

DESY Summer Student Program 2011

Welcome Session

Olaf Behnke (chair), Doris Eckstein (deputy), DESY

The 99 Summer students come from

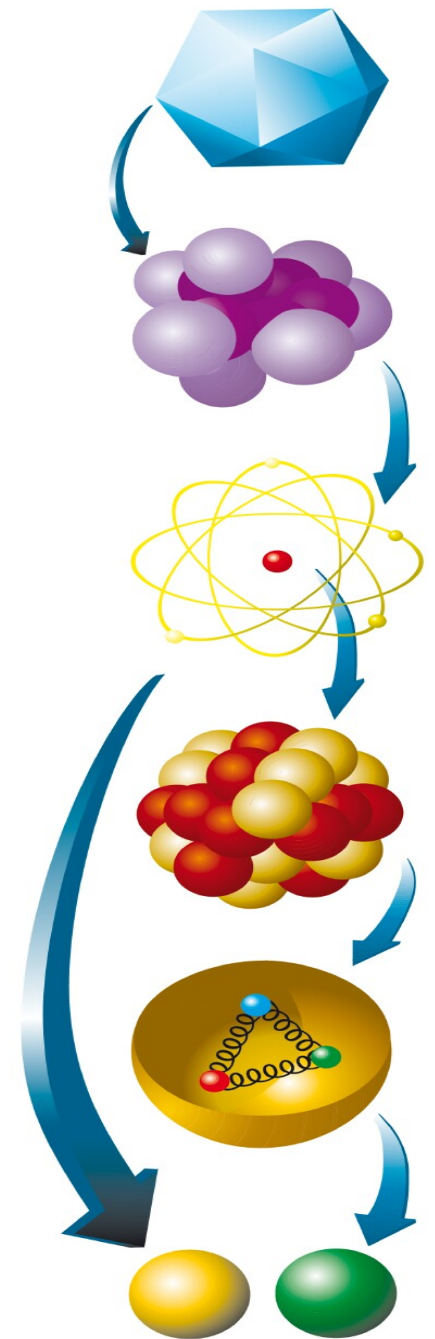
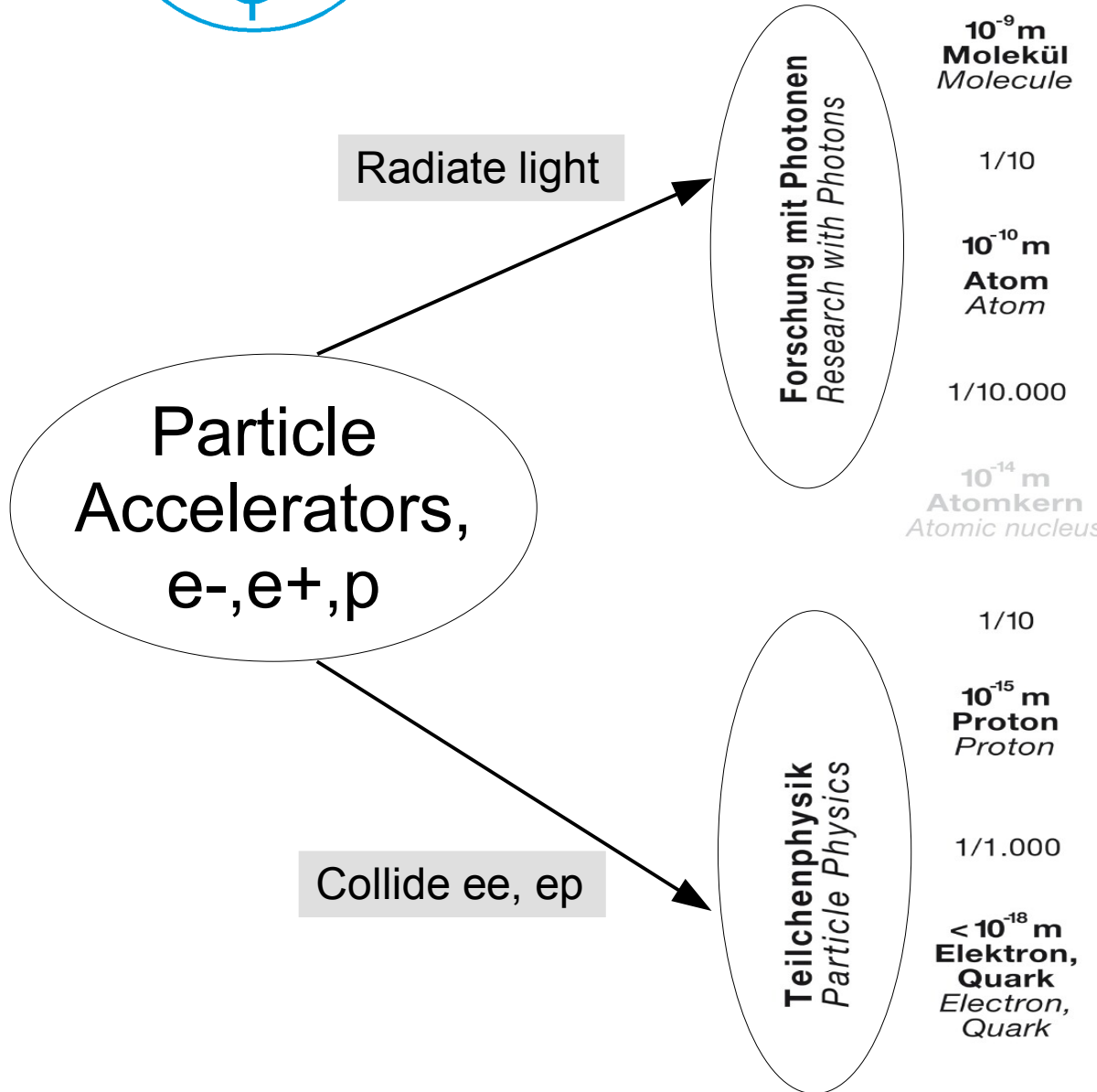
- Belgium, Canada, China, Colombia, France, Greece,
- Germany, Hungary, Ireland, Israel, Italy, Mexico, Netherlands, Oman, Poland
- Romania, Russia, Slovakia, Spain, Thailand, Ukraine, UK, USA

