics  
•*Emily Adlam*

**Sessions**

AGPhil 8      11:00 – 12:30    JAN/0027  
Quantum Foundations 4

AGPhil 9      14:00 – 16:00    JAN/0027  
Quantum Foundations 5

AGPhil 10     16:15 – 16:45    JAN/0027  
Quantum Foundations Poster Session

**Exhibition of Scientific Instruments and Literature**

10:00 – 18:00    Foyer Lecture Hall Centre

Thu

## Public Evening Lecture

- PV XVI      20:00 – 21:30    HSZ/AUDI  
Von Sachsen ins Universum  
•*Christian Stegmann*
- 

## Friday, March 24, 2023

### Plenary Talks, Prize Talk

- PV XVII      09:00 – 09:45    HSZ/AUDI  
The Einstein Telescope  
•*Harald Lück*
- PV XVIII     09:45 – 10:30    HSZ/AUDI  
The LHC legacy and prospects  
•*Markus Klute*
- PV XIX      13:00 – 13:30    HSZ/AUDI  
The science and technology of DUNE  
and its future as an international neutrino  
observatory  
•*Stefan Söldner-Rembold (Laureate of the  
Max-Born-Prize 2023)*

Fri

## Extraterrestrial Physics Division (EP)

### Invited Talk

- EP 14.1      11:00 – 11:30    HSZ/0004  
Unveiling the secrets of hot, massive stars  
with modern stellar atmosphere models  
•*Andreas A C Sander*

### Sessions

- EP 14      11:00 – 13:00    HSZ/0004  
Astrophysics: Stellar Astrophysics
- EP 15      14:00 – 15:30    HSZ/0004  
Astrophysics: Cosmology

## Gravitation and Relativity Division (GR)

### Session

GR 16      11:00 – 12:40    HSZ/0401

Experimental Tests

## Hadronic and Nuclear Physics Division (HK)

### Invited Talks

HK 76.1      11:00 – 11:30    HSZ/0002

Thermalization of heavy quarks in the QGP

•*Federica Capellino*

HK 76.2      11:30 – 12:00    HSZ/0002

Hadron structure in Lattice QCD

•*Konstantin Ottnad*

HK 76.3      12:00 – 12:30    HSZ/0002

LISA: Lifetime measurements with Solid Active targets

•*Kathrin Wimmer*

### Session

HK 76      11:00 – 12:30    HSZ/0002

Invited Talks IV

## Particle Physics Division (T)

### Invited Talks

T 153.1      11:00 – 11:30    HSZ/AUDI

The Standard Model on the test bench: What bosons and the top quark (will) tell us

•*Valerie Lang*

T 153.2      11:30 – 12:00    HSZ/AUDI

Gravitational wave observations: Current results & future expectations

•*Harald Pfeiffer*

T 153.3      12:00 – 12:30    HSZ/AUDI

Precise muon detection: novel technologies for the luminosity frontier

•*Kerstin Hoepfner*

T 154.1      13:30 – 14:00    HSZ/AUDI  
ECN3: Experimental Opportunities at a Future  
High-Intensity Proton Facility at the CERN  
SPS (BDF/SHiP and HIKE+SHADOWS)  
•*Annika Hollnagel*

**Sessions**

T 153      11:00 – 12:30    HSZ/AUDI  
Invited Overview Talks III

T 154      13:30 – 14:00    HSZ/AUDI  
Invited Overview Talks IV

**Working Group on Physics and Disarmament (AGA)**

**Invited Talks**

AGA 7.1      13:00 – 13:45    HSZ/0002  
Fireworks or Threat? – Recent Missile  
Developments in North Korea  
•*Markus Schiller*

AGA 7.2      13:45 – 14:30    HSZ/0002  
The Challenge of Nuclear-Powered  
Submarines to IAEA Safeguards  
•*Tariq Rauf*

