

Future Detectors for the European XFEL

Report of Contributions

Contribution ID: 1

Type: **not specified**

Welcome and Goals of the Workshop

Monday 18 September 2023 10:00 (10 minutes)

Presenter: TURCATO, Monica (Eur XFEL (European XFEL))

Session Classification: Welcome and Introduction

Contribution ID: 3

Type: **not specified**

EuXFEL Facility Development Plans

Monday 18 September 2023 10:10 (25 minutes)

Presenter: TSCHENTSCHER, Thomas (Eur.XFEL (European XFEL))

Session Classification: Welcome and Introduction

Contribution ID: 4

Type: **not specified**

Scientific Requirements for Detector Development from EuXFEL Instruments

Monday 18 September 2023 10:35 (25 minutes)

Presenter: BEAN, Richard (Eur.XFEL (European XFEL))

Session Classification: Welcome and Introduction

Contribution ID: 5

Type: **not specified**

Operational Experience and Lessons Learned with Existing Detectors (Hardware, Interlocks and Calibration)

Monday 18 September 2023 11:20 (25 minutes)

Presenter: SZTUK-DAMBIETZ, Jolanta (Eur XFEL (European XFEL))

Session Classification: Towards the New Generation of Detectors for the EuXFEL

Contribution ID: 6

Type: **not specified**

Operational Experience and Lessons Learned with Existing Detectors (Control and DAQ)

Monday 18 September 2023 11:45 (25 minutes)

Presenters: Dr PARENTI, Andrea (Eur XFEL (European XFEL)); Mr DANILEVSKI, Cyril (European XFEL)

Session Classification: Towards the New Generation of Detectors for the EuXFEL

Contribution ID: 7

Type: **not specified**

Data Volume Management: Challenges and Solutions

Monday 18 September 2023 12:10 (25 minutes)

Presenter: WRONA, Krzysztof (Eur XFEL (European XFEL))

Session Classification: Towards the New Generation of Detectors for the EuXFEL

Contribution ID: 8

Type: **not specified**

New Generation Detectors: Requirements, Strategy and First Steps

Monday 18 September 2023 12:35 (25 minutes)

Presenter: TURCATO, Monica (Eur XFEL (European XFEL))

Session Classification: Towards the New Generation of Detectors for the EuXFEL

Contribution ID: 9

Type: **not specified**

DESY FS-DS: Ongoing Development and Future Directions

Monday 18 September 2023 14:00 (25 minutes)

Presenter: GRAAFSMA, Heinz (FS-DS (Detektorsysteme))

Session Classification: Front-End Detector Developments I

Contribution ID: **10**

Type: **not specified**

Overview of Jungfrau improvements in the short and long term: a EU-XFEL perspective

Monday 18 September 2023 14:25 (25 minutes)

Presenter: MOZZANICA, Aldo (Paul Scherrer Institut)

Session Classification: Front-End Detector Developments I

Contribution ID: **11**

Type: **not specified**

New X-ray Detectors for ESRF: XIDyn/XIDER/Dynamix

Monday 18 September 2023 15:15 (25 minutes)

Presenter: BUSCA, Paolo

Session Classification: Front-End Detector Developments I

Contribution ID: **13**

Type: **not specified**

From DSSC to to the next generation of soft X-Ray detectors

Monday 18 September 2023 16:00 (25 minutes)

Presenter: PORRO, Matteo (European XFEL GmbH)

Session Classification: Front-End Detector Developments II

Contribution ID: 14

Type: **not specified**

Polimi's Experience Towards Development of New Front-End Solutions for Next-Gen EuXFEL Detectors

Monday 18 September 2023 16:25 (25 minutes)

Presenter: FIORINI, Carlo (Politecnico di Milano and INFN Milano)

Session Classification: Front-End Detector Developments II

Contribution ID: 15

Type: **not specified**

Front-End Electronics and IP Blocks in 65 nm CMOS Technology for Pixel Detectors in X-ray Imaging Applications

Monday 18 September 2023 16:50 (25 minutes)

Presenter: GAIONI, Luigi

Session Classification: Front-End Detector Developments II

Contribution ID: **16**

Type: **not specified**

Development of Front-End Electronics in 28 nm CMOS Technology

Monday 18 September 2023 17:15 (25 minutes)

