

An aerial photograph showing a city in the distance, a large green field in the foreground, and a dense forest of trees in the middle ground. The text is overlaid on the right side of the image.

**Welcome to  
The 2nd DMNet  
International Symposium  
at the  
Max-Planck-Institut  
für Kernphysik (MPIK)**

Sept. 13-15, 2022  
Manfred Lindner (MPIK)



# Direct and Indirect Detection of Dark Matter

## The 2nd DMNet International Symposium

Sep 13 – 15, 2022

Max Planck Institute for Nuclear Physics, Heidelberg, Germany

Europe/Zurich timezone

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The DMnet International Symposium is an annual symposium to tackle dark matter by putting various efforts in different research areas together. The second DMNet international symposium is held at the Max Planck Institute for Nuclear Physics in Heidelberg, Germany from September 13th to 15th, 2022. This year the symposium will focus especially on the topics of the direct and indirect detection of dark matter. We will discuss the various projects for the direct and indirect detection of dark matter including their theoretical sides, and synergy among them.

There is no registration fee. The meeting is essentially in-person, but requests for remote participation will be considered (please specify when you register). Please register by 1st Sep. Please note, the number of on-site participants may become limited due to the pandemic situation.

All the talks are invited except for a small number of slots for contributed talks. The symposium also has an in-person poster session where young participants are encouraged to submit their contributions related to dark matter. Requests for contributions, with title and abstract, must be submitted by 19th August.

The DMnet is “International Research Network to Reveal Dark Matter in the Universe by Multidisciplinary Approach in Particle and Astrophysics” (<https://www.kmi.nagoya-u.ac.jp/jsps-core-to-core-program/>) started in Kobayashi-Maskawa Institute for the Origin of Particles and Universe in 2020 supported by JSPS Core-to-Core Program.

# Direct and Indirect Detection of Dark Matter

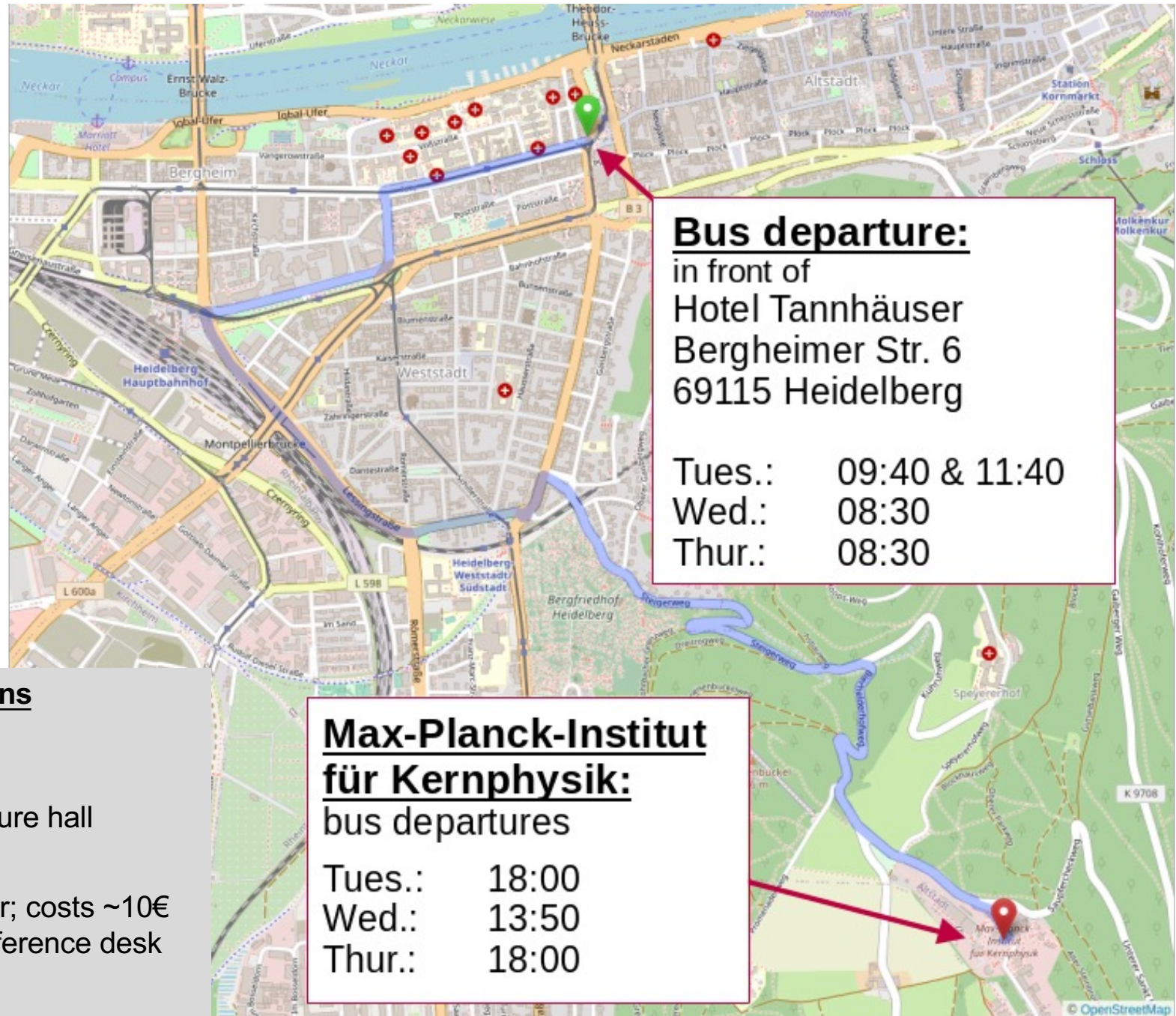
## The 2nd DMNet International Symposium

