

Conference Program

Monday, October 9th

08:30 – 09:00 OPENING SESSION – Plenary Room

Chair: David Fernandez-Carreiras (ALBA, ES)

08:30 - 08:55 Welcome Address

David Fernandez-Carreiras - ALBA-CELLS Synchrotron, ES

08:55 - 09:00 Welcome from the Director of ALBA Synchrotron

Caterina Biscari - ALBA-CELLS Synchrotron, ES

09:00 - 10:00 MOKPL - KEYNOTE SPEAKER 1 – Plenary Room

Chair: David Fernandez-Carreiras (ALBA, ES)

MOKPL01 - Evolution of Photon Sources

Caterina Biscari and **Salvador Ferrer** - ALBA-CELLS Synchrotron, ES

10:00 – 11:00 MOAPL - PROJECTUS STATUS REPORT 1 – Plenary Room

Chairs: Yingbing Yan (SSRF, CN) and John Maclean (ANL, US)

10:00 - 10:15 **MOAPL01** - The Control System for the Linear Accelerator at the European XFEL: Status and First Experiences

Tim Wilksen - Deutsches Elektronen-Synchrotron

10:15 - 10:30 **MOAPL02** - The First Operation of the MAX IV Laboratory Synchrotron Facilities

Vincent Hardion - MAX IV Laboratory Lund University

10:30 - 10:45 **MOAPL03** - Status of the National Ignition Facility (NIF) Integrated Computer Control and Information Systems

Gordon Brunton - Lawrence Livermore National Laboratory National Ignition Facility Programs Directorate Photon Science and Applications Program

10:45 - 11:00 **MOAPL04** - SwissFEL Control System - Overview, Status, and Lessons Learned

Elke Zimoch - Paul Scherrer Institut

11:00 – 11:30 COFFEE BREAK – Exhibition and Poster Area

11:30 – 13:00 MOBPL - SOFTWARE TECHNOLOGY EVOLUTION 1 – Plenary Room

Chairs: Lize Van den Heever (SKA, ZA) and Gianluca Chiozzi (ESO,GE)

11:30 - 11:45 **MOBPL01** - EPICS 7 Provides Major Enhancements to the EPICS Toolkit

Leo Bob Dalesio - Osprey DCS LLC

11:45 - 12:00 **MOBPL02** - TANGO Kernel Development Status

Reynald Bourtembourg - European Synchrotron Radiation Facility

12:00 - 12:15 **MOBPL03** - The SKA Telescope Control System Guidelines and Architecture

Lorenzo Pivetta - SKA Organisation

12:15 - 12:30 **MOBPL04** - MADOCA II Data Collection Framework for SPring-8

Takahiro Matsumoto - Japan Synchrotron Radiation Research Institute Controls and Computing Division

12:30 - 12:45 **MOBPL05** - How To Design & Implement a Modern Communication Middleware Based on ZeroMQ

Joel Lauener - European Organization for Nuclear Research Beams Department (BE)