Presenter: GAIONI, Luigi

Session Classification: Front-End Detector Developments II

Contribution ID: 17

Type: **not specified**

Current and future developments for soft X-ray detectors at MPG HLL

Tuesday 19 September 2023 09:00 (25 minutes)

Presenter: NINKOVIC, Jelena (MPG HLL)

Session Classification: Sensor Developments I

Contribution ID: **18**

Type: **not specified**

The Future of DePFETs (and other devices) for XFELs and Synchrotrons

Tuesday 19 September 2023 09:25 (25 minutes)

Presenter: STRÜDER, Lothar (PNS)

Session Classification: Sensor Developments I

Contribution ID: **19**

Type: **not specified**

Characteristics of ARCADIA Fully Depleted MAPS and Perspectives for X-ray Imaging at XFELs

Tuesday 19 September 2023 09:50 (25 minutes)

Presenter: PANCHERI, Lucio (University of Trento)

Session Classification: Sensor Developments I

Contribution ID: 21

Type: **not specified**

Development of LGADs and Pixel Sensors for Soft X-rays at FBK

Tuesday 19 September 2023 11:10 (25 minutes)

Presenter: VIGNALI, Matteo Centis (FBK)

Session Classification: Sensor Developments II

Contribution ID: 22

Type: **not specified**

Overview of Silicon Sensor Development and SDDs for X-ray Spectroscopy at FBK

Tuesday 19 September 2023 10:45 (25 minutes)

Presenter: PEPPONI, Giancarlo (FBK)

Session Classification: Sensor Developments II

Contribution ID: 23

Type: **not specified**

Characterisation of High-Z Sensor Materials for Imaging at Extreme Fluxes

Tuesday 19 September 2023 11:35 (25 minutes)

Presenter: VEALE, Matthew (STFC Rutherford Appleton Laboratory)

Session Classification: Sensor Developments II

Contribution ID: 24

Type: **not specified**

Latest Developments in Detector Microelectronics and DAQ at STFC

Tuesday 19 September 2023 13:00 (30 minutes)

Presenter: HART, Matthew (STFC)

Session Classification: DAQ and Firmware Developments

Contribution ID: 25

Type: **not specified**

ESRF's RASHPA: High-Performance DAQ Platform

Monday 18 September 2023 17:45 (25 minutes)

Presenter: FAJARDO, Pablo (ESRF)

Session Classification: DAQ and firmware development

Contribution ID: 26

Type: **not specified**

Enabling Modular and Programmable DAQ at High Frame-Rate and 4 Mega Pixel-Count Imaging for XFEL 2030+: A Competence Driven Assessment

Tuesday 19 September 2023 13:30 (30 minutes)

Presenter: LUSARDI, Nicola (Politecnico di Milano)

Session Classification: DAQ and Firmware Developments

Contribution ID: 27

Type: **not specified**

DECTRIS: Next Generation MHz Detectors with High Dynamic Range

Tuesday 19 September 2023 14:30 (25 minutes)

Presenter: RISSI, Michael (DECTRIS Ltd.)

Session Classification: X-ray Detector Industry Presentations

Contribution ID: 28

Type: **not specified**

High speed X-ray detectors by X-Spectrum

Tuesday 19 September 2023 14:55 (25 minutes)

Presenter: SCHMEHR, Julian (X-SPECTRUM)

Session Classification: X-ray Detector Industry Presentations

Contribution ID: 29

Type: **not specified**

CdZnTe Detector Technology for Emerging applications in advanced X-Ray sources

Tuesday 19 September 2023 15:45 (25 minutes)

Presenter: WU, Glen (Redlen Technologies Inc.)

Session Classification: X-ray Detector Industry Presentations

Contribution ID: **30**

Type: **not specified**

High-Z GaAs Development by ADVAFAB

Tuesday 19 September 2023 15:20 (25 minutes)

Presenter: KALLIOPUSKA, Juha (Advafab)

Session Classification: X-ray Detector Industry Presentations

Contribution ID: **31**

Type: **not specified**

Workshop Wrap-up: Discussion, Conclusions, and Next Steps

Tuesday 19 September 2023 16:10 (50 minutes)

Contribution ID: 37

Type: **not specified**

Gotthard for CW operation and low/high energy sensor development

Monday 18 September 2023 14:50 (25 minutes)

Presenter: ZHANG, Jiaguo (Paul Scherrer Institut)

Session Classification: Front-End Detector Developments I