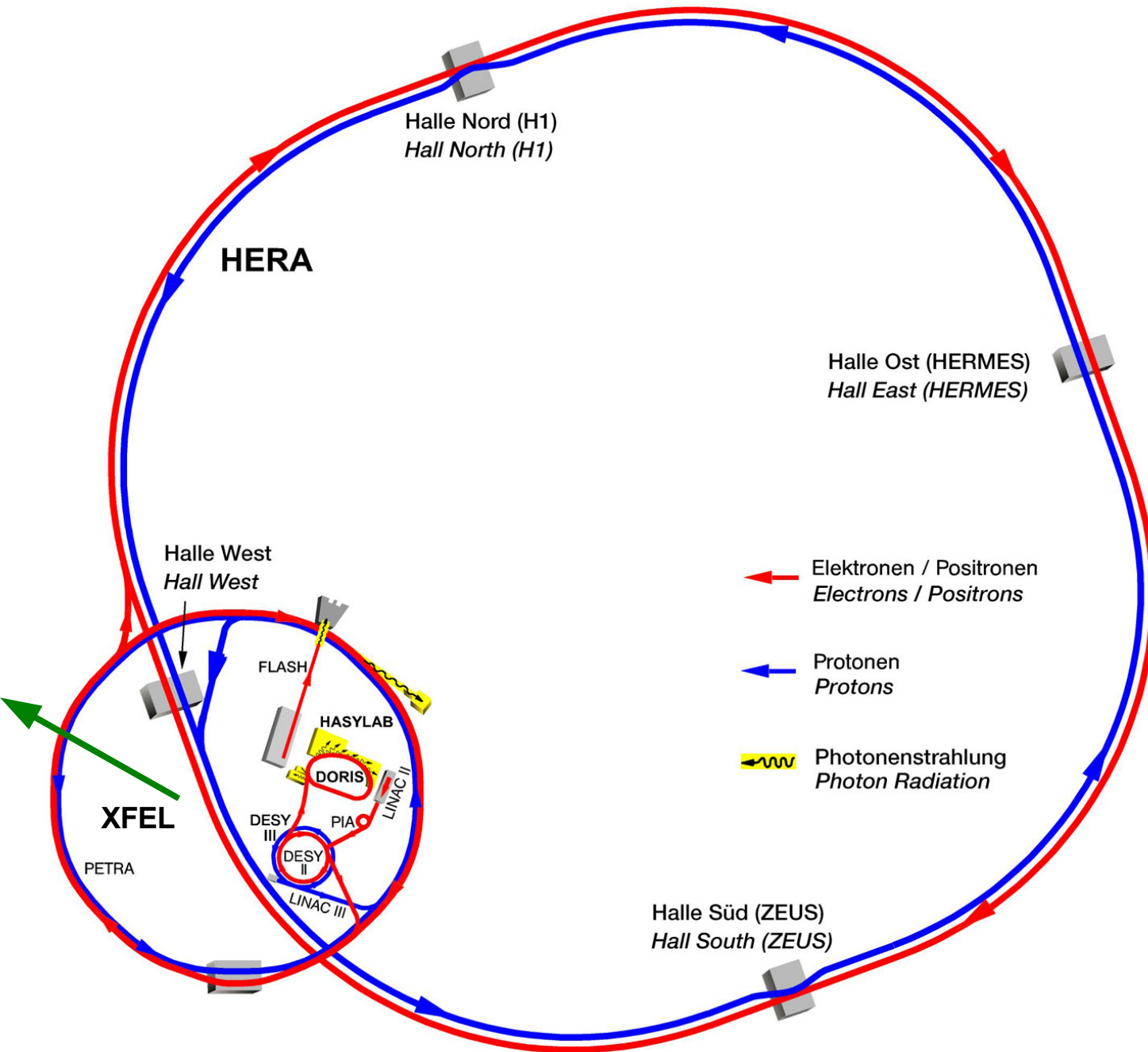
DESY site in Hamburg



We are HERE now

What is DESY?





Some milestones:

Particle physics:

- 1959 DESY founded
- 1964 DESY electron synchrotron
- 1974 DORIS e+e-storage ring
- 1978 PETRA e+e-storage ring
- 1991 HERA ep collider

Research with photons:

- 1978 HASYLAB founded
- 2005 Flash (Free electron laser)
- 2009 PETRA III
- 2014 XFEL (Free electron laser)

Your Research Projects at DESY :

DESY Summer Students join groups engaged in the following activities:

Program A : Experiments with Synchrotron Radiation (only at Hamburg)

- Students join groups at [HASYLAB](#) engaged in fundamental and applied research in the fields of physics, biology, chemistry, crystallography, material science, geological science, and medicine. The work includes participation in the preparation and realization of measurements, evaluation of the measured data, and technical improvement of the instrumentation.

Program B : Research in Elementary Particle Physics, accelerators and computing:

- **Experiments in Elementary Particle Physics**
Research is concentrated mainly on the experiments [H1](#), [HERMES](#) and [ZEUS](#) at the electron-proton-collider HERA, the experiments [ATLAS](#), [CMS](#) at the proton-proton-collider LHC and in preparations for [experiments at a e+ e- Linear Collider](#). At Zeuthen research is done also in the area of [Neutrino-Astrophysics](#). The activities can be characterized by the following categories :
 - B1** Physics analysis (software-oriented)
 - B2** Data processing (software-oriented)
 - B3** Development of experimental equipment (hardware-oriented)
- **B4 Research on Accelerators**
Students join groups engaged in the development of accelerators. Activities include prototype projects for a [e+ e- linear collider](#) and research in the areas of superconducting magnets and cavities.
- **B5. Theory of Elementary Particles**
Students acquire some elementary insight into topics from the [wide spectrum of research](#) of the Theory group. Depending on previous knowledge, activities may range from further reading, with discussions of theoretical concepts and research methods, to participation in simple research projects.
- **B6. Computing**
Research is done in the area of Computing in High Energy Physics. At Zeuthen students participate also in tests and software development for [powerful parallel computers](#).