- 12:45 - 13:00 **MOBPL06** - Facade Devices, a Reactive Approach to Tango
Vincent Michel - MAX IV Laboratory Lund University
- 13:00 – 14:00 LUNCH TIME**
- 14:00 – 15:45 MOCPL – INTEGRATING DIVERSE SYSTEMS – Plenary Room**
Chairs: Gordon Brunton (LLNL, US) and Enrique Blanco (CERN, CH)
- 14:00 - 14:15 **MOCPL01** - Orchestrating a System
Aaron Lombrozo - Sandia National Laboratories
- 14:15 - 14:30 **MOCPL02** - Experiences with Laser Survey Instrument Based Approach to National Ignition Facility Diagnostic Alignments
Eric Wilson - Lawrence Livermore National Laboratory National Ignition Facility Programs Directorate National Ignition Facility Project
- 14:30 - 14:45 **MOCPL03** - PROFINET Communication Card for the CERN Cryogenics Crate Electronics Instrumentation
Rafal Krzysztof Mastyna - European Organization for Nuclear Research Technology Department (TE)
- 14:45 - 15:00 **MOCPL04** - 3G/LTE Based Wireless Communications for Remote Control and Monitoring of PLC Managed Vacuum Mobile Devices
Rodrigo Ferreira - European Organization for Nuclear Research Technology Department (TE)
- 15:00 - 15:15 **MOCPL05** - ECMC, the Open Source Motion Control Package for EtherCAT Hardware at the ESS
Anders Sandström - European Spallation Source ERIC
- 15:15 - 15:30 **MOCPL06** - MARWIN: A Mobile Autonomous Robot for Maintenance and Inspection
Andre Dehne - hochschule 21 gGmbH University in Buxtehude
- 15:30 - 15:45 **MOCPL07** - The Integrated Alarm System of the Alma Observatory
Alessandro Caproni - European Organisation for Astronomical Research in the Southern Hemisphere
- 15:45 – 16:15 COFFEE BREAK – Exhibition and Poster Area**
- 16:15 – 18:00 MODPL – CONTROL SYSTEM UPGRADES – Plenary Room**
Chairs: Nick Hauser (ANSTO, AU) and Tomohiro Matsushita (SPRING8, JP)
- 16:15 - 16:30 **MODPL01** - Replacing The Engine In Your Car While You Are Still Driving It - Part II
Eric Bjorklund - Los Alamos National Laboratory AOT Division
- 16:30 - 16:45 **MODPL02** - Virtual Control Commissioning for a Large Critical Ventilation Systems: The CMS Cavern Use Case
William Booth - European Organization for Nuclear Research
- 16:45 - 17:00 **MODPL03** - Experience Upgrading Telescope Control Systems at the Gemini Telescopes
Arturo Javier Nunez - Gemini Observatory Southern Operations Center
- 17:00 - 17:15 **MODPL04** - Framework Upgrade of the Detector Control System
Mei Ye - Institute of High Energy Physics Chinese Academy of Sciences Experimental Physics Center
- 17:15 - 17:30 **MODPL05** - Lightweight Acquisition System for Analogue Signals
Bartosz Przemysław Bielawski - European Organization for Nuclear Research
- 17:30 - 17:45 **MODPL06** - Recent and Future Upgrades to the Control Systems of LCLS and LCLS-II Scientific Instruments
Daniel Lawrence Flath - SLAC National Accelerator Laboratory
- 17:45 - 18:00 **MODPL07** - How Low Cost Devices Can Help on the Way to ALICE Upgrade
Ombretta Pinazza - Istituto Nazionale di Fisica Nucleare Sezione di Bologna

Tuesday, October 10th

08:30 – 09:30 TUKPL – KEYNOTE SPEAKER 2 – Plenary Room

Chair: Kevin Brown (BNL, US)

TUKPL01 - Your Ideas are Worthless

Michael Ossmann - Great Scott Gadgets, US

09:30 – 11:00 TUAPL – HARDWARE TECHNOLOGY – Plenary Room

Chairs: Javier Serrano (CERN, CH) and Timo Korhonen (ESS, SE)

09:30 - 09:45 **TUAPL01** - MicroTCA Generic Data Acquisition Systems at ESS

Simone Farina - European Spallation Source ERIC

09:45 - 10:00 **TUAPL02** - Porting the VME-Based Optical-Link Remote I/O Module to a PLC Platform - an Approach to Maximize Cross-Platform Portability Using SoC

Takemasa Masuda - Japan Synchrotron Radiation Research Institute Controls and Computing Division

10:00 - 10:15 **TUAPL03** - Solving Vendor Lock-in in VME Single Board Computers through Open-sourcing of the PCIe-VME64x Bridge

Grzegorz Daniluk - European Organization for Nuclear Research Beams Department (BE)

10:15 - 10:30 **TUAPL04** - Em# Electrometer Comes to Light

Jose Avila-Abellan - ALBA-CELLS Synchrotron

10:30 - 10:45 **TUAPL05** - PandABox: A Multipurpose Platform For Multi-technique Scanning and Feedback Applications

