

PETRA IV Workshop - Technical Challenges and Scientific Computing

 Nov 18, 2020, 8:00 AM → Nov 20, 2020, 6:45 PM Europe/Berlin

 Online

Description Recently, DESY has opened a call for PETRA IV scientific instrumentation, where researchers from all fields of science were asked to submit proposals for experiments (see [indico page](#)).

The workshop "Technical Challenges and Scientific Computing" is one out of four PETRA IV workshops dedicated to addressing technical and computing challenges and organized within the process of developing the PETRA IV scientific instrumentation proposals. This specific workshop is aiming to identify potential technical challenges and scientific computing issues with respect to PETRA IV and to foster the exchange of ideas and concepts among different user communities and the facility as well as to determine technical requirements for experiments at PETRA IV

The scope of the workshop covers talks about technical challenges and scientific computing at PETRA IV as well as a poster session.

This workshop will be an online workshop.

- Click [here](#) to download the **full timetable**.
- Click [here](#) for more information on the **poster session** and **Zoom links**.

Organization Committee: R. Döhrmann, J. Raabe, F. Seiboth, J. Garrevoet, A. Barty, T. Kracht, H. Schulte-Schrepping, T. Salditt, F. Westermeier, M. Sprung, J. Hakanpää, S. Fiedler, D. Pennicard, C. Wunderer, H. Graafsma, A.-C. Dippel, M. v. Zimmermann, M. Müller, P. Staron, C. Krywka, M. Etter, F. Bertram, C. Shen, U. Lienert, O. Wendt, M. Lippmann, A. Ehnes, W. Roseker, T. F. Keller, H.-P. Liermann, I. Sergeev, A. Kotlov, O. Leupold, M. Naumova, A. Schökel, F. Trinter, R. Farla, K. Glazyrin, K. Bagschik, S. Klumpp, O. Seeck, H. C. Wille, M. Kreuzeder



 PETRAIVWorkshop...

Registration

 You are registered for this event.

Support  p4-workshop-support@desy.de

WEDNESDAY, 18 NOVEMBER

18.11.2020

10:00 AM → 10:15 AM **Opening Session**

10:00 AM | **Welcome** ⌚ 10m
Speaker: Christian Schroer (DESY)

10:10 AM | **Zoom Session Netiquette** ⌚ 5m
Speaker: Stephan Klumpp (DESY)

10:15 AM → 12:30 PM **Facility Talks: -- White Zoom Room --, Chair: Kai Bagschik**

10:15 AM | **Status of the PETRA IV Machine Lattice** ⌚ 20m
Speaker: Ilya Agapov (DESY)

10:35 AM | **Undulators PETRA III and PETRA IV** ⌚ 20m
Speaker: Andreas Schöps (DESY)

10:55 AM | **Monochromators at PETRA III and PETRA IV** ⌚ 20m
Speaker: Horst Schulte-Schrepping (DESY)

11:15 AM | **Coffee Break** ⌚ 15m

11:30 AM | **The DESY NanoLab and PETRA IV** ⌚ 20m
Speaker: Andreas Stierle (DESY)

11:50 AM | **Coherence Properties at PETRA IV** ⌚ 20m
Speaker: Ivan Vartanants (DESY)

12:10 PM

How Nanoprobes can take full advantage of PETRA IV ⌚ 20m

Speaker: Andreas Schropp (DESY)

12:30 PM

→ 1:30 PM

Lunch Break ⌚ 1h

1:30 PM

→ 3:45 PM

Pulse Structure and Timing: -- White Zoom Room --, Chair: Ilya Sergeev

1:30 PM

Challenges of the PETRA IV timing mode ⌚ 20m

Speaker: Ilya Agapov (DESY)

1:50 PM

Time resolved experiments at BESSY II ⌚ 20m

Speaker: Jens Viefhaus (HZB)

2:10 PM

The new ESRF-EBS accelerator timing system ⌚ 20m

Speaker: Nicolas Janvier (ESRF)