Monday	Tuesday	Wednesday	Thursday	Friday
	closed DMnet session	sessions	sessions	closed DMnet session
	sessions	excursion		
		evening session at IWH		
		conference dinner		
	posters & welcome reception			

All coffee breaks, lunches, reception → at MPIK



# Practical information: Shuttle buses



## **Bus departure:**

in front of  
Hotel Tannhäuser  
Bergheimer Str. 6  
69115 Heidelberg

Tues.: 09:40 & 11:40  
Wed.: 08:30  
Thur.: 08:30

## **Other options**

### **Public transport:**

- bus number 39
- schedule in front of lecture hall

### **Taxi:**

- takes 5 minutes to order; costs ~10€
- can be ordered via conference desk

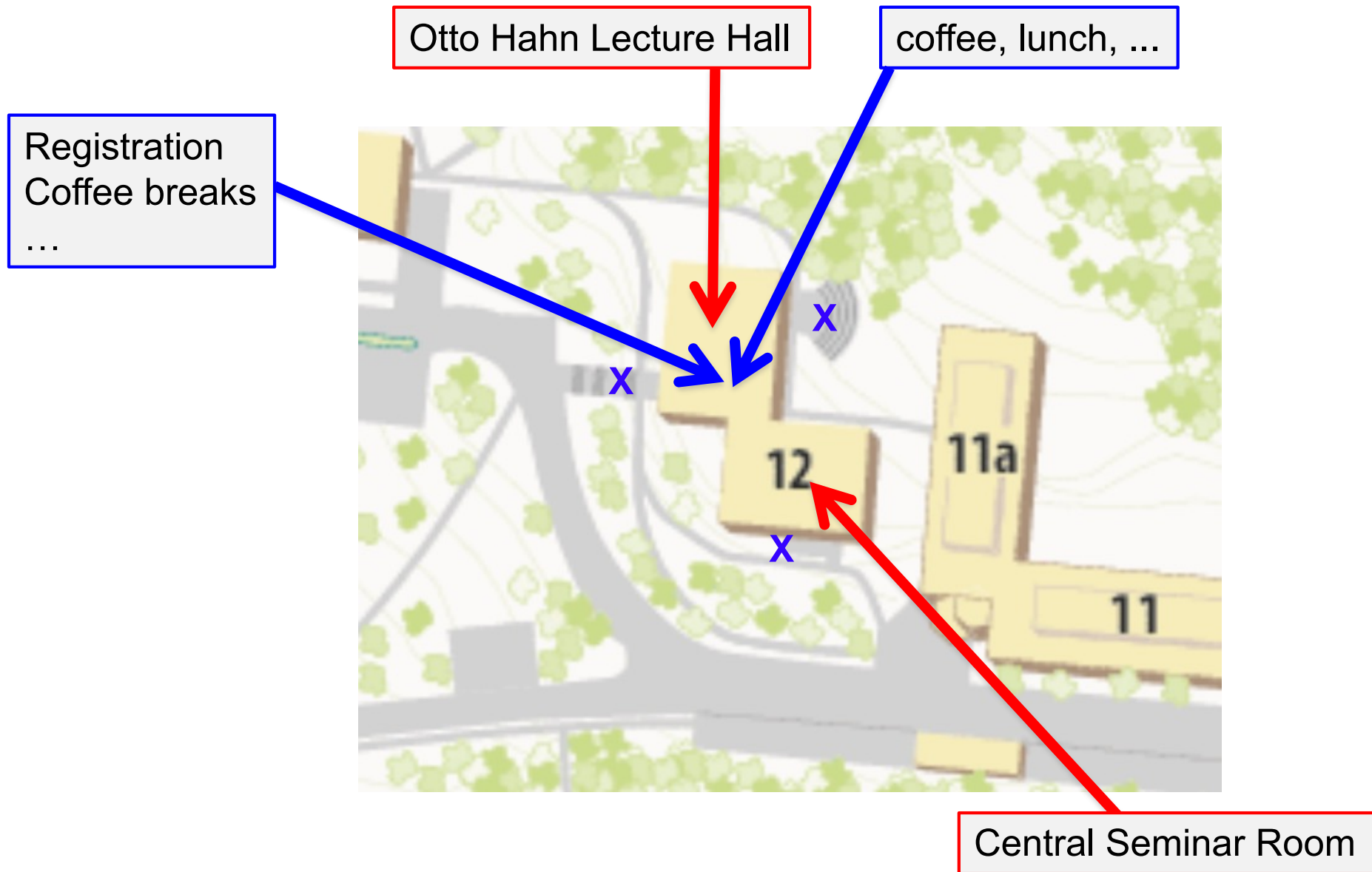
### **Locals....**

## **Max-Planck-Institut für Kernphysik:**

bus departures

Tues.: 18:00  
Wed.: 13:50  
Thur.: 18:00

# Conference Venue



# Covid

## **In Germany in general:**

- Most protective measures are in general no longer in place
- Masks are obligatory in planes, trains, public transport, hospitals or similar

## **Covid rules at MPIK:**

- Make use of self-tests at the hotel before coming to MPIK  
→ catches many cases effectively before symptoms appear
