Welcome to GridKa School 2016
Data Science on Modern Architectures

Dr. Manuel Giffels

29.08.2016

Karlsruhe Institute of Technology
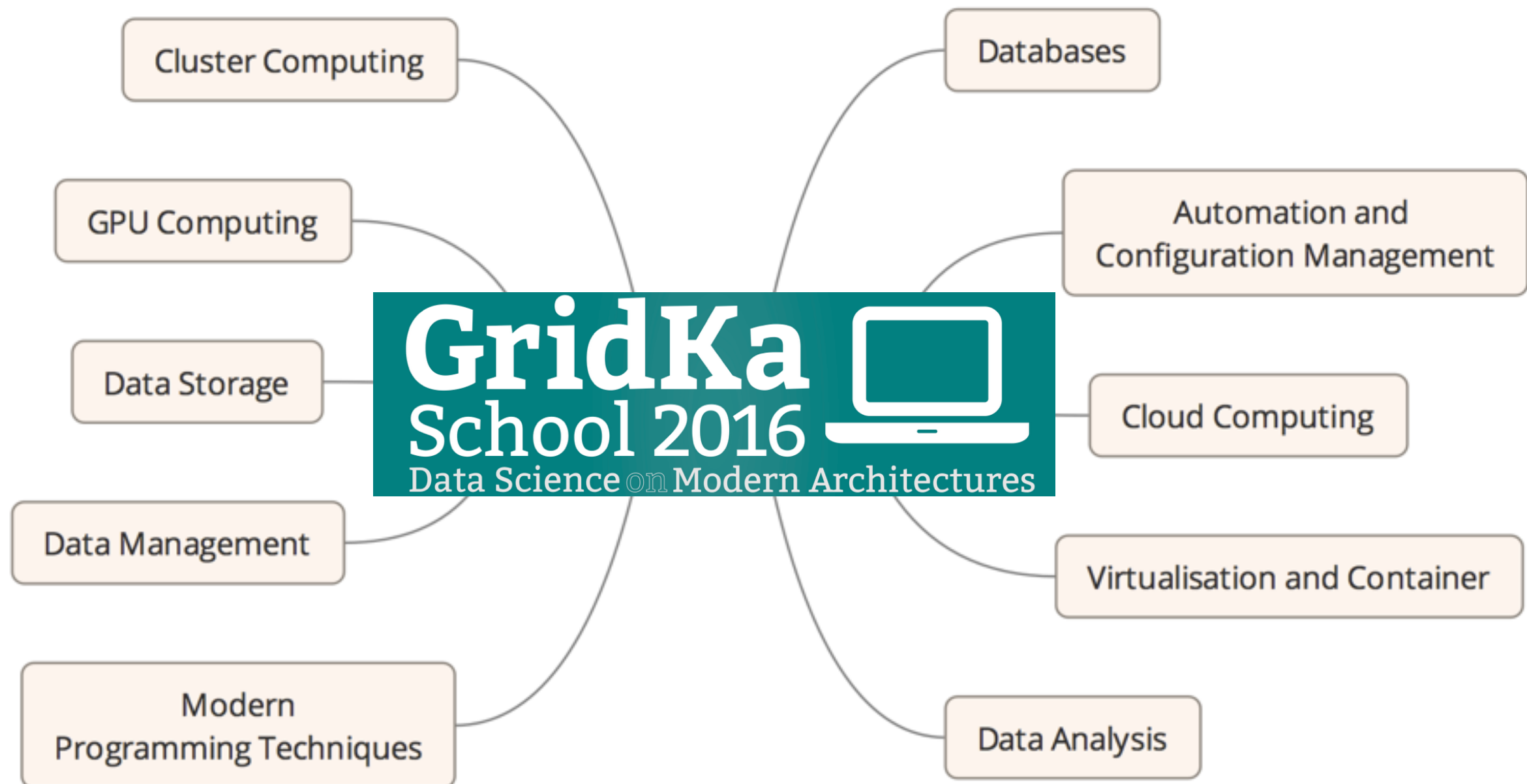Institute of Experimental Nuclear Physics & Steinbuch Center for Computing

Broad Range of Topics

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Speakers & Tutors

Dense Schedule:

- 19 plenary talks
- 1 evening lecture
- 16 hands-on tutorials
- 40 speaker and tutors

Morning Sessions:
- Plenary talks
- FTU Aula

Afternoon Sessions:
- Hands-on tutorials
- FTU seminar rooms

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Collaboration

Contributions from many institutions:

- Amazon
- CERN
- Cloudera
- DESY
- DKFZ Heidelberg
- DLR
- EPFL
- FZ Jülich
- Hewlett-Packard Enterprise
- Helix Nebula Science Cloud

- Hitachi
- IBM
- KIT
- LPC
- Mapbox
- RAL
- RDA
- University of Glasgow
- University Göttingen

Thank you!