2:30 PM

Coffee Break ⌚ 15m

2:45 PM

Timing and Synchronization of Experiments at European XFEL ⌚ 20m

Speaker: Patrick Geßler (XFEL)

3:05 PM

2D detectors for timing mode experiments ⌚ 20m

Speaker: Torsten Laurus (DESY)

3:25 PM

Time-resolved studies at PETRA III and PETRA IV ⌚ 20m

Speaker: Hans-Christian Wille (DESY)

3:45 PM

→ 4:00 PM

Coffee Break ⌚ 15m

4:00 PM → 6:15 PM **Poster Session**

📍 -- based on remo.co -- (Please ...)

THURSDAY, **19.11.2020**

10:15 AM → 12:30 PM **Experiment Control and Data Acquisition: -- White Zoom Room --, Chair: Thorsten Kracht, Anton Barty**

10:15 AM | **Intro - Experiment control** ⌚ 20m

Speaker: Thorsten Kracht (DESY)

10:35 AM | **modern strategies for high performace computing and data storage** ⌚ 20m

Speaker: Volker Guelzow (DESY)

10:55 AM | **Future detector specifications, what to expect by the time we reach Petra-IV** ⌚ 20m

Speaker: David Pennicard (DESY)

11:15 AM | **Coffe Break** ⌚ 15m

11:30 AM | **Use case: Computing needs for serial crystallography: where should we be heading?** ⌚ 20m

Speaker: Tom White (DESY)

11:50 AM | **Use cases at P11: from PETRA III towards PIV** ⌚ 20m

Speakers: Jan Meyer (DESY), Johanna Hakanpaeae (DESY)

12:10 PM | **Automated analysis with ASAPO** ⌚ 20m

Speaker: Tim Schoof (DESY)

12:30 PM → 1:30 PM **Lunch Break** ⌚ 1h

1:30 PM → 3:45 PM **Near Real Time Analysis and Offline Data Processing: -- White Zoom Room --, Chair: Anton Barty, Thorsten Kracht**

1:30 PM | **Intro** ⌚ 20m

Speaker: Anton Barty (DESY)

1:50 PM | **Perspectives from the land of EuXFEL** ⌚ 20m

Speaker: Philipp Schmidt (EuXFEL)

2:10 PM | **Handling big data, present & future, Future of Tango** ⌚ 20m

Speaker: Andy Gotz (ESRF)

2:30 PM | **Coffee Break** ⌚ 15m

2:45 PM | **CS and big data handling at PSI** ⌚ 20m

Speaker: Alun Ashton (PSI)

3:05 PM | **CS and big data handling at Max-IV** ⌚ 20m

Speaker: Darren Spruce (MAX-IV)

3:25 PM | **CS and big data handling at Diamond** ⌚ 20m

Speaker: Christopher Reynolds (Diamond Light Source)

3:45 PM → 4:00 PM **Coffee Break** ⌚ 15m

4:00 PM → 6:15 PM **Detector Requirements at PETRA IV: -- White Zoom Room --, Chair: David Pennicard**

4:00 PM

The detector program for the ESRF-EBS upgrade ⌚ 20m

Speaker: Pablo Fajardo (ESRF)

4:20 PM

High frame rate integrating pixel detector ⌚ 20m

Speaker: Heinz Graafsma (DESY)

4:40 PM

Timepix4 high-time-resolution pixel detector ⌚ 20m

Speaker: Jonathan Correa (DESY)

5:00 PM

Coffee Break ⌚ 15m

5:15 PM

Superconducting Transition-Edge Sensors for spectroscopy ⌚ 20m

Speaker: Sang-Jun Lee (SLAC)

5:35 PM

Detector requirements for coherence experiments at PETRA-IV ⌚ 20m

Speaker: Michael Sprung (DESY)

5:55 PM

Detector requirements for hard X-ray experiments at PETRA-IV ⌚ 20m

Speaker: Martin von Zimmermann (DESY)