Lectures for ALL summer students :

DESY Summer Student Common Lectures - Week 1 (Place : Auditorium)

Time	Mon, 18.7.2011	Tue, 19.7.2011	Wed, 20.7.2011	Thu, 21.7.2011	Fri, 22.7.2011
9:00 - 10:30		10:00 Welcome session <i>O. Behnke, D. Eckstein</i>	Introduction to particle physics <i>C. Sander</i>	Neutrino Physics Neutrino Physics <i>C. Hagner</i>	Dark matter search experiments <i>A. Lindner</i>
11:00 - 12:30			Introduction to Accelerators <i>P. Castro</i>		Free Electron Laser <i>M. Dohlus</i>

DESY Summer Student Common Lectures - Week 2 - (Place : Auditorium)

Time	Mon, 25.7.2011	Tue, 26.7.2011	Wed, 27.7.2011	Thu, 28.7.2011	Fri, 29.7.2011
9:00 - 10:30		10h00-13h00 C++ tutorial <i>A. Mussgiller</i>			
11:00 - 12:30	e+ e- Linear Collider <i>J. Timmermans</i>		Research with Synchrotron Radiation <i>L. Glaser</i>	14h00-17h00 ROOT tutorial <i>G. Brandt, M. Kraemer</i>	

For particle physics students

Lectures for Summer Students in HEP, Accelerators and Computing (Place : SEM 2, Bld 2A)

Time	Mon, 1.8.2011	Tue, 2.8.2011	Wed, 3.8.2011	Thu, 4.8.2011	Fri, 5.8.2011
9:00 - 10:30	Introduction to Elementary Particle Physics 1,2,3 <i>P. Bechtle</i>	For all students Introduction to DESY <i>H. Dosch</i>	Detectors in Elementary Particle Physics 2 <i>D. Pitzl</i>		
11:00 - 12:30	Detectors in Elementary Particle Physics 1 <i>D. Pitzl</i>	Introduction to Elementary Particle Physics <i>P. Bechtle</i>	Introduction to Elementary Particle Physics <i>P. Bechtle</i>		
Time	Mon, 8.8.2011	Tue, 9.8.2011	Wed, 10.8.2011	Thu, 11.8.2011	Fri, 12.8.2011
9:00 - 10:30	Theory of Elementary Particles <i>J. Reuter</i>		Theory of Elementary Particles <i>J. Reuter</i>		Simulating HEP Processes <i>S. Plaetzer</i>
11:00 - 12:30	Theory of Elementary Particles <i>J. Reuter</i>		Theory of Elementary Particles <i>J. Reuter</i>	Simulating HEP Processes <i>S. Plaetzer</i>	Computing in HEP <i>S. Aplin</i>

Time	Mon, 15.8.2011	Tue, 16.8.2011	Wed, 17.8.2011	Thu, 18.8.2011	Fri, 19.8.2011
9:00 - 10:30	Physics at HERA 1 <i>R. Kogler</i>	<i>Physics at pp Colliders</i> 1 , 2 , 3 , 4 , 5 , 6 <i>T.Schoerner, G. Steinbrueck</i>	Physics at e+e- Colliders <i>G. Moortgat-Pick</i>	<i>Physics at pp Colliders</i> <i>T.Schoerner, G. Steinbrueck</i>	
11:00 - 12:30	Physics at HERA 2 <i>R. Kogler</i>	<i>Physics at pp Colliders</i> <i>T. Schoerner, G. Steinbrueck</i>	<i>Physics at e+e- Colliders</i> <i>G. Moortgat-Pick</i>	<i>Physics at pp Colliders</i> <i>T. Schoerner, G. Steinbrueck</i>	

Time	Mon, 22.8.2011	Tue, 23.8.2011	Wed, 24.8.2011	Thu, 25.8.2011	Fri, 26.8.2011
9:00 - 10:30	Special seminars on activities of different HEP groups at DESY (details to be announced)				
11:00 - 12:30					