- Maintain reasonable distancing (spread over lecture rooms, coffee outside)
- **Wear masks whenever distancing cannot be sufficiently maintained**
- **Any signs of symptoms: self-test → PCR test → inform us**

## **Still relevant?**

- List of testing services in Heidelberg:  
<https://www.heidelberg.de/hd/testangebote+in+heidelberg.html>
- Need a test before traveling home? → ask us

**→ ask us if you need any help / advice**

# Practical information:

## Talks:

- All talks → **uploaded to Indico** or sent to [wsorg@mpi-hd.mpg.de](mailto:wsorg@mpi-hd.mpg.de) < 1hr before

**Coffee breaks, lunches, reception, BBQ → at the conference site**

## Internet:

- eduroam → just connect
- ask at conference desk for personal access code

## Sessions:

- Session chairs → stay in time ; shown times **INCLUDE** discussion time
- Q&A: Wait for microphone for questions / comments

## Excursion & Conference Dinner

- detailed announcements with details to come

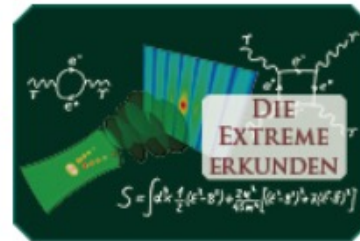
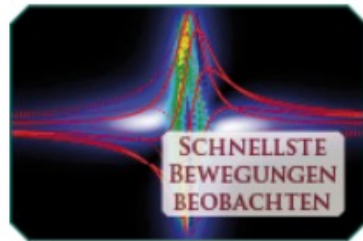


# Some quick details about MPIK

**MPG – Max Planck Gesellschaft:**

~80 Max-Planck institutes (MPIs), 2-8 divisions each, ~16.000 employees, budget ~1.6Bn€