Shu Zhang - Synchrotron Soleil

10:45 - 11:00 **TUAPL06** - Cryomodule-on-Chip Simulation Engine

Carlos Serrano - Lawrence Berkeley National Laboratory

11:00 – 11:30 COFFEE BREAK – Exhibition and Poster Area

11:30 – 13:00 TUBPL – USER INTERFACES AND USER EXPERIENCE (UX)1 – Plenary Room

Chairs: Reinhard Bacher (DESY, GE) and Andy Götz (ESRF, FR)

11:30 - 11:45 **TUBPL01** - CERN Controls Configuration Service: A Challenge in Usability

Lukasz Burdzanowski - European Organization for Nuclear Research Beams Department (BE)

11:45 - 12:00 **TUBPL02** - Taurus Big & Small: From Particle Accelerators to Desktop Labs

Carlos Pascual-Izarra - ALBA-CELLS Synchrotron

12:00 - 12:15 **TUBPL03** - Panic and the Evolution of Tango Alarm Handlers

Sergi Rubio-Manrique - ALBA-CELLS Synchrotron

12:15 - 12:30 **TUBPL04** - Streamlining the Target Fabrication Request at the National Ignition Facility

Carla Manin - Lawrence Livermore National Laboratory National Ignition Facility Programs Directorate National Ignition Facility Project

12:30 - 12:45 **TUBPL05** - MXCuBE3 Bringing MX Experiments to the WEB

Marcus Carl Oskarsson - European Synchrotron Radiation Facility

12:45 - 13:00 **TUBPL06** - The Graphical User Interface of the Operator of the Cherenkov Telescope Array

Iftach Sadeh - Deutsches Elektronen-Synchrotron DESY at Zeuthen

11:30 – 13:00 TUBPA – DATA MANAGEMENT & PROCESSING – Parallel Room

Chairs: Karen White (SNS, US) and Kazuro Furukawa (KEK, JP)

11:30 - 11:45 **TUBPA01** - The Evolution of Component Database for APS Upgrade*

Dariusz Piotr Jarosz - Argonne National Laboratory Advanced Photon Source

- 11:45 - 12:00 **TUBPA02** - Monitoring the New ALICE Online-Offline Computing System
Wegrzynek Adam - European Organization for Nuclear Research
- 12:00 - 12:15 **TUBPA03** - Database Scheme for Unified Operation of SACLA / SPring-8
Kensuke Okada - Japan Synchrotron Radiation Research Institute Controls and Computing Division
- 12:15 - 12:30 **TUBPA04** - The MAX IV Laboratory Scientific Data Management
Vincent Hardion - MAX IV Laboratory Lund University
- 12:30 - 12:45 **TUBPA05** - High Throughput Data Acquisition with EPICS
Klemen Vodopivec - Oak Ridge National Laboratory Spallation Neutron Source Accelerator Systems Division
- 12:45 - 13:00 **TUBPA06** - Scalable Time Series Documents Store
Francois Joubert - SKA South Africa National Research Foundation of South Africa Department of Science and Technology
- 13:00 – 14:00 TUIPA – INDUSTRY SESSION – Parallel Room**
- 13:00 - 14:00 **TUIPA01** - Safety is one - main - key to research
Klaus Stark - Pilz GmbH & Co. KG
- 13:00 – 14:00 LUNCH TIME**
- 14:00 – 15:30 TUCPL – TIMING & SYNCHRONIZATION – Plenary Room**
Chair: Eric Bjorklund (LANL, US) and Nicolas Janvier (ESRF, FR)
- 14:00 - 14:15 **TUCPL01** - Refurbishment of the ESRF Accelerator Synchronization System Using White Rabbit
Gerard Goujon - European Synchrotron Radiation Facility
- 14:15 - 14:30 **TUCPL02** - Synchronized Timing and Control System Construction of SuperKEKB Positron Damping Ring
Hitoshi Sugimura - High Energy Accelerator Research Organization
- 14:30 - 14:45 **TUCPL03** - White Rabbit in Radio Astronomy
Paul Boven - Joint Institute for VLBI ERIC
- 14:45 - 15:00 **TUCPL04** - SwissFEL Timing System: First Operational Experience
Babak Kalantari - Paul Scherrer Institut
- 15:00 - 15:15 **TUCPL05** - Design and Prototyping of a New Synchronization System with Stability at Femtoseconds
Ming Liu - Shanghai Institute of Applied Physics
- 15:15 - 15:30 **TUCPL06** - Verification of the FAIR Control System Using Deterministic Network Calculus
Malte Schütze - Distributed Computer Systems Lab University of Kaiserslautern Department of Computer Science
- 14:00 – 15:30 TUCPA – DATA ANALYTICS – Parallel Room**
Chairs: Manuel González Berges (CERN, CH) and Seth Nemesure (BNL, US)
- 14:00 - 14:15 **TUCPA01** - Data Analysis Support in Karabo at European XFEL
Hans Fangohr - European XFEL GmbH
- 14:15 - 14:30 **TUCPA02** - Leveraging Splunk for Control System Monitoring and Management
Barry Fishler - Lawrence Livermore National Laboratory National Ignition Facility Programs Directorate National Ignition Facility Project
- 14:30 - 14:45 **TUCPA03** - Experience with Machine Learning in Accelerator Controls
Kevin A. Brown - Brookhaven National Laboratory
- 14:45 - 15:00 **TUCPA04** - Model Learning Algorithms for Faulty Sensors Detection in CERN Control Systems
Filippo Maria Tilaro - European Organization for Nuclear Research Beams Department (BE)

