

Ruperto Carola Symposium 2014: *Shedding Light on Emergent Quantum Phenomena*

March 9 – 12, 2014
Internationales Wissenschaftsforum Heidelberg

Conference Program

Scientific coordination and organization

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Acknowledgements

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Heidelberg graduate school
for fundamental physics



Center for Quantum Dynam-
ics, Heidelberg

General information

Venues

Conference venue:

[Internationales Wissenschaftsforum Heidelberg \(IWH\)](#)

Hauptstrasse 242

69117 Heidelberg

Germany

IWH secretary: +49 (0)6221 54 36 90

IWH reception desk: +49(0) 6221 7299 758

IWH fax: +49 (0)6221 54 161 3691

Labtours and Poster session venue:

[Physikalisches Institut Heidelberg \(PI\)](#)

Im Neuenheimer Feld 226

69120 Heidelberg

Germany

Conference Dinner venue:

[Kulturbrauerei Heidelberg](#)

Leyergasse 6

69117 Heidelberg

Tel.: +49 (0)6221 502980

E-Mail: info@heidelberger-kulturbrauerei.de

Public lecture venue

["Alte Aula"](#)

Grabengasse 1

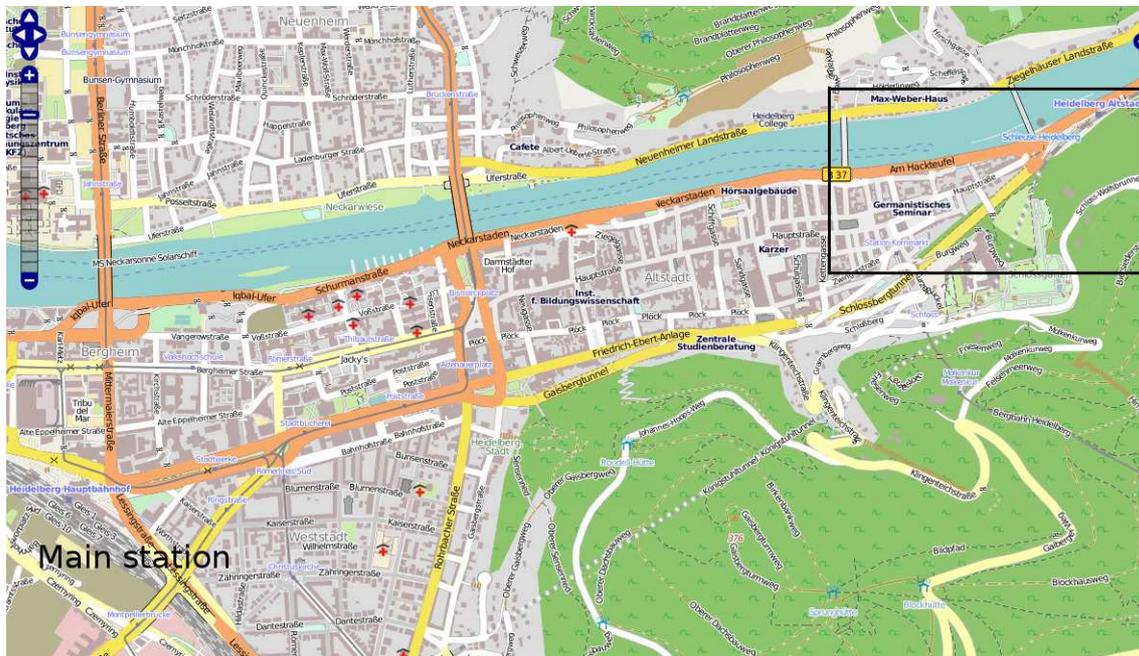
69117 Heidelberg

Important phone numbers:

[Taxi Heidelberg: +49 \(0\) 6221 30 20 30](#)

Emergency call in Germany: 112

Heidelberg Old Town and location of the IWH



from openstreetmap.org

How to find the IWH

I. From Frankfurt Airport

1. By German Railway (Deutsche Bahn; www.bahn.com) to Heidelberg Main Station (Hauptbahnhof). Once you arrived there, please follow directions given under II.
2. Using the Airport Transfer and Limousine Service (TLS; booking hotline +49 6221 770077, reservations online: www.tls-heidelberg.de/en/online-booking/). Depending on which airline you are using, you will be picked up at the Meeting Point at either Terminal 1 or 2. TLS will take you directly to the IWH. Advance reservation with information on the airline and flight number is required (EUR 35.00).
3. The service provided by Wörns T.S. GmbH (www.woerns-ts.de, booking hotline (8 am to 6 pm) +49 (0)6227 3589222) is slightly more comfortable and slightly faster. Prices vary depending on the number of passengers.
4. By Frankfurt Airport Shuttles (operated by the Transcontinental Group, booking hotline +49 (0)6152 9769099, www.transcontinental-group.com/en/frankfurt-airport-shuttles). For schedules, please see www.transcontinental-group.com/de/fahrplan-hd-ap-ab-17. The bus stops at the Meeting Point in Terminal 1 B 3/Arrivals level. It will take you to the Crowne Plaza Hotel (Kurfürstenanlage 1–3) in Heidelberg (EUR 24.00). From there, you can take a taxi to the IWH.

II. From Heidelberg Main Station (Hauptbahnhof)

Take the S-Bahn (S1 – destination Eberbach or Osterburken; S2 – destination or Mosbach; S5 – destination Eppingen), or bus 33 (direction "Köpfel" / Heidelberg-Ziegelhausen, stops in front of the train station) and get off at "S-Bahnhof Altstadt" (formerly "Karlstor"). It is a 3-minute walk to the IWH from there (see map). Travel time by S-Bahn 5 minutes, by bus between 16 and 21 minutes.