Participants

About 130 registered participants

- from different fields of science and industry
- from 13 different countries

Group Photo GridKa School 2015 - Eileen Kühn

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GridKa School Location

- All lectures and tutorials are in the FTU (Training Center of KIT), which is the building where you currently are
- All lectures take place in the Aula

FTU

Aula

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Location

- **Coffee** will be served in Aula and in front of the seminar rooms
- **Plenary Talks** take place in Aula
- **Hands-on tutorials** take place in Aula and seminar rooms 155, 156, 157, 164 and 162
- Electronic door plates will guide you
- **School Office** in room 116
  - Central place for help, questions, printing, requests, …
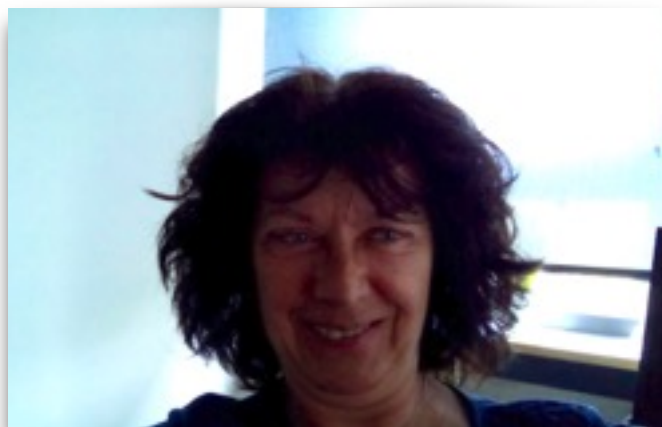
FTU Site Map