- 15:00 - 15:15 **TUCPA05** - Laser Damage Image Preprocessing Based on Total Variation
Xiaowei Zhou - Institute of Computer Application China Academy of Engineering Physics
- 15:15 - 15:30 **TUCPA06** - SwissFEL - Beam Synchronous Data Acquisition - The First Year
Simon Gregor Ebner - Paul Scherrer Institute Large Research Facilities
- 15:30 – 16:00 COFFEE BREAK – Exhibition and Poster Area**
- 16:00 – 16:45 TUDPL – SOFTWARE TECHNOLOGY EVOLUTION 2 – Plenary Room**
Chairs: Gianluca Chiozzi (ESO,GE) and Lize Van den Heever (SKA, ZA)
- 16:00 - 16:15 **TUDPL01** - Reproduce Anything, Anywhere: A Generic Simulation Suite for Tango Control Systems
Sergi Rubio-Manrique - ALBA-CELLS Synchrotron
- 16:15 - 16:30 **TUDPL02** - Automatic Formal Verification for EPICS
Jonathan Paul Jacky - University of Washington Medical Center Radiation Oncology
- 16:30 - 16:45 **TUDPL03** - Control System Simulation Using DSEE High Level Instrument Interface and Behavioural Description
Athanasios Johannes Tishetso Ramaila - SKA South Africa National Research Foundation of South Africa Department of Science and Technology
- 16:45 – 17:15 TUMPL – MINI-ORAL – Plenary Room**
Chairs: Richard Farnsworth (ANL, US) and Matthew Bickley (JLAB, US)
- 16:45 - 16:48 **TUMPL01** - Controls Design and Implementation for Next Beamlines at NSLS-II
Zhijian Yin - Brookhaven National Laboratory National Synchrotron Light Source II
- 16:48 - 16:51 **TUMPL02** - Streamlining Support and Development Activities Across the Distinct Support Groups of the ALBA Synchrotron With the Implementation of a New Service Management System
Malysa Martin - ALBA-CELLS Synchrotron
- 16:51 - 16:54 **TUMPL03** - New EPICS/RTEMS IOC Based on Altera SOC at Jefferson Lab
Jianxun Yan - Thomas Jefferson National Accelerator Facility
- 16:54 – 16:57 **TUMPL04** - LCLS-II Timing Pattern Generator Configuration GUIs
Carolina Bianchini - SLAC National Accelerator Laboratory
- 16:57 - 17:00 **TUMPL05** - Strategies for Migrating to a New Experiment Setup Tool at the National Ignition Facility
Allan Casey - Lawrence Livermore National Laboratory National Ignition Facility Programs Directorate National Ignition Facility Project
- 17:00 - 17:03 **TUMPL06** - Implementation of Distributed Information Services for Control Systems Framework for Maintenance Domain in a Physical System
Ali Khaleghi - Imam Khomeini International University Engineering
- 17:03 - 17:06 **TUMPL07** - LeWIS: Let's Write Intricate Simulators
Michael Hart - Science and Technology Facilities Council Rutherford Appleton Laboratory ISIS Department
- 17:06 - 17:09 **TUMPL08** - MAX IV BioMAX Beamline Control System: From Commissioning Into User Operation
Mikel Eguiraun - MAX IV Laboratory Lund University
- 17:09 - 17:12 **TUMPL09** - Challenges of the ALICE Detector Control System for the LHC RUN3
Peter Chochula - European Organization for Nuclear Research
- 16:45 – 17:15 TUMPA – MINI-ORAL – Parallel Room**
Chairs: Seth Nemesure (BNL, US) and Young-Gi Song (KAERI, KR)
- 16:45 - 16:48 **TUMPA01** - New Visual Alignment Sequencer Tool Improves Efficiency of Shot Operations at the National Ignition Facility (NIF)