FRIDAY, 20.11.2020

10:15 AM

→ 12:30 PM

Optics Demands to Access New Science: -- White Zoom Room --, Chair: Frank Seiboth

10:15 AM

Welcome ⌚ 5m

Speaker: Frank Seiboth (DESY)

10:20 AM

NanoMAX - An overview of the hard X-ray nanoprobe beamline at MAX IV ⌚ 20m

Speaker: Ulf Johansson (MAX IV)

10:40 AM

Optical solutions for ESRF EBS beamlines ⌚ 20m

Speaker: Raymond Barrett (ESRF)

11:00 AM

Opportunities in high resolution x-ray imaging ⌚ 20m

Speaker: Sasa Bajt (DESY)

11:20 AM

Coffee Break ⌚ 10m

11:30 AM

Diffraction X-ray optics for microscopy and nanofocusing experiments ⌚ 20m

Speaker: Christian David (PSI)

11:50 AM

X-ray Waveguide optics for PETRAIV ⌚ 20m

Speaker: Tim Salditt (Uni Göttingen)

12:10 PM

A new scanning approach for nanoprobe experiments: fast scanning with still sample ⌚ 20m

Speaker: Mikhail Lyubomirskiy (DESY)

12:30 PM

→ 1:30 PM

Lunch Break ⌚ 1h

1:30 PM

→ 3:45 PM

Positioning and Stability Requirements: -- White Zoom Room --, Chairs: Ralph Doehrmann, Jan Garrevoet

1:30 PM

Welcome ⌚ 5m

Speaker: Jan Garrevoet (DESY)

1:35 PM

Design of Ultra Precision Motion Systems requires a System Level Mechatronics Approach ⌚ 20m

Speaker: Theo A. M. Ruijl (MI-Partners)

1:55 PM

The Coherent X-Ray Diffraction Instrument of the NanoMAX Beamline at MAX IV ⌚ 20m

Speaker: Sebastian Kalbfleisch (MAX IV Laboratory Lund University)

2:15 PM

The ESRF Spectroscopy DCM ⌚ 20m

Speaker: Raymond Barrett (ESRF)

2:35 PM

Coffee Break ⌚ 10m

2:45 PM

Fiber interferometry for position and stability control of x-ray microscopes ⌚ 20m

Speaker: Ulrich Vogt (KTH Royal Institute of Technology)

3:05 PM

The APS-Upgrade PtychoProbe ⌚ 20m

Speaker: Curt Preissner (APS)

3:25 PM

X-ray microscopy instrumentation at NSLS-II: imaging from sub-micrometers down to ~10 nm ⌚ 20m

Speaker: Evgeny Nazaretski (NSLS-II)

3:45 PM

→ 4:00 PM

Coffee Break ⌚ 15m

4:00 PM

→ 6:15 PM

Sample Environment and Laboratories at Photon Science: -- White Zoom Room --, Chairs: Anita Ehnes, Milena Lippmann

4:00 PM

Welcome and Introduction ⌚ 20m

Speakers: Anita Ehnes (DESY), Milena Lippmann (DESY)

4:20 PM

Sample environment at HZB ⌚ 20m

Speaker: Klaus Kiefer (HZB)

4:40 PM

Sample Environments at the MAX IV Laboratory ⌚ 20m

Speaker: Stefan Carlson (MAXIV)

5:00 PM

Coffee Break ⌚ 15m

5:15 PM

The ESRF sample environment unit ⌚ 20m

Speaker: Yvey Watier (ESRF)

5:35 PM

Laser interferometer based sample stabilization for in situ high-energy grazing incidence techniques ⌚ 20m

Speaker: Ann-Christin Dippel (DESY)

5:55 PM

Sample environments for engineering materials experiments ⌚ 20m

Speakers: Peter Staron (HZG), Ulrich Lienert (DESY)

6:15 PM

→ 6:45 PM

Summary / Close Out