Opening Hours of the reception desk

During the Symposium our front desk staff will be available during the following hours:

- **Sunday, 9th March:** 2 pm – 8 pm
- **Monday, 10th March:** 8 am – 9 am, as well as in the coffee breaks and in the lunch break.
- **Tuesday, 11th March:** 8 am – 9 am, as well as in the coffee breaks and in the lunch break.
- **Wednesday, 12th March:** 8 am – 9 am and 4:30 pm – 5:30 pm, as well as in the coffee breaks and in the lunch break.

During opening the hours you can reach the reception desk staff under the following phone number +49 (0)6221 7299758

Events

Sunday, 9th of March

Castle tour

On Sunday afternoon everyone is invited to visit the famous [Heidelberg Castle](#), which is situated on the hills right above our conference site. Guides in historical costumes will show us around and will present fascinating stories about how life at the castle was like centuries ago.

Welcome reception

After the castle tour everyone is invited to join the welcome reception which takes place from 6 pm till 7:30 pm. The reception takes place in the conference venue, the IWH, where finger food and cold beverages will be served. This will be a fantastic opportunity to meet some of the delegates and to receive the latest information about the symposium.

Monday, 10th of March

Labtours

On late Monday afternoon a bus will take us to the science campus of the University of Heidelberg. We will stop at the [Physics Institute](#), which is home of the [Center for Quantum Dynamics \(CQD\)](#) and the [Heidelberg Graduate school of fundamental Physics \(HGSFP\)](#). In the Physics Institute and the neighboring [Kirchhoff Institute for Physics](#) we will be able to visit some of our eleven Quantum Optics laboratories. PhD students will give tours through the following labs:

Physics Institute:

- two labs of the [Ultracold Quantum Gases](#) Group of Selim Jochim,
- three labs of the [Quantum dynamics of atomic and molecular systems](#) Group of Matthias Weidemüller,
- one lab the [Exotic Quantum Matter](#) Group Shannon Whitlock, and
- one lab of the [Quantum Optics and Quantum Information](#) of Jian-Wei Pan,

or the labs in the Kirchhoff Institute for Physics:

- with four labs of the [Synthetic Quantum Systems](#) Group of Markus Oberthaler.

Poster session

The poster session will take place on Monday right after the lab tours. The session will be held in the ground floor corridor, which links the Physics Institute and the Kirchhoff Institute for Physics. Here, poster walls for Posters of Size A0 (portrait) will be available. Please hang your poster according to the Poster identification number listed on page 38. In order to guarantee

fruitful discussions, Beer and German Pretzels will be served.

BBQ

Monday's program will end with a one of the legendary BBQs run by the mechanics workshop of the Physics Institute. The BBQ is served in close proximity to the Posters which guarantees a smooth transition between the two events. The "open end" BBQ will be an ideal opportunity to get to know all the other participants of the Symposium.

Tuesday, 11th of March

Conference Dinner

Wednesday, 12th of March

Public evening lecture

The public evening lecture by [Prof. Jun Ye](#) from NIST in Boulder, Colorado, USA will conclude the conference program. This lecture will take place in the "[Alte Aula](#)", the oldest and most prestigious reception hall of the University of Heidelberg, which was redesigned in 1886. Since then the venue is used for academic ceremonies and special lectures. The lecture on '*Making a Clock*' by Prof. Ye is targeted at a general audience, such that interested citizens of Heidelberg can share the latest results from the forefront of precision science with us. For details, please see page [37](#).

W-Lan access

Conference Program

	Sun 9.3.	Mon 10.3.	Tue 11.3.	Wed 12.3.
09:00		key note	key note	key note
09:15		Rudi Grimm	Jun Ye	Michael Fleischhauer
09:30				
09:45		hot topic	hot topic	hot topic
10:00		Martin Zvierlein	Francesca Ferlaino	Thomas Pohl
10:15		coffee	coffee	coffee
10:30				
10:45		talk	talk	talk
11:00		Christophe Salomon	Benjamin Lev	Tilman Pfau
11:15		talk	talk	talk
11:30		Michael Köhl	Juliette Simonet	Christian Gross
11:45		talk	talk	talk
12:00		Stefan Natu	Olivier Gorceix	Shannon Whitlock
12:15				
12:30		lunch	lunch	lunch
13:00				
13:30				
14:00		talks	key note	talk
14:15		Selim Jochim	Mikhail Baranov	Iacopo Carusotto
14:30		Tilman Enss		talk
14:45		Markus Oberthaler	hot topic	Chris Greene
15:00		coffee	Matthew Davis	coffee
15:15			coffee	
15:30				talk
15:45		talks	talk	Lincoln Carr
16:00		Matthias Weidemüller	Hélène Perrin	talk
16:15		Thomas Gasenzer	talk	Tilman Esslinger
16:30		transfer IWH to PI	Daw-Wei Wang	
16:45			talk	
17:00			Marion Moliner	
17:15				
17:30		lab tours		
17:45				
18:00				
18:15				
18:30				
18:45				
19:00		poster session and bbq	dinner open end	public lecture at "Alte Aula"
19:15				
19:30				

The talks will have the following durations:

- Key note talks have a total duration of 45 min., including 5 min. for discussion. These talks are intended to be an introduction into the respective session topic and to build bridges to other sessions.
- Talks in the Heidelberg session are scheduled for 25 min. total, including 5 min. for discussion. These talks will be followed by lab tours.
- All other talks will have a total duration of 30 min., including 5 min. for discussion

All speakers and session chairs are kindly asked to stay in time, such that a smooth program flow can be guaranteed.