DESY Summer Student Lectures 'Exp. with SR' - Week 3

Time	Mon, Aug. 1	Tue, Aug. 2	Wed, Aug. 3	Thu, Aug. 4	Fri, Aug. 5
Location		Sem. Rm. Bldg. 28c		Rm. 109 Bldg. 25 B	
09:00 - 10:30		Synchrotron Radiation - Production and Properties <i>R. Gehrke</i>		Detectors for Synchrotron Radiation Experiments <i>H. Graafsma</i>	
11:00 - 12:30		Optics for Synchrotron Radiation Experiments <i>H. Schulte-Schrepping</i>		X-ray Diffraction <i>M. Tolkiehn</i>	

DESY Summer Student Lectures 'Exp. with SR' - Week 4

Time	Mon, Aug. 8	Tue, Aug. 9	Wed, Aug. 10	Thu, Aug. 11	Fri, Aug. 12
Location		Sem. Rm. Bldg. 28c		Rm. 109 Bldg. 25B	
09:00 - 10:30		X-Ray Spectroscopy <i>W. Drube</i>		X-ray Tomography <i>F. Beckmann</i>	
11:00 - 12:30		X-ray Absorption Spectroscopy <i>E. Welter</i>		Spectroscopy with VUV Radiation <i>J. Viefhaus</i>	

DESY Summer Student Lectures 'Exp. with SR' - Week 5

Time	Mon, Aug. 15	Tue, Aug. 16	Wed, Aug. 17	Thu, Aug. 18	Fri, Aug. 19
Location		Sem. Rm. Bldg. 28c		Rm. 109 Bldg. 25B	
09:00 - 10:30		Characterization of Surfaces <i>O. Seeck</i>		Inelastic Scattering <i>R. Röhlberger</i>	
11:00 - 12:30		Small Angle X-ray Scattering <i>S. Roth</i>		X-ray Fluorescence <i>K. Appel</i>	
Location	Rm. 109 Bldg. 25B				
14:00 - 15:00	Preparation Meeting for the Exercise Week				

DESY Summer Student Lectures 'Exp. with SR' - Week 6

Time	Mon, Aug. 22	Tue, Aug. 23	Wed, Aug. 24	Thu, Aug. 25	Fri, Aug. 26
09:00	Exercise Week (whole day)	Exercise Week (whole day)	Exercise Week (whole day)	Exercise Week (whole day)	Exercise Week (whole day)

DESY Summer Student Lectures 'Exp. with SR' - Week 7

Time	Mon, Aug. 29	Tue, Aug. 30	Wed, Aug. 31	Thu, Sept. 1	Fri, Sept. 2
Location		BAH Sem. Rm. 1 Bldg. 3			
14:00 - 17:00		Seminar Exercise Week			

DESY Summer Student Programme 2011 (19/07/11 - 8/09/11) ■■

Summer students should visit this page regularly to get informed about the latest news.

The official summer student lectures at Hamburg you find [here](#)

