Welcome at KIT

ECFA DRD 7.6b

First workshop on Future Detector Technologies

Michele Caselle

2 and 3 Sept 2025
KIT - Campus South

We Celebrate 200 Years of KIT!

Shaping the Future

Research | Teaching | Transfer

Two centuries of scientific excellence and inventiveness: That is Karlsruhe Institute of Technology.

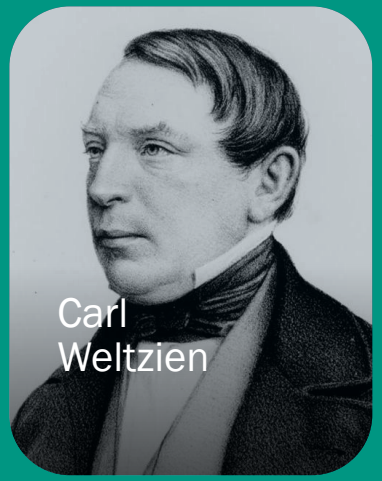
Shaped by Visions

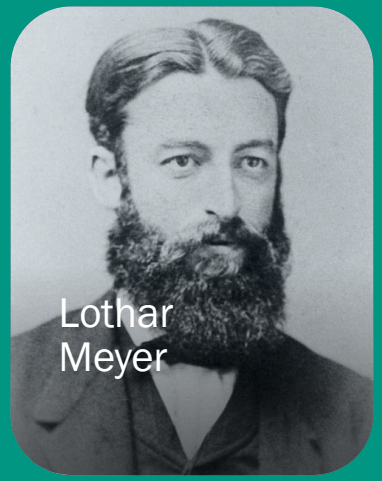
Our pioneers and achievements

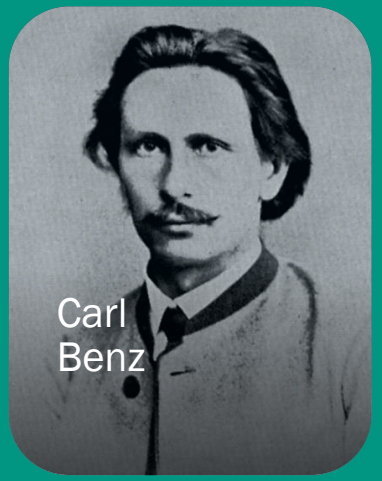

The first Department for Informatics in Germany

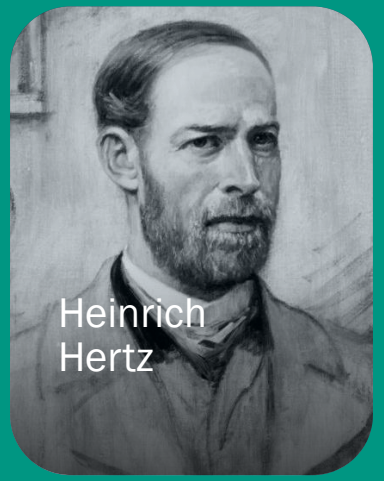

Johann Gottfried Tulla


Ferdinand Redtenbacher

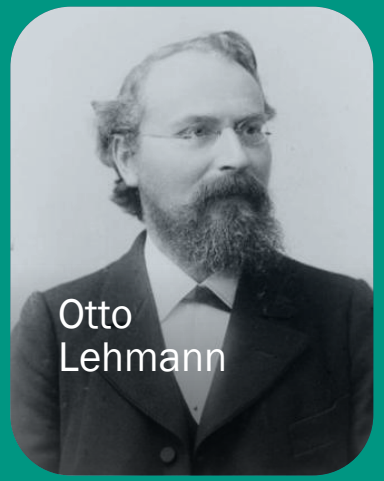

Carl Weltzien


Lothar Meyer

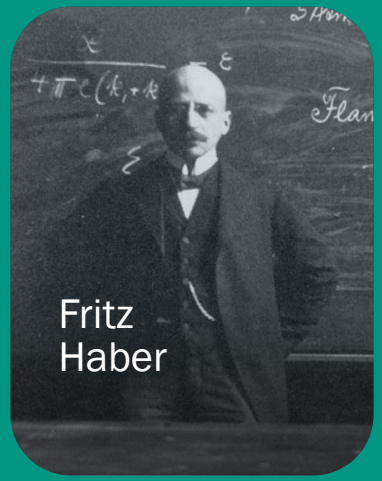

Carl Benz


Heinrich Hertz


Ferdinand Braun


Otto Lehmann


Magdalena Neff


Fritz Haber

Thekla Schild


Receiving the first e-mail in Germany