**Sessions**

AGA 7      13:00 – 14:50    HSZ/0002  
Proliferation Challenges

AGA 8      14:50 – 15:10    HSZ/0002  
Mathematical Modelling of Conflicts

**Working Group on Philosophy of Physics (AGPhil)**

**Session**

AGPhil 11      10:45 – 12:45    HSZ/0304  
Quantum Mechanics, Philosophy and  
Information

# Index of Exhibitors

## Exhibition Venue:

Technische Universität Dresden / Lecture Hall Centre (HSZ)  
Campus Südvorstadt, 01069 Dresden

## Opening Hours Exhibition:

Tuesday, March 21 - Thursday, March 23 10:00 – 18:00

<u>Company</u>	<u>Stand No.</u>
<b>AMT Andreas Mattil - Technischer Vertrieb</b> Talstraße 33, 67737 Frankelbach <i>Flanges and fittings, viewports, electrical feedthroughs, electronics and instruments, motion and manipulation, helium leak detectors, gauges, SEM coatings, titanium sublimation pumps and much more.</i>	<b>H 02</b>
<b>CAEN ELS S.R.L.</b> AREA Science Park – SS14 km 163,5, 34149 Basovizza, Trieste, Italy <i>High Performance Power Supplies / High Precision 0-FLUCS Current Measurement Devices / Beamline Electronic Instrumentation / Components for FMC and MicroTCA</i>	<b>H 23</b>
<b>CAEN GmbH</b> Klingenstraße 108, 42651 Solingen <i>VME, NIM, CAMAC, High Voltage</i>	<b>H 24</b>
<b>Hamamatsu Photonics Deutschland GmbH</b> Arzbergerstraße 10, 82211 Herrsching <i>We are a manufacturer of optoelectronic components for highest demands. Small quantities, customization, or series production, whatever you need: We will find a solution. Talk to us at booth H25.</i>	<b>H 25</b>

**ISEG Spezialelektronik GmbH** **H 18**

Bautzner Landstraße 23, 01454 Radeberg / Rossendorf  
*Hochspannungsversorgungen, Hochspannungsnetzgerä-  
te, HV-DC/DC- Konverter*

**LHC ErUM-FSP** **H 13**  
**Office Georg-August-Universität Göttingen**

Friedrich-Hund Platz 1, 37077 Göttingen  
*LHC ErUM-FSP Büro*

**Owis GmbH** **H 03**

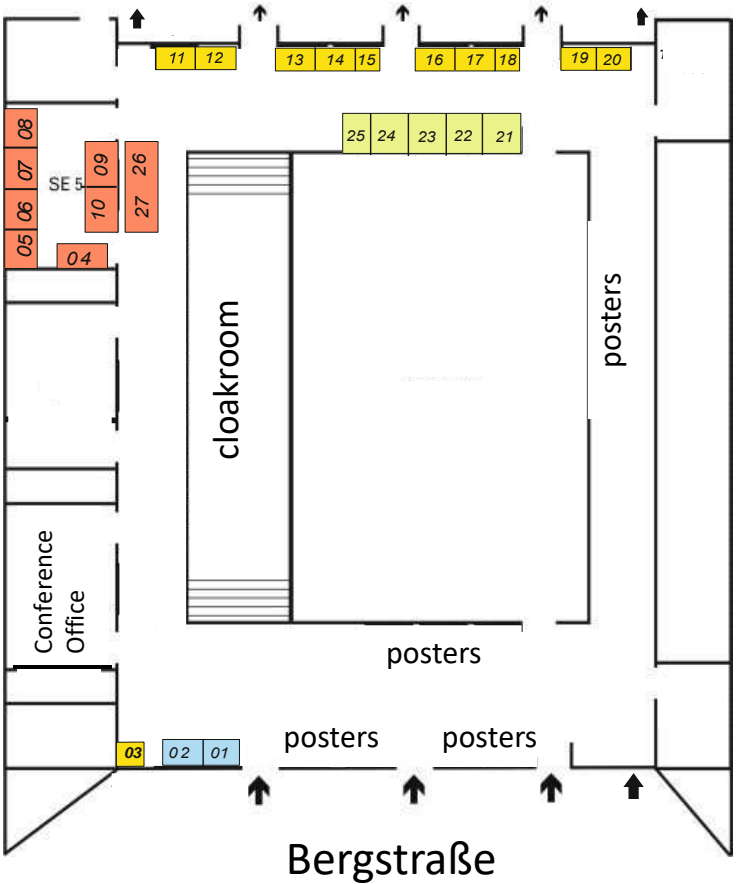
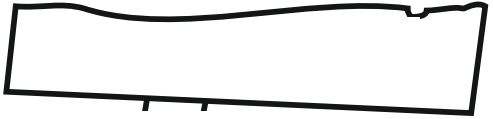
Im Gaisgraben 7, 79219 Staufen i. Br.  
*Strahlführungs- und Positioniersysteme*

