

Program

Monday, 13 December 2010

11:00 – 17:00 Registration

12:30 LUNCH

14:00 – 14:05 Sci. Organizers **Welcome and introduction**

European laser infrastructure projects

14:05 – 14:55 Wolfgang Sandner **High Power Lasers - a scientific community going global**

14:55 – 15:45 Erhard Gaul **Petawatt laser technologies**

15:45 – 16:00 COFFEE BREAK

Prospects of laser particle acceleration

16:00 – 16:50 Ralph Assmann **Thoughts on laser-driven accelerators for high energy physics**

16:50 – 17:40 Robert Rossmanith **The different concepts of laser accelerators**

17:40 – 18:30 Ulrich Schramm **Prospects of laser accelerated particle beams**

18:30 – 18:45 Ernst Dreisigacker **About the Wilhelm and Else Heraeus Foundation**

19:00 CONFERENCE DINNER

Followed by a social evening at the invitation of the Wilhelm und Else Heraeus-Stiftung at the Physikzentrum

Program

Tuesday, 14 December 2010

07:45 BREAKFAST

Strong-field QED

08:30 – 09:20 Andreas Ringwald **Tests of non-linear QED in the collision of electron beams with laser beams**

09:20 – 10:10 Christoph Keitel **Refractive QED, radiative reaction and nuclear processes with extremely intense laser pulses**

10:10 – 10:20 **Conference photo (in the front of the Physikzentrum)**

10:20 – 10:40 COFFEE BREAK

Generation of ultrashort radiation pulses

10:40 – 11:30 Shaukat Kahn **Generation of ultrashort radiation pulses by laser-electron interaction**

11:30 – 12:20 Dino Jaroszynski **Coherent and incoherent radiation sources based on laser-plasma wakefield accelerators**

12:30 LUNCH

Free-electron lasers

14:00 – 14:50 Wolfgang Schleich **Introduction to the physics of free-electron lasers**

14:50 – 15:40 Siegfried Schreiber **The free-electron laser FLASH**

15:40 – 16:00 COFFEE BREAK

Laser plasma particle acceleration

16:00 – 16:50 Alexander Pukhov **Plasmas for TeV-scale particle acceleration**

16:50 – 17:40 Malte Kaluza **Laser-particle-acceleration in Jena**

17:40 – 18:30 Jens Osterhoff **Prospects of plasma acceleration at DESY**

18:45 DINNER

20:30 **Poster session I**

Program

Wednesday, 15 December 2010

07:45 BREAKFAST

High-harmonic generation at surfaces

08:30 – 09:20 Matthew Zepf **Relativistic mirrors – a route to ultraintense x-ray interactions**

09:20 – 10:10 Georg Pretzler **Coherence properties of laser-generated high-harmonic radiation**

10:10 – 10:40 COFFEE BREAK

Laser plasma particle acceleration

10:40 – 11:30 Victor Malka **State of the art of laser plasma accelerators**

11:30 – 12:20 Karl Krushelnik **Laser wakefield accelerated electron beams and the generation of bright x-ray pulses using the HERCULES laser facility at Michigan**

12:30 LUNCH

New developments at FELs

14:00 – 14:50 Franz Tavella **High repetition rate mJ-level few-cycle pulse laser amplifier systems for applications at 4th generation light sources**

14:50 – 15:20 Jörg Rossbach **Seeding the free-electron laser FLASH at VUV wavelengths**

15:20 – 16:00 COFFEE BREAK

Medical applications

16:00 – 16:50 Thomas Haberer **The Heidelberg Ion Therapy Center: A particle accelerator-based facility for radiotherapy**

16:50 – 17:40 Wolfgang Engelhardt **Laser driven proton accelerators on the way to applications in cancer therapy?**

17:40 – 18:30 Ingo Hofmann **Performance of laser accelerated ion beams for therapy applications**

18:45 DINNER

Program

Thursday, 16 December 2010

07:45 BREAKFAST

PW laser technology

08:30 – 09:20 Karoly Osvay

Extreme Light Infrastructure: Lasers at the ultraintense frontier

09:20 – 10:10 Joachim Hein

Technologies of diode-pumped petawatt-lasers

10:10 – 10:40 COFFEE BREAK

Various topics

10:40 – 11:30 Long Phi Chau

RF acceleration of intense ion beams

11:30 – 12:20 Amrutha Gopal

Powerful T-ray generation with laser driven ion accelerators

12:30 LUNCH

Laser particle acceleration: Novel aspects

14:00 – 14:50 Markus Büscher

Are laser-induced beams spin polarized?

14:50 – 15:40 Carsten Müller

Lepton pair production induced by relativistic particle beams and intense laser fields

15:40 – 16:00 COFFEE BREAK

Nuclear physics with lasers

16:00 – 16:50 Peter Thirolf

The 'fission-fusion' reaction mechanism: Using dense laser-driven ion beams for nuclear astrophysics

16:50 – 17:40 Jean-Pierre Delahaye **The CLIC study of a multi-TeV linear collider**

18:30 DINNER

20:30 **Poster session II**

Program

Friday, 17 December 2010

07:45 BREAKFAST

High-energy physics with lasers

08:30 – 09:20 Ralf Schützhold **Fundamental effects in strong laser fields?**
09:20 – 10:10 Hartmut Ruhl **QED cascading and particle acceleration in ultra-intense fields**

10:10 – 10:40 COFFEE BREAK

Intense laser plasma interactions

10:40 – 11:30 Julien Fuchs **Development of ultrafast plasma photonics devices for the control of intense light or particles beams**
11:30 – 12:20 Jörg Schreiber **Particle & photon acceleration in intense laser plasma interactions**
12:20 – 12:30 Sci. Organizers **Poster awards / Concluding remarks**
12:30 LUNCH

End of the seminar and departure