

HAP Workshop Topic 4, Advanced Technologies in Karlsruhe

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Welcome

Helmholtz Alliance for Astroparticle Physics (HAP)

Organisation - Transfer

- Campus North - Karlsruhe, January 24th, 19:00
- Karlsruhe - Campus North, January 25th, 8:30
- Campus North - Karlsruhe, January 25th, 13:30

- Bus stops in Karlsruhe:
 - Hotel Eden, Bahnhofstraße 15-19
 - Hotel Greif, Ebertstraße 17
 - Main station Karlsruhe



Organisation - Transfer



[Go to day](#) ▾

Thursday, 24 January 2013

- 12:00 - 12:30 Bus transfer from Karlsruhe main station to KIT, CN
The bus (Company Kaspar) will leave from the south side of the station and is marked with the sign of KIT.
- 12:00 - 13:00 Lunch
- 13:00 - 13:10 **Welcome 10'** ▾
Speaker: Marc Weber (KIT)
- 13:10 - 13:25 **Organisation remarks and introduction 15'** (KIT CN, FTU (157)) ▾
Speakers: Christiane Buchwald (KIT IPE), Dr. Matthias Kleifges (KIT-IPE)
- 13:25 - 15:05 **Talks I** ▾
Convener: Marc Weber (KIT)
- 13:25 **"Ultra-Fast DAQ System for Coherent Synchrotron Radiation Based on Superconducting THz Detectors" 25'** ▾
Speaker: Dr. Michele Caselle (KIT)
- 13:50 **"Fast Sampling of the LXe Scintillation Pulseshape for Application in Direct Dark Matter Searches" 25'** ▾
Speaker: Bastian Beskers
- 14:15 **"Applications and future of Switched Capacitor Arrays (SCA) for ultrafast waveform digitizing" 25'** ▾
Speaker: Dr. Stefan Ritt (PSI)
- 14:40 **"High precision clock distribution in modern astroparticle experiments: WhiteRabbit" 25'** ▾
Speaker: Dr. Ralf Wischnewski (Staff member)
- 15:05 - 15:30 Coffee Break
- 15:30 - 16:45 **Talks II** ▾
Convener: Prof. Uwe Oberlack (Johannes Gutenberg Universität Mainz)
- 15:30 **"Large-area photosensors for neutrino detection using wavelength shifters". 25'** ▾
Speaker: Sebastian Böser (Universität Bonn)
- 15:55 **"Current status of the SiPM fluorescence telescope FAMOUS" 25'** ▾
Speaker: Mr. Tim Niggemann (III. Physikalisches Institut A, RWTH Aachen University)
- 16:20 **"Developments in PMTs for advanced fluorescence telescopes" 25'** ▾
Speaker: S. Querschfeld
- 16:45 - 17:15 Coffee Break
- 17:15 - 18:45 **Parallel Workshops on specific topic 1h30'** ▾
*Room 157: "Digitizing analog signals at high sampling rate and bandwidth" (Kleifges)
Room 155: "Photosensors: new developments and applications" (Kozlov)*
- 19:00 - 19:30 Bus transfer to hotels in Karlsruhe
- 20:00 - 22:00 Dinner at Schlosshotel Karlsruhe

Organisation

Friday, 25 January 2013

08:30 - 09:00	Bus transfer from hotels in Karlsruhe	
09:00 - 10:15	Talks III	▼
	Convener: Dr. Julian Rautenberg (Bergische Universität Wuppertal)	
09:00	"Towards a R&D station for large area detectors in harsh environments" 25'	▼
	Speaker: T. Karg	
09:25	"Technical challenges of the JEM-EUSO project" 25'	▼
	Speaker: A. Santangelo	
09:50	"The HiSCORE-Detector" 25'	▼
	Speaker: Mr. Rayk Nachtigall (Uni Hamburg)	
10:15 - 10:45	Coffee Break	
10:45 - 11:15	Reports from Workshop sessions (2x 0:15) 30'	▼
11:15 - 11:40	"New method of air shower observations with CROME" 25'	▼
	Speaker: S. Matys	
11:40 - 12:05	"Technical challenges of KATRIN" 25'	▼
	Speaker: M. Steidl	
12:05 - 13:00	Lunch	
13:00 - 13:30	Discussion on future and next reports 30'	▼
13:30 - 14:00	Bus transfer to Karlsruhe main station	

Dinner at Schlosshotel, Karlsruhe



HAP Workshop: Advanced Technologies

Welcome at KIT, Campus North to our first workshop !



Introduction:

- Goals of the workshop
- HAP topics covered / not covered
- Highlights:
 - specific topics in parallel sessions
 - invited talk of Stefan Ritt (PSI)

Goals of the workshop:

Topic 4 aims to perform coordinated R&D efforts for improved instrumentation → rely on work from other topics

- compile current status of R&D developments
- find synergy between partners
- foster collaboration between partners
- share of information about technological trends
- feedback to topic coordinators

HAP Topics: Advanced Technologies

1. CR radio detection ✓
2. CR microwave detection ✓
3. Neutrino acoustic and radio detection
4. UHE γ -rays at Auger (SCORE) ✓
5. Advanced PMT development ✓
6. Integrated multi-channel read-out electronics ✓
7. CR detection from space ✓ **Non-thermal universe (1-8)**
8. Lower-energy extension of IceCube **Dark universe (9-14)**
9. Electronic system design for EURECA
10. Fast waveform digitizer for future xenon detectors ✓
11. Intelligent triggering, data processing and event building systems ✓
12. Low-noise, low-power preamplifiers
13. Calibration of large liquid Xenon detectors
14. Calibration methods for novel low-temperature light detectors

Specific topics:

Parallel session today: 17:15 – 18:45

- “Digitizing analog signals at high sampling rate and bandwidth”
 - Issue common to basically all experiment
 - highest interest of you
 - fast technological progress

- “Photosensors: new developments and applications“
 - many applications in physics: fluorescence light, Cherenkov light, etc.
 - new developments with PMT, APD and others
 - broad interest by you

- ~~“Precision clock distribution for next generation Astroparticle Experiments“~~
This topic was cancelled due to lower interest, but will **be revisited next time**

Thanks for coming !