**MPIK: 5 divisions, ~450 people, physics program around two themes**

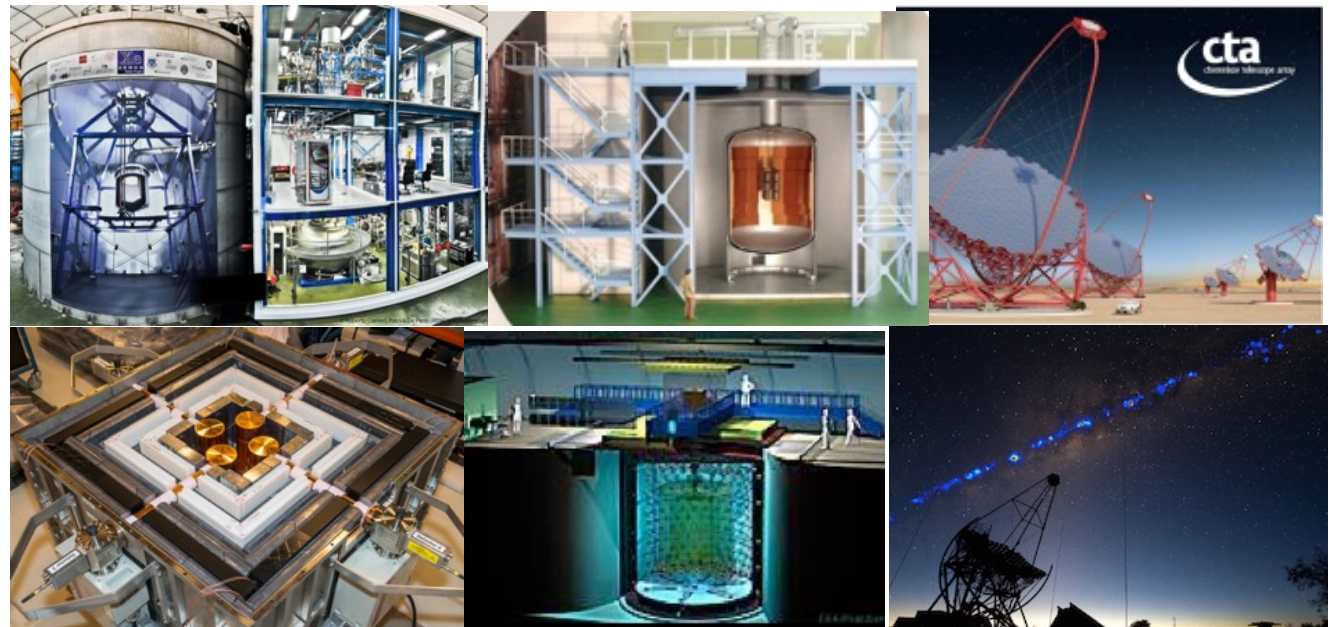


**Particle and astroparticle physics ↔ quantum dynamics**

various well known activities in the past: **GALLEX, GNO, HdM, Borexino, Double Chooz, ...**

**HESS, CTA, LHCb, GERDA, Double Chooz, LEGEND200, STEREO, CONUS XENON100, XENON1T, ...nT theory:**

- neutrinos
- dark matter
- beyond the Standard Model
- early universe
- high energy astrophysics





# Today's Program

12:00	<b>Lunch Break / Registration</b>	
13:00	<i>Max Planck Institute for Nuclear Physics, Heidelberg, Germany</i>	12:00 - 13:20
	<b>Opening Adress 1</b>	
	<i>Max Planck Institute for Nuclear Physics, Heidelberg, Germany</i>	13:20 - 13:30
	<b>Opening Adress 2</b>	
	<i>Max Planck Institute for Nuclear Physics, Heidelberg, Germany</i>	13:30 - 13:40
	<b>DM models, properties and particle physics candidates</b>	<i>Dr Takashi Toma</i>
14:00	<i>Max Planck Institute for Nuclear Physics, Heidelberg, Germany</i>	13:40 - 14:20
	<b>dark matter distribution/ J factor</b>	<i>Kohei Hayashi</i>
	<i>Max Planck Institute for Nuclear Physics, Heidelberg, Germany</i>	14:20 - 15:00
15:00	<b>Review of Wino-like dark matter</b>	<i>Junji HISANO</i>
	<i>Max Planck Institute for Nuclear Physics, Heidelberg, Germany</i>	15:00 - 15:40
	<b>Coffe break</b>	
	<i>Max Planck Institute for Nuclear Physics, Heidelberg, Germany</i>	15:40 - 16:00
16:00	<b>Searching for Dark Matter with HyperK</b>	<i>Nicole Bell</i>
	<i>Max Planck Institute for Nuclear Physics, Heidelberg, Germany</i>	16:00 - 16:25
	<b>Dark matter in galaxy clusters from X-ray &amp; SZ effect</b>	<i>Stefano Ettori</i>
	<i>Max Planck Institute for Nuclear Physics, Heidelberg, Germany</i>	16:25 - 16:45
17:00	<b>Poster Session &amp; Welcome Reception</b>	
	<b>Posters &amp; Welcome reception</b>	
	<i>Max Planck Institute for Nuclear Physics, Heidelberg, Germany</i>	16:45 - 17:45



**Enjoy the Symposium!**