KIT in Figures
2024

415
Professors

22 761
Students

10 107
Employees

58
New spin-offs and start-ups

6
Locations (200 ha area)

1 730
International scientists

3 683
Doctoral researchers

337
Trainees

48
Patent applications

Budget
1,225.6 million euros

30%	state funds
30%	federal funds
40%	third-party funds

The Helmholtz Association

Germany‘s Largest Research Organization

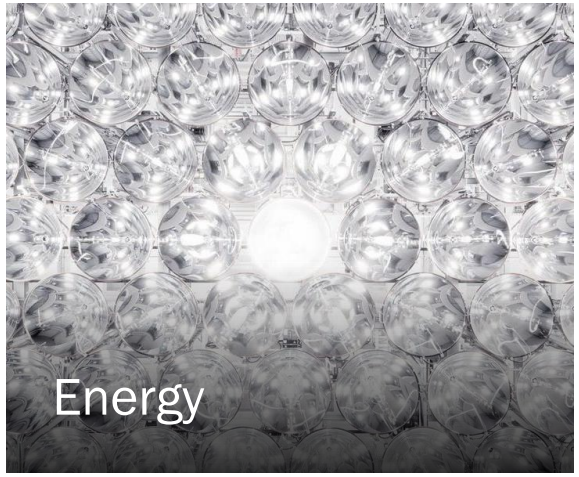
- 46,000 employees
- Annual budget of ≈ 6,3 billion euros
- 18 Helmholtz Centers

KIT participation in 11 programs of 4 Helmholtz Research Fields with a funding volume of 365 million euros per year (as of 2025).

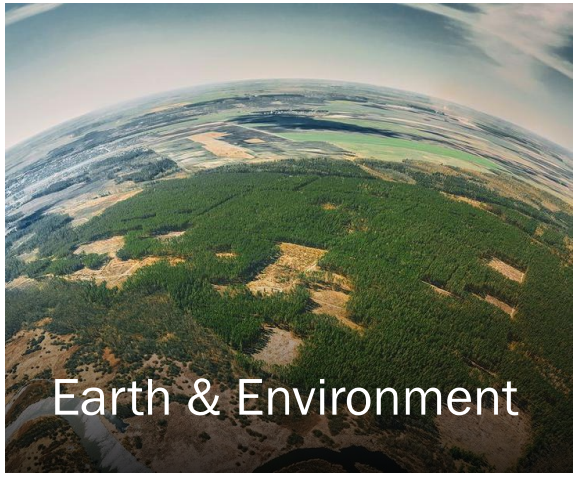
Helmholtz Research Fields

This makes KIT and Helmholtz unique partners with common goals.

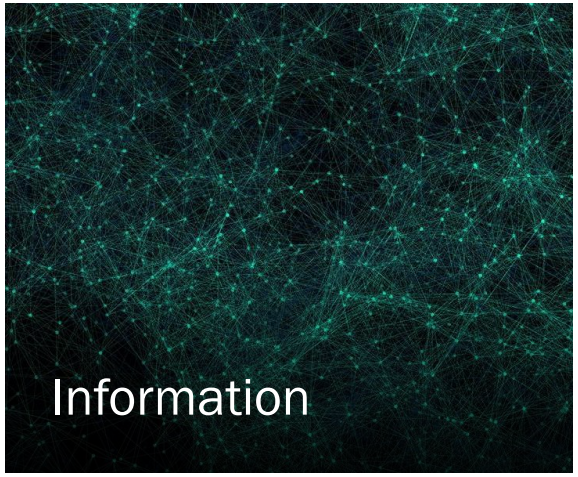
Helmholtz Research Fields with Participation of KIT