- 16:48 - 16:51 Mikhail Fedorov - Lawrence Livermore National Laboratory
TUMPA02 - Development of a Machine Protection System for KOMAC Facility
Young-Gi Song - Korea Atomic Energy Research Institute (KAERI) Korea Multi-purpose Accelerator Complex (KOMAC)
- 16:51 - 16:54 **TUMPA03** - The Implementation of KSTAR Fast Interlock System using Compact-RIO
Myungkyu Kim - National Fusion Research Institute
- 16:54 - 16:57 **TUMPA04** - Operation Status of J-PARC MR Machine Protection System and Future Plan
Takuro Kimura - High Energy Accelerator Research Organization
- 16:57 - 17:00 **TUMPA05** - OPC UA to DOOS Bridge: A Tool for Automated Integration of Industrial Devices Into the Accelerator Control Systems at FLASH and European XFEL
Falko Peters - Deutsches Elektronen-Synchrotron
- 17:00 - 17:03 **TUMPA06** - RF Heat Load Compensation for the European XFEL
Matthias R. Clausen - Deutsches Elektronen-Synchrotron
- 17:03 - 17:06 **TUMPA07** - Advances in Automatic Performance Optimization at FERMI
Giulio Gaio - Elettra-Sincrotrone Trieste S.C.p.A.
- 17:06 - 17:09 **TUMPA08** - The Automatic Quench Analysis Software for the High Luminosity LHC Magnets Evaluation at CERN.
Maria De Fatima Gomez De La Cruz - European Organization for Nuclear Research
- 17:15 – 19:00 TUPHA - POSTER SESSION –Poster Area**
- 17:15 – 19:00 TUSH1, TUSH2, TUSH3 – SPEAKERS’ CORNER SESSION – Speakers’ Corner Area**
- TUSH1 - Screen 1:**
- 17:15 - 17:45 **TUSH101** - Creating Interactive Web Pages for Non-Programmers
Ted D'Ottavio - Brookhaven National Laboratory Collider-Accelerator Department
- 17:45 - 18:15 **TUSH102** - PShell: from SLS beamlines to the SwissFEL control room
Alexandre Gobbo - Paul Scherrer Institut
- 18:15 - 18:45 **TUSH103** - Web and Multi-Platform Mobile App at Elettra
Lucio Zambon - Elettra-Sincrotrone Trieste S.C.p.A.
- TUSH2 - Screen 2:**
- 17:15 - 17:45 **TUSH201** - Online Luminosity Control and Steering at the LHC
Michael Hostettler - European Organization for Nuclear Research
- 17:45 - 18:15 **TUSH202** - The Laser Megajoule Facility: Personal Safety System
Mathieu Gérard Manson - Commissariat à l'énergie atomique et aux énergies alternatives CEA /CESTA
- 18:15 - 18:45 **TUSH203** - System Identification and Control for the Sirius High Dynamics DCM
Ricardo Malagodi Caliarì - Brazilian Synchrotron Light Laboratory
- TUSH3 - Screen 3:**
- 17:15 - 17:45 **TUSH301** - Stream Clustering in Hadoop Using Spark Engine on Data Synchrotron
Ali Khaleghi - Imam Khomeini International University Engineering
- 17:45 - 18:15 **TUSH302** - uSOP: An Embedded Linux Board for the Belle2 Detector Controls
Gennaro Tortone - Istituto Nazionale di Fisica Nucleare Sezione Napoli
- 18:15 - 18:45 **TUSH303** - Managing Your Timing System as a Standard Ethernet Network
Adam Artur Wujek - European Organization for Nuclear Research Beams Department (BE)