Ingrid Schäffner

Melanie Ernst
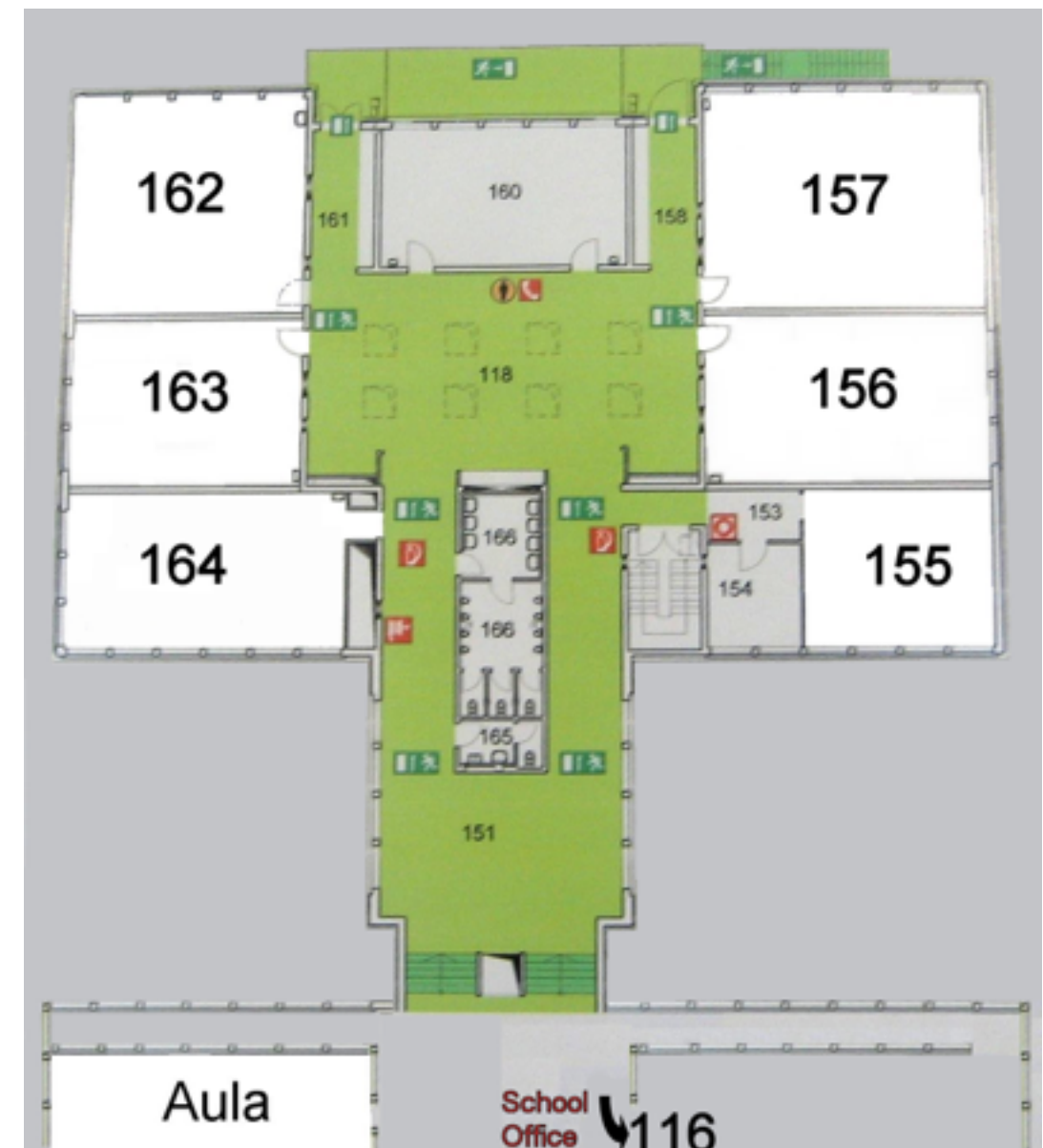
Lunch & Site Access

- Lunch is available at the KIT Canteen located „on-site"

- Modern building next to the main gate

- To enter the site you <u>have to show</u> your <u>GridKa School badge</u> to pass the guards at main gate

- Please, do not forget your badge in the hotel!
No access/lunch without your badge!

- Regulations require your birthday/ place to enter the site (asked during registration process)

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Lunch & Guest Cards

Buy/recharge/return guest cards
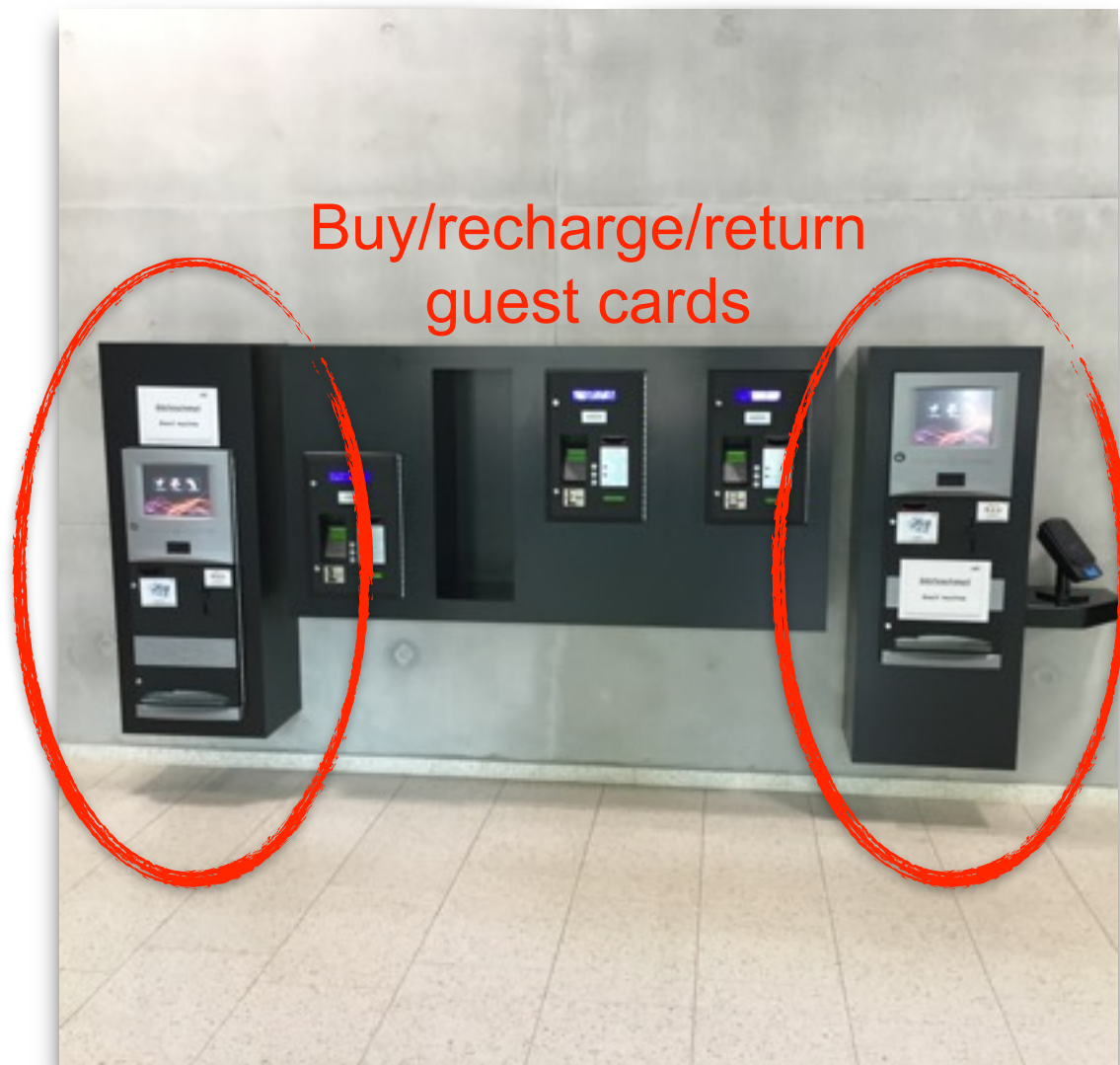
Entrance to the left (Vending machines)