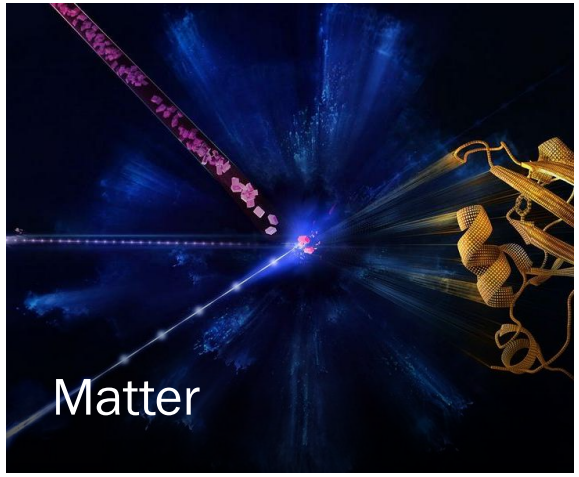
- Energy System Design
- Materials and Technologies for the Energy Transition
- Fusion
- Nuclear Waste Management, Safety and Radiation Research



- Changing Earth – Sustaining our Future

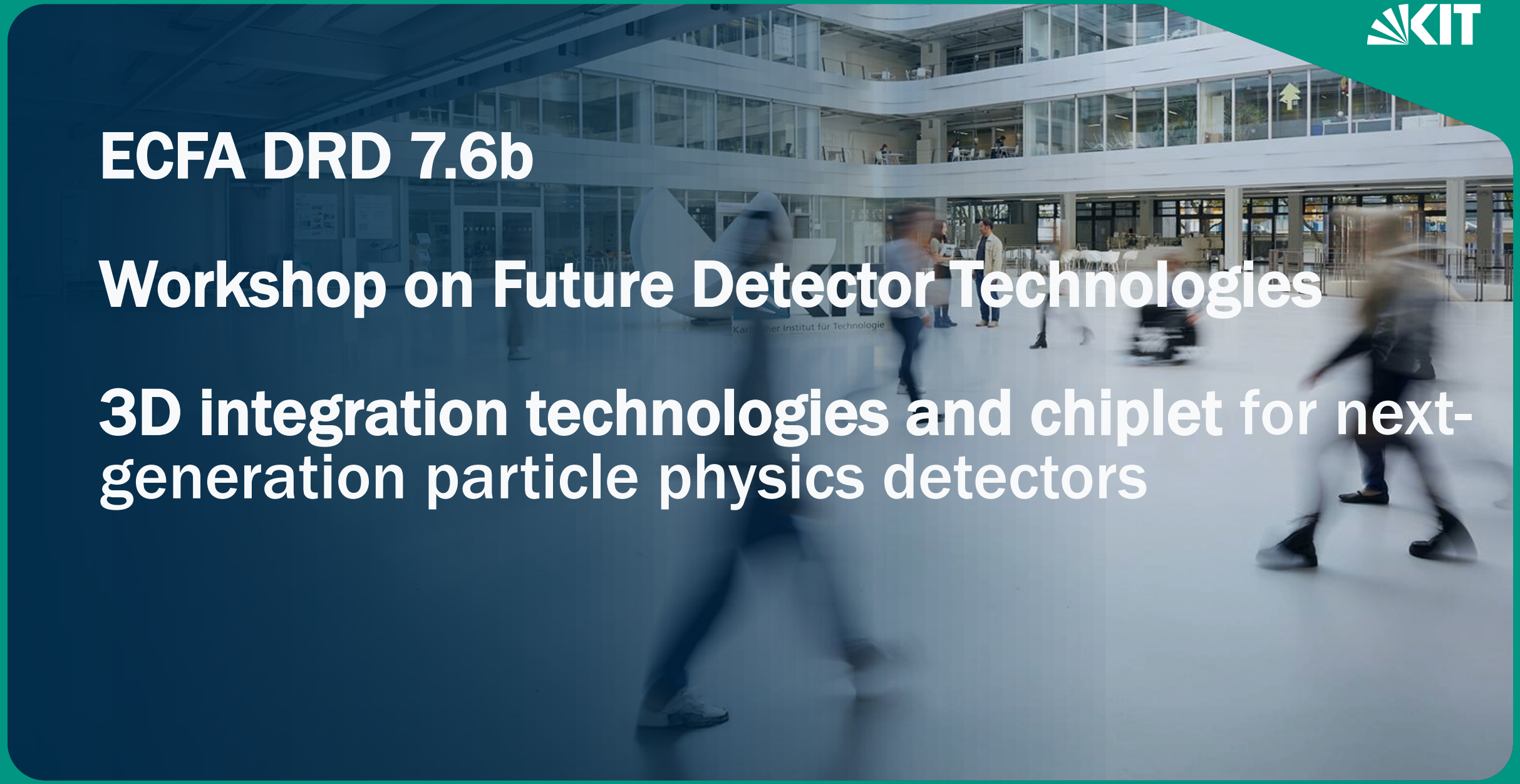


- Engineering Digital Futures
- Natural, Artificial and Cognitive Information Processing
- Materials Systems Engineering



- Matter and the Universe
- Matter and Technologies
- From Matter to Materials and Life

This event is sponsored by Helmholtz Matter and Technology



ECFA DRD 7.6b

Workshop on Future Detector Technologies

3D integration technologies and chiplet for next-generation particle physics detectors

Timetable

https://indico.kit.edu/event/5139/sessions/4741/#20250902

09:00	**Registration and Welcome Coffee**		
	Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South		09:00 - 10:00
10:00	**Welcome by Local Organizing Committee**	*Michele Caselle*	
	Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South		10:00 - 10:15
	ECFA DRD 7.6b Working Group: Scope and Goals	*Michele Caselle*	
	Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South		10:15 - 10:30
	ECFA DRD 7.6a Working Group: Future Detector Requirements	*Dr Walter Snoeys*	
	Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South		10:30 - 11:00
11:00	**Upgrade of Belle II and Future Detector Requirements**	*Benjamin Schwenker*	
	Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South		11:00 - 11:30
	Silicon pixel detectors for Relativistic Heavy Ion Physics, the present, the future and some dreams	*Michael Deveaux*	
	Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South		11:30 - 12:00
12:00	**Upgrade of the CBM Microstrip Detector and Future Requirements**	*Maksym Teklishyn*	
	Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South		12:00 - 12:30
	Photo		
	Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South		12:30 - 12:45
	Lunch break		
13:00			

Future detector requirements

Current status and emerging technologies

	Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South		12:45 - 14:00
14:00	**Status Update of DRD3 – WG7 Integration Technologies**	*Giovanni Calderini*	
	Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South		14:00 - 14:30
	Efinix: Technologies and Future Outlook	*Fabian Kluge*	
	Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South		14:30 - 15:00
15:00	**Low-material pixel modules: All-silicon and thin hybrid modules**	*Andreas Ulm*	
	Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South		15:00 - 15:30
	FBK Platform for Flexible PCB Manufacturing	*David Novel*	
	Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South		15:30 - 16:00
16:00	**Coffee break**		
	Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South		16:00 - 16:20
	RISC-V and FPGA Integration on Detector	*Michael Karagounis*	
	Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South		16:20 - 16:50
	Round Table Discussion: Open Questions and Priorities - PilotProject	*All Participants*	
17:00	*Kleiner Hörsaal Elektrotechnik (Geb. 11.10), KIT Campus South*		16:50 - 18:00