● ■■ Current Messages for **DESY - Hamburg**

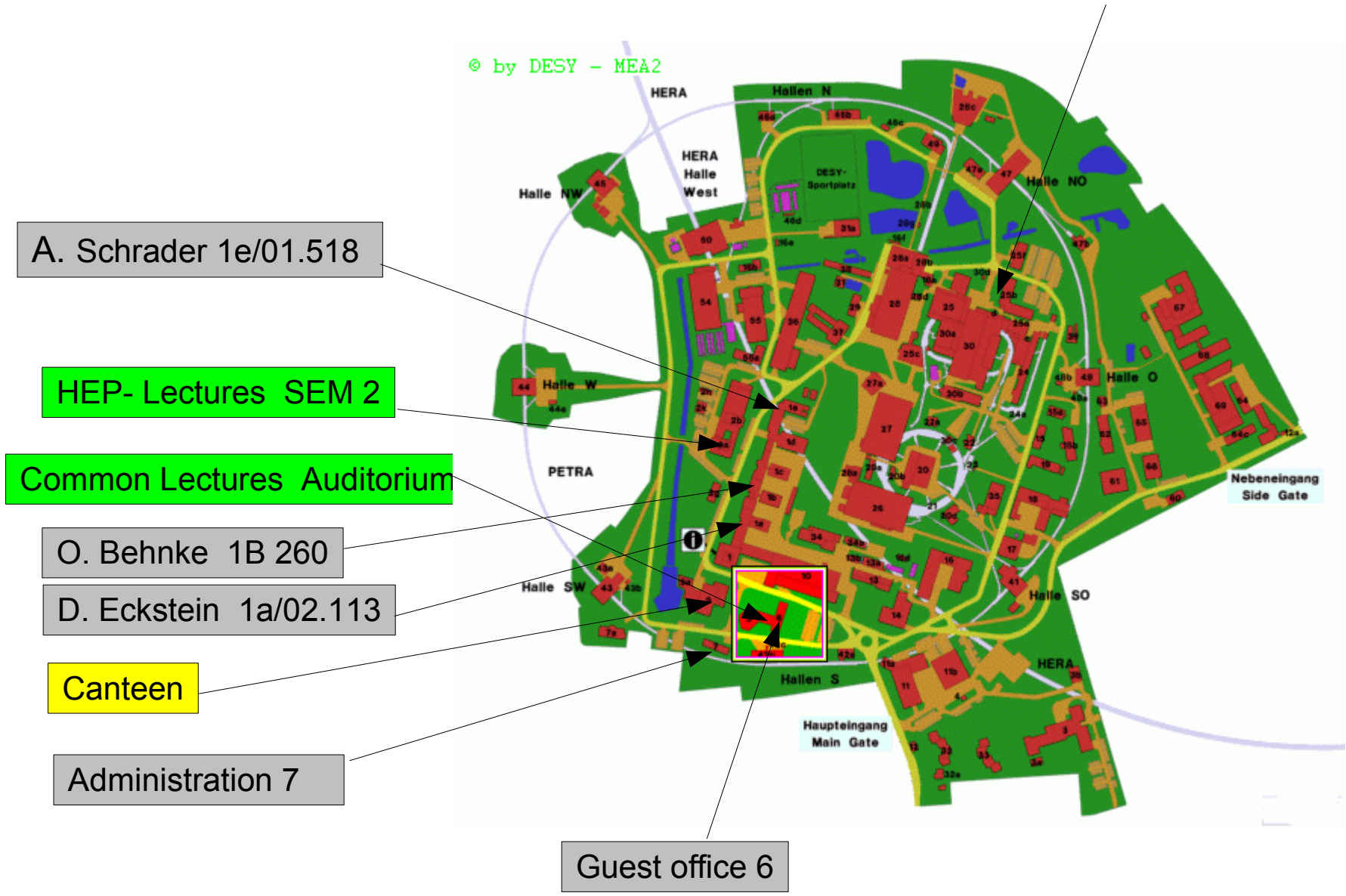
Official announcements for the DESY summer students will be made here. Please read and react.

- **Tuesday 19/7 10:00-12:00, DESY Auditorium**
[Opening Session](#). Since also the registration takes place at this occasion please bring all the necessary documents with you.
- **Wednesday 20/7 at 18:30 Bld 2a , Seminar room 2**
Start of german language course (voluntary, for interested persons).
- **Thursday 21/7 at 10:30**
A [Photo](#) of the summer students will be taken after the lecture on the steps in front of the auditorium
- **Friday 22/7 at 18:00, DESY Canteen Extension :**
!!! Party !!! (Buffet Dinner)
- **Friday 29/7 at 14:00, Head building Lab. 1, in front of PR :**
Guided tour around the DESY site
- **Thursday 8/9 at 9:00 - 17:00 , Seminar room 4 Building 1 :**
[Students Session, Course Review](#)

The DESY Site :

HASYLAB R. Gehrke 25B 221
HASYLAB Lectures 25

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SAFETY at DESY :

DESY Safety Information for Visitors and Contractors

1. Safety Organisation

The Industrial Safety Regulations, Accident Prevention Measures, and Health Provisions at DESY conform to the German Statutory requirements and to those of the European Community. The DESY board of directors fulfils its obligations in this respect by appointing Safety Officers within the groups who are responsible for ensuring that the safety regulations and accident prevention measures are obeyed.

Similarly, with respect to radiation safety, the groups have their own nominated Radiation Safety Officers.