Canteen

Cafeteria

Entrance to the right

- Need a rechargeable guest card for cashless paying
- Guest cards available for 10 € at the school office or at vending machines in the canteen
- 2.50 € deposit (will be returned) + 7.50 € credit (~1 meal)

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KIT | EKP & SCC

Virtual School Infrastructure

Available Compute Resources:

- OpenStack cloud on 3 racks

- 82 hypervisors

- 3 controllers

- 5 VLAN - Software Defined Network

- 1328 CPU cores

- 1.9 TB memory

- 320 TB shared IBM Sonas storage

- VMs at DESY

- GPU cluster at KIT - IPE

Preslav Konstantinov

Samuel Ambroj

Evening Program

Tuesday Evening (~18:30):

- Guided Computing Center Tour
- Tarte Flambee Evening at SCC
- Live Music
- We will meet at FTU right after the tutorials (~18:05) and go all together to SCC

Wednesday Evening (~18:30):

- Evening Lecture by Prof. Köster (DLR) „*Automated and Connected Driving from a User-Centric Viewpoint*"

Thursday Evening (20:00):

- School Dinner at Leonardo Hotel
- 500m from central station

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Automated and Connected Driving from a User-Centric Viewpoint

Prof. Dr. Frank Köster
Deutsches Zentrum für Luft- und Raumfahrt (DLR)