First day

Timetable

https://indico.kit.edu/event/5139/sessions/4741/#20250902

Deep focus on the projects 7.6b

Shared access to 3D integration

Second day

Group photo

https://indico.kit.edu/event/5139/sessions/4741/#20250902

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	Lunch break		
13:00			

Photo after the first session

We kindly invite all participants to gather for the group photo

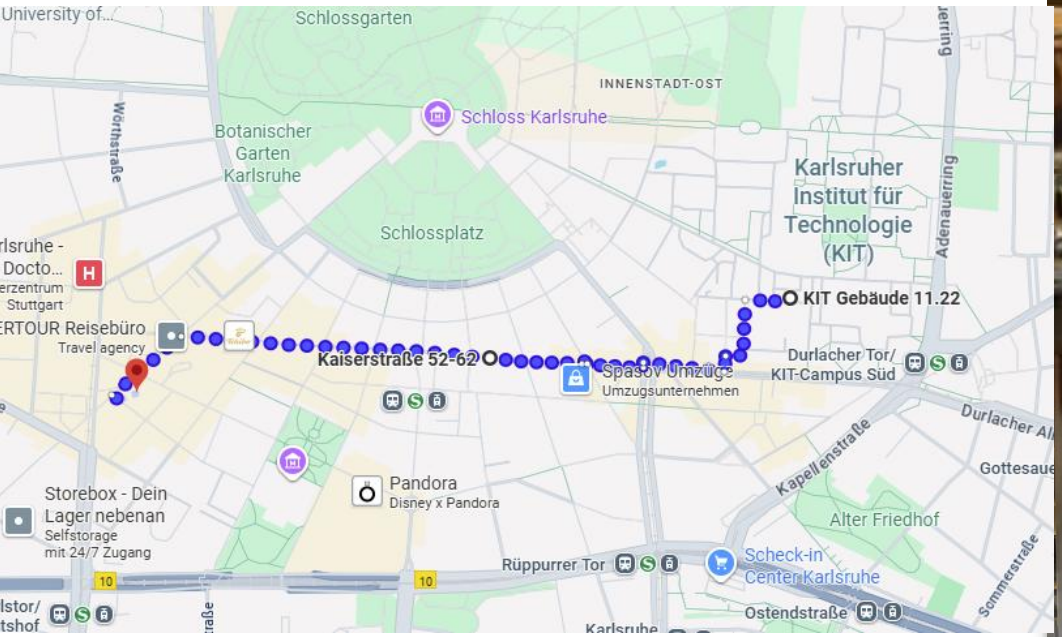
Photo today

Social dinner

We warmly invite you to join us for the social dinner this evening, which will take place at a traditional German restaurant. It will be a wonderful opportunity to continue our discussions in a relaxed atmosphere and to enjoy authentic German cuisine together

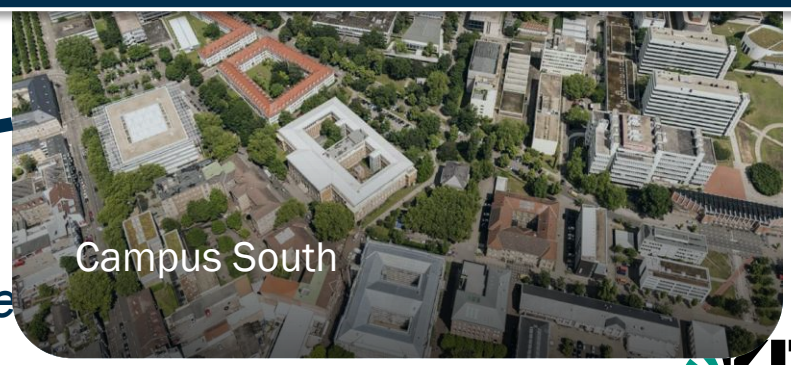
Ludwigs Restaurant & Bar - Karlsruhe

Waldstr. 61, 76133 Karlsruhe



Visit to IPE/IMS clean rooms and infrastructure (tomorrow)

1. Transfer from Campus South to Campus North
2. Lunch at Campus North: 12:00 – 13:00
3. Visit to the clean room at Campus North from 13:00 – 14:00
4. Transfer from Campus North to IMS (approx. 15 min)
5. Visit to IMS from about 14:20 – 15:30
6. Back to Karlsruhe



We wish you a pleasant stay in **Karlsruhe** and a **successful workshop** with inspiring discussions and productive collaborations