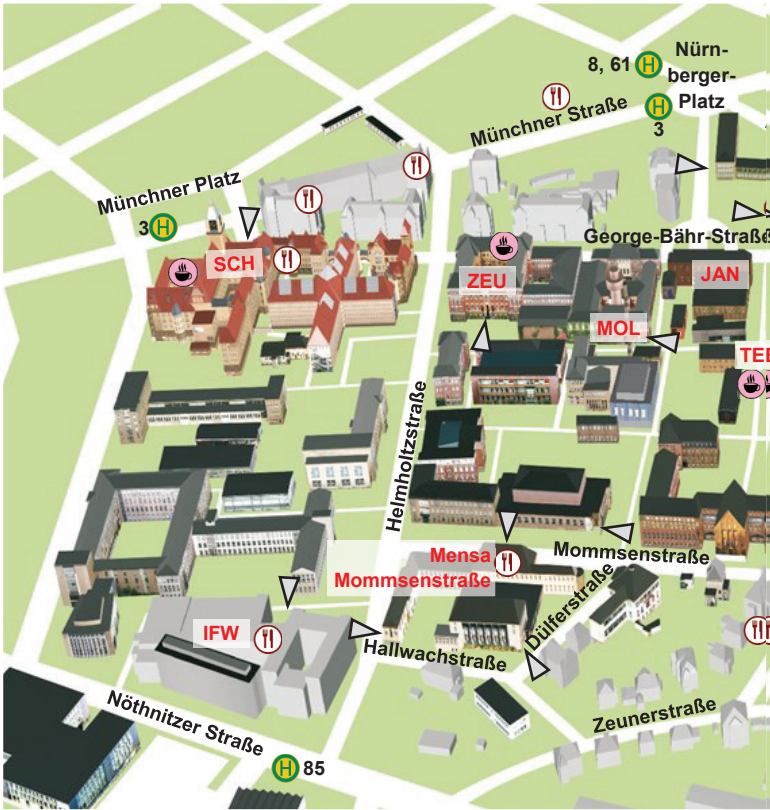
**Springer-Verlag GmbH** **H 01**

Tiergartenstraße 17, 69121 Heidelberg  
*Wissenschaftliche Bücher und Zeitschriften*




# Exhibition Lecture Hall Center (HSZ)






**HSZ** Lecture hall name (abbreviation)  
<https://navigator.tu-dresden.de>

 Entrance

 Coffee

 Mensa, Snacks

 Tram or bus stop with number

BER	Berndt-Bau
CHE	Chemiegebäude
GER	von-Gerber-Bau
HSZ	Hörsaalzentrum (Lecture Hall)
	Conference office, Plenary
	Evening talks, Posters
JAN	Jante-Bau
MOL	Mollier-Bau
POT	Gerhard-Potthoff-Bau
REC	Recknagel-Bau

campus map



- |           |                    |
|-----------|--------------------|
| SCH       | Georg-Schumann-Bau |
| Tent A, B | Coffee Breaks      |
| WIL       | Willers-Bau        |
| ZEU       | Zeuner-Bau         |

ecture Hall Center)  
 lenary talks, Tutorials,  
 ers, Exhibition

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