Wednesday 31 August 18:30

KIT Campus North - FTU Aula

Joint GridKa School and SCC-Colloquium

Abstract:
Automated and connected driving can be seen as a paradigm shift in the automotive domain which will change the today's role of the human driver substantially. More and more parts of the driving task are to be taken over by technical components for different scenarios. The application areas reach from fully automated parking up to automated driving on a highway with different involvements of the driver in monitoring tasks (SAE level 2 to 5). Thus, it is essential to understand how this role change will influence the human driver and how we can support him by designing an easy to understand, safe and comfortable interaction with the automated vehicle.
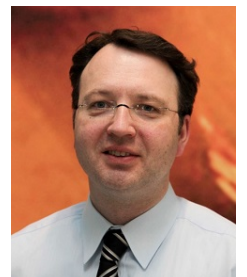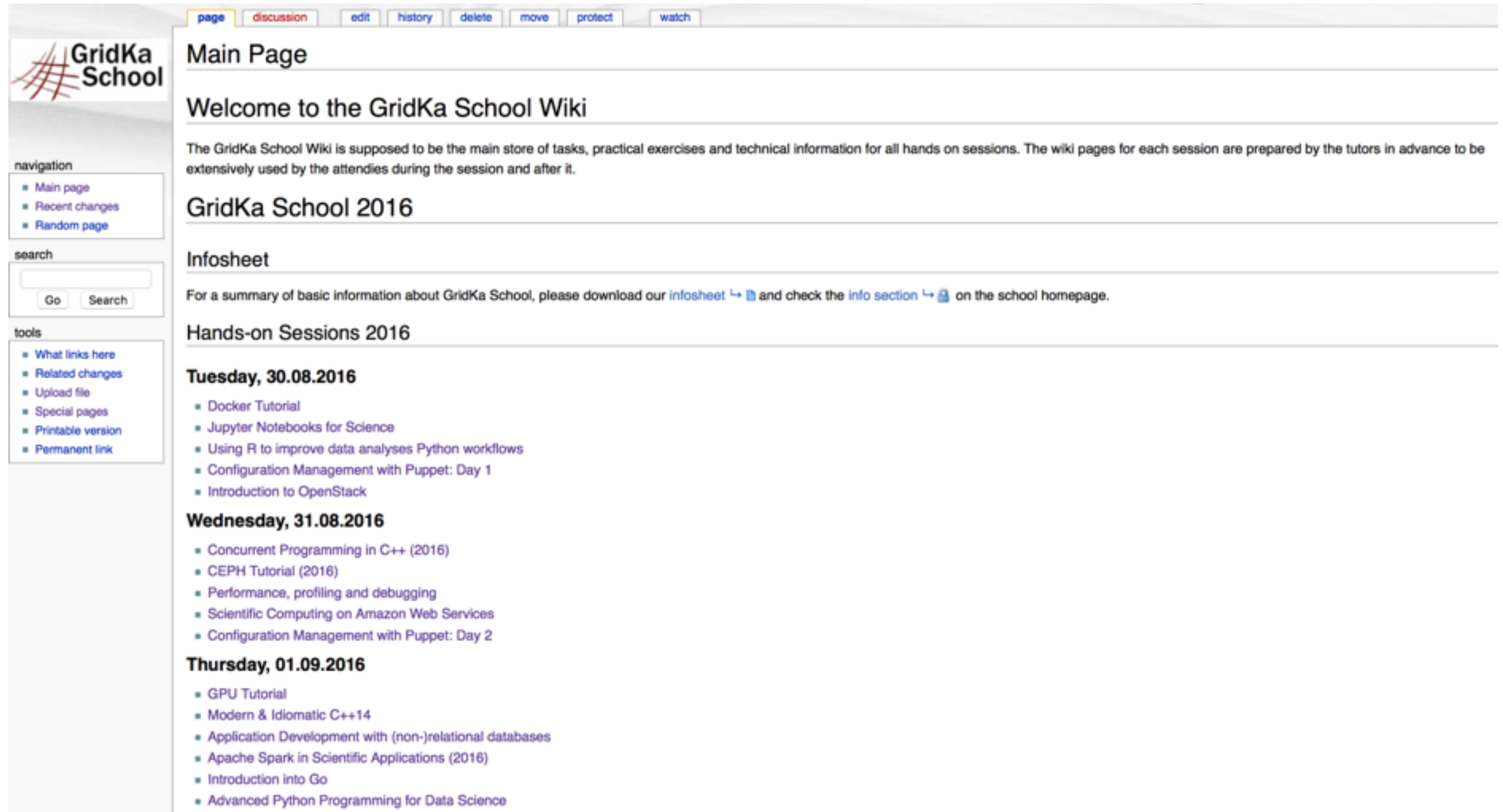
From Human Factors research we know that it is crucial to ensure that the driver has a correct mental model about the automation levels and its current status to avoid mode confusion and resulting errors in operation. In addition, transitions of control between the driver and the automated vehicle need a careful design that is adjusted to the current traffic situation and the driver status. For example, mobile devices that the driver uses during the automated driving can be integrated smoothly in the overall interaction design concept to support transitions.

The talk will give an overview on selected research topics in the area of user-centric development of automated and connected vehicles at DLR. It will underline why it is important to put the human into focus when designing a new, exciting technology such as automated and connected vehicles.

About the speaker:
Prof. Dr. Frank Köster is currently head of the "Automotive Systems" department at DLR (Deutsches Zentrum für Luft- und Raumfahrt) and Professor for "Intelligent Transport Systems" at the University of Oldenburg. He studied computer science at the University of Oldenburg where he graduated in 2001 and habilitated in 2007.
Frank Köster is a member of the round table "Autonomous Driving" of the Federal Ministry of Transport and Digital Infrastructure, representative of the DLR in various national and international committees and organizations like SafeTrans and ERTICO as well as referee of research projects, journals and congresses concerning autonomous and connected driving.