Advice on questions of safety (excluding radiation safety matters) can be obtained through the safety engineers, Andreas Hoppe (ext. 3585, building 35, room 14), Stefan Schrader (ext. 2085, room 13) or Yvonne Boro (ext. 2865, room 12) -D5-.

Mrs. Boro -D5- is responsible for hazardous materials and their disposal (ext. 2865, building 35, room 14).

In addition to the group -D5- questions concerning safety in the halls may be directed to the group -MEA- where Mr. Körfer (ext. 3714, building 1d, room 11), is the contact person.

Radiation protection questions should be directed to the group -D3- in the persons of Mr. Tesch (ext. 4915 building 1c, room 278) or Mr. Leuschner (ext. 3690, building 1c, room 279).

Industrial medical advice and assistance may be obtained from Dr. Bünz (ext. 2171, building 1a, room 107).

DESY-Emergency Call: Tel. 2500



All accidents, fires, or other emergency situations should be reported via this telephone number. In the event of language difficulties the number of the telephone extension from which you are calling indicates where you are. The emergency call number alerts the DESY Technical Emergency Service which then arranges for all necessary assistance, e.g. Fire Service, Ambulance, etc. The Technical Emergency Service is available 24 hours a day, seven days a week. For more general information, and to report technical problems please use the telephone extension number 5555 or from outside DESY call ext. 8998-5555.

2. Safety Instructions

Except in the accompaniment of an experienced person, nobody is allowed to undertake any work or enter any experimental area at DESY without having first received instructions from the local Safety Officer on special dangers which might be expected, warning or alarm signals which could occur, rescue facilities which are available, and how one should react under emergency circumstances. The issue of a DACHS-access card allowing independent access to controlled areas is also conditional on a course of instructions on local safety requirements. Talk to your Safety Officer.

3. Companies and Firms

When engaging a firm or company to execute work on the DESY site the originator of the order is obliged to ensure that the local Safety Officer is informed of the work and that any employees of the company involved in the work receive adequate safety instructions.

4. Rules of the road

The general German road traffic regulations also apply on the DESY site. The maximum speed is 30 km/h (20 mph). Particular care must be taken due to the relatively large number of pedestrians on the roads. The transport of special loads over the site is also a hazard which can be regularly expected. One must drive particularly slowly in the vicinity of sharp curves, road works and building activities

5. Cranes and lifting tackle

According to German law, cranes and motorised lifting equipment may only be operated by authorised personnel. Appropriately trained and tested guests may receive limited authorisation to operate such equipment in agreement with -MEA- (ext. 3714) and the safety group -D5- (ext. 3585 / 2865).

6. Electrical equipment

Electrical equipment at DESY must conform to the VDE standards. The experimental and accelerator areas contain a wide range of electrical equipment and it is not always possible to erect an enclosure around each individual item. Such rooms are therefore declared as electrical service rooms where only authorised personnel are allowed. Before commencing work in such areas you must contact the responsible Safety Officer and ascertain what possible hazards exist.

Phone numbers in Germany:

112 Emergency

110 Police

Communication :

Communication is done via the web and email.

You gave an email address when you applied.

To make sure that we have your correct email address send me (obehnke@mail.desy.de) an email under which I can reach you during your stay at DESY

You are expected to check the web and your email daily !

German Language Course :

DESY offers you a german language course.

From 2nd aug - 1st sep 2011

Tuesdays 18:00 and Thursdays 18:30, Sr2, Bld. 2a

Introductory session and classification:

July 20 18:30-20:00 , Sr2, Bld. 2a

If you want to attend contact Andrea Schrader
and inscribe in the list.

NEXT STEPS :

- Registration (NOW And HERE)
 - International Office (Steffi Killough et al)
 - Administration (Regina Hoppmann et al)
Please take note: Today you get first payment
 - Travel cost (Regina Ebeling)
 - General (Andrea Schrader)
- Afterwards : Contact your Supervisor
- Lectures start Tomorrow 9:00 HERE !

HASYLAB Summer Students meet today
15:00, Room 109, Building 25B.

Finally:

We wish you a good time at DESY!