KIT – University of the State of Baden-Wuerttemberg and National Research Center of the Helmholtz Association

www.kit.edu

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Bus Shuttle

- Connection between Leonardo Hotel and FTU

- Detailed schedule can be found at
https://wiki.scc.kit.edu/gridkaschool/upload/7/70/GKS-Infosheet-2016.pdf

- Today bus leaves around 18:00 in front of FTU

- Tomorrow bus leaves at 08:15 at Leonardo Hotel

- Transfer back at 22:00 in front of the SCC after Tarte Flambee Event

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GridKa School Wiki

Check GridKa School Wiki for hands-on tutorials requirements
https://wiki.scc.kit.edu/gridkaschool/index.php/Main_Page

Program Changes

Thursday, 01 September, 2016

	Plenary talks	Aula
09:00	Architectural Patterns for Big-Data Applications on Hadoop Mirko Kämpf (Cloudera)	

~~Canceled~~

Thursday, 01 September, 2016

	Plenary talks	Aula
09:00	**Big Data in Biology** Dr. Alexander Schug (KIT)	

Tuesday, 30 August, 2016
Parallel Sessions
(from 13:00 until 18:00)

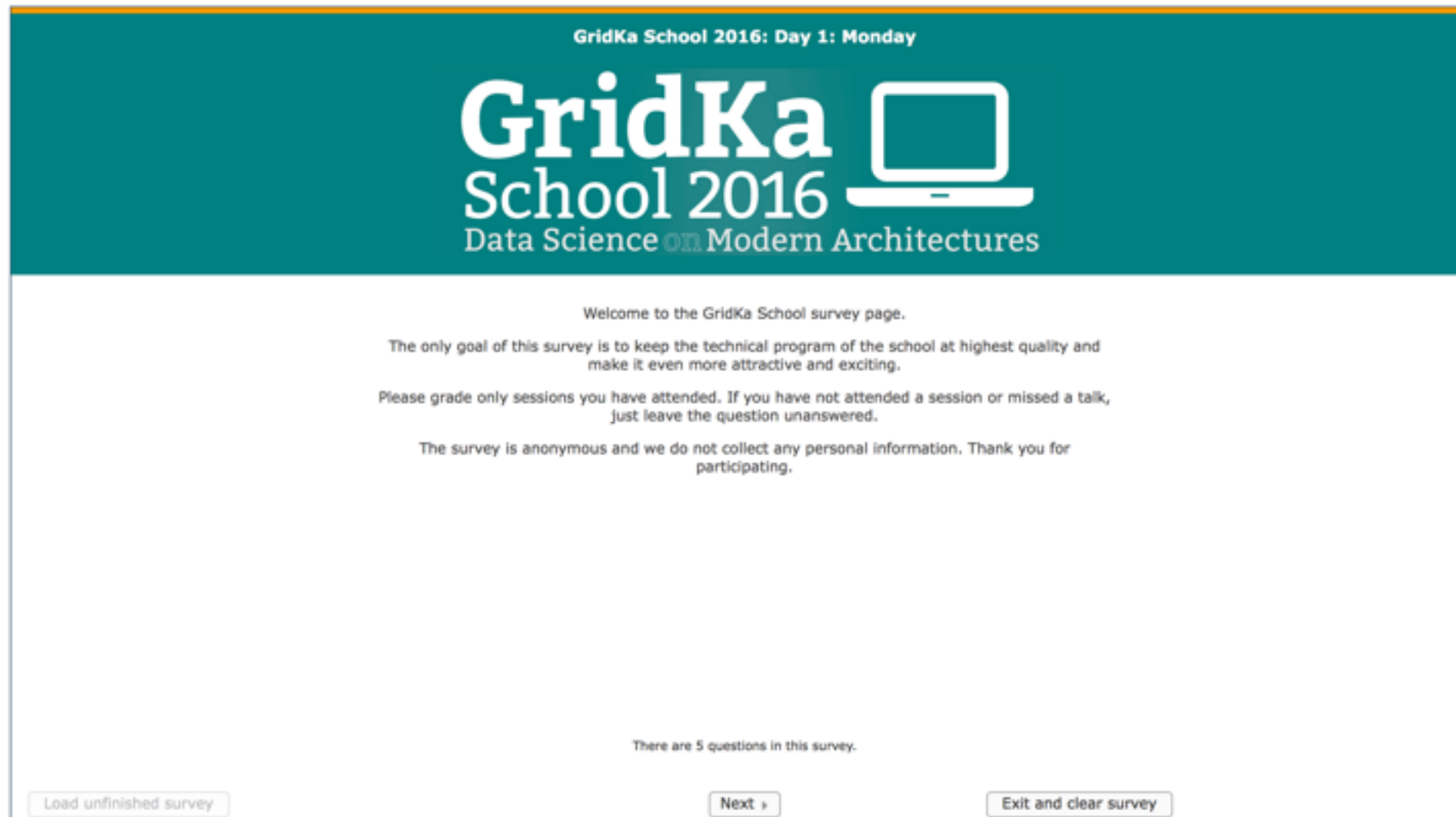|	
Docker Tutorial	Room 156
Jupyter Notebooks for Science (ROOT as a Service)	Room 163
Using R to improve data analyses Python workflows	Aula
Puppet I	Room 155
Introduction to OpenStack	Room 157

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Introduction to OpenStack	Room 156

Change of tutorial location on Thursday!

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KIT | EKP & SCC

GridKa School Survey

- We are very interested in your feedback - Please spend a few minutes a day to fill our Survey

- For each day you will get a link to the survey by email

- No registration needed, no logging, completely anonymous
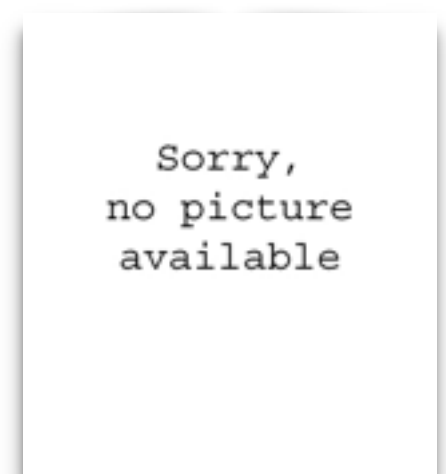
Eileen Kühn

Further Information

Group Picture:

- Will be taken on Wednesday before the lunch break (~12:00) in front of the FTU

Wireless:

- vpn/web/belwue (information in your school bag)

- eduroam

- Available in all rooms

In case you have any questions:

- School Office in 116

- Send mail to GridKa-School@scc.kit.edu

- Ask me directly

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Sightseeing Karlsruhe
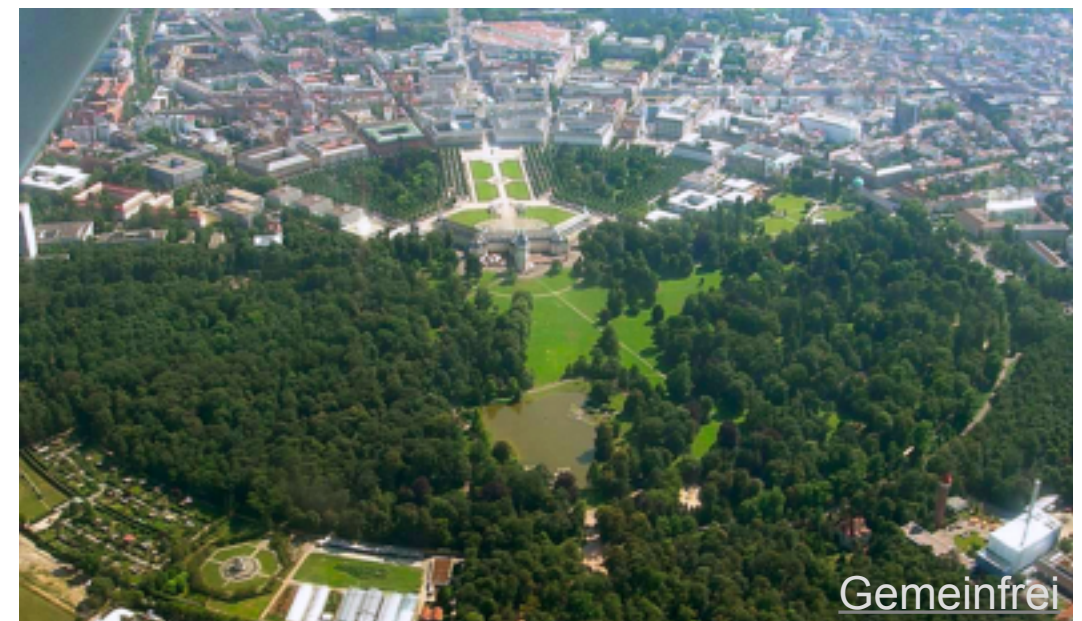

Many construction zones!

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Sightseeing Karlsruhe

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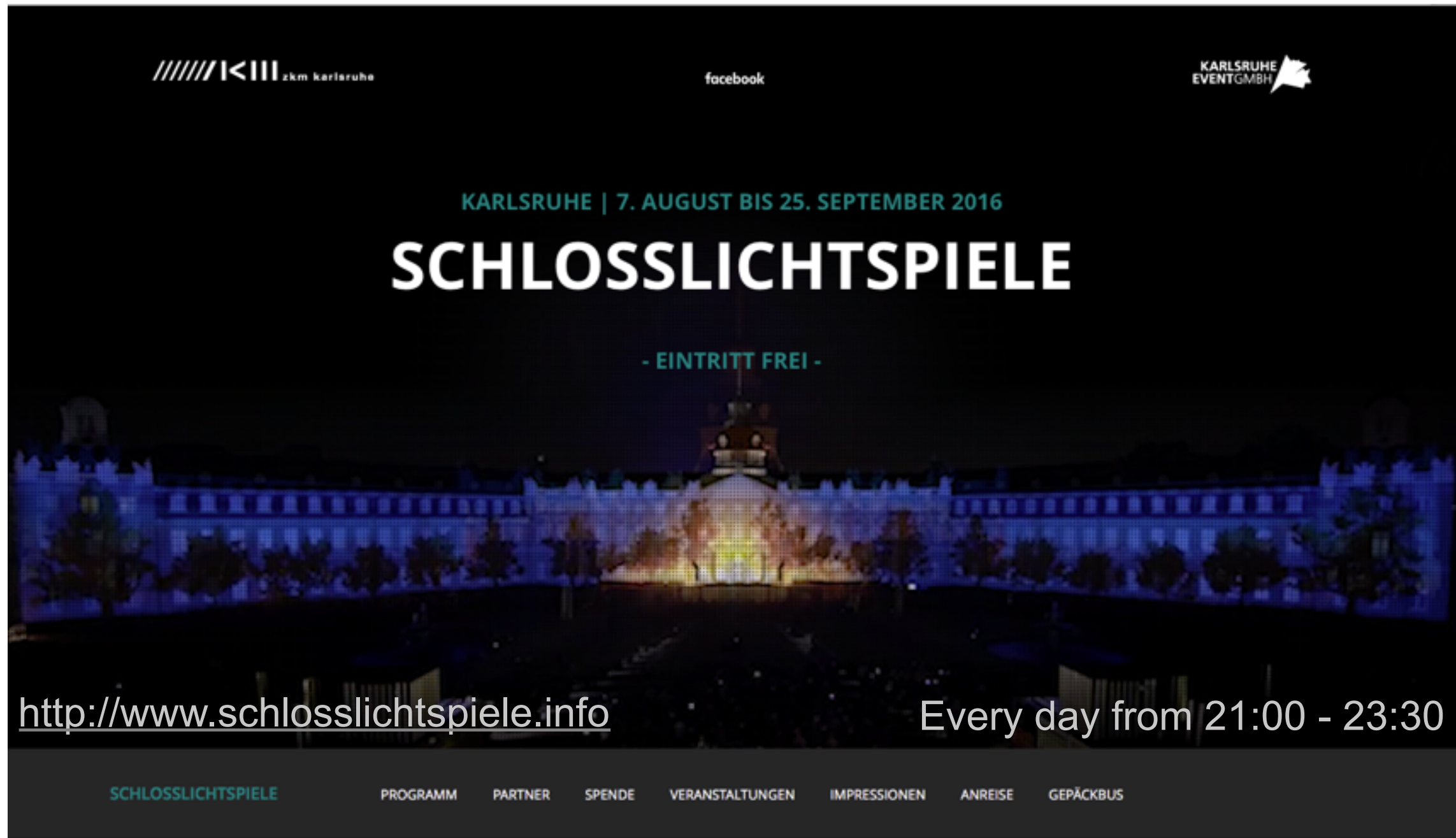

Group Photo GridKa School 2015 - Eileen Kühn

But also beautiful places!

Gemeinfrei

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KIT | EKP & SCC

Lightshow Karlsruhe Palace

http://www.schlosslichtspiele.info   Every day from 21:00 - 23:30

Many Thanks to all our partners!
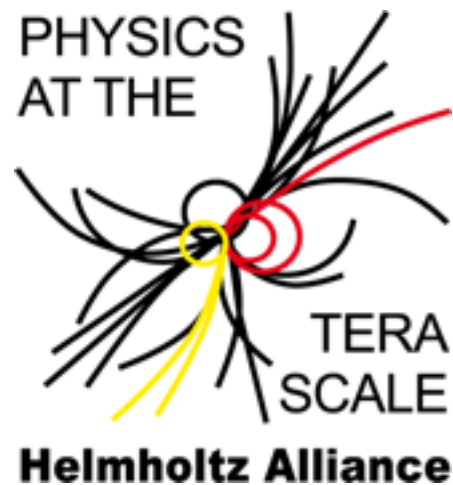
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Let's start

We wish you an interesting and pleasant school week!

Manuel Giffels