Wednesday, October 11th

08:30 – 10:15 WEAPL – FEEDBACK CONTROL AND PROCESS TUNING – Plenary Room

Chairs: Marco Lonza (ELETTRA, IT) and Jean Michel Chaize (ESRF, FR)

- 08:30 - 08:45 **WEAPL01** - Present and Future of Harmony Bus, a Real-Time High Speed Bus for Data Transfer Between Fpga Cores
Manuel Broseta - ALBA-CELLS Synchrotron
- 08:45 - 09:00 **WEAPL02** - Automatic PID Performance Monitoring Applied to LHC Cryogenics
Benjamin Bradu - European Organization for Nuclear Research Technology Department (TE)
- 09:00 - 09:15 **WEAPL03** - Simulation of Cryogenic Process and Control of EAST Based on EPICS
Liangbing Hu - Institute of Plasma Physics Chinese Academy of Sciences
- 09:15 - 09:30 **WEAPL04** - Nanoprobe Results: Metrology & Control in Stacked Closed-Loop Systems
Christer Engblom - Synchrotron Soleil
- 09:30 - 09:45 **WEAPL05** - Parc : A Computational System in Support of Laser Megajoule Facility Operations
Jean-Philippe Airiau - Commissariat à l'énergie atomique et aux énergies alternatives CEA /CESTA
- 09:45 - 10:00 **WEAPL06** - Skywalker: Python Suite for Automated Photon Alignment at LCLS
Alex Wallace - SLAC National Accelerator Laboratory LCLS Department
- 10:00 - 10:15 **WEAPL07** - On-Line Optimization of XFELs and Light Sources with OCELOT
Ilya Agapov - Deutsches Elektronen-Synchrotron

10:15 – 10:45 COFFEE BREAK – Exhibition and Poster Area

10:45 – 12:30 WEBPL – EXPERIMENT CONTROL 1 – Plenary Room

Chairs: Markus Janousch (PSI, CH) and Guifré Cuní (ALBA, ES)

- 10:45 - 11:00 **WEBPL01** - EPICS Architecture for Neutron Instrument Control at the European Spallation Source
John Sparger - European Spallation Source ERIC
- 11:00 - 11:15 **WEBPL02** - On-Axis 3D Microscope for X-Ray Beamlines at NSLS-II*
Kazimierz Gofron - Brookhaven National Laboratory National Synchrotron Light Source
- 11:15 - 11:30 **WEBPL03** - Beamline and Experiment Automations for the General Medical Sciences and Cancer Institutes Structural Biology Facility at the Advanced Photon Source (GM/CA@APS)
Sergey Stepanov - Argonne National Laboratory Advanced Photon Source
- 11:30 - 11:45 **WEBPL04** - A Software Architecture for Full Beamline Automation - VMXi Use Case
Christopher John Sharpe - Diamond Light Source Ltd
- 11:45 - 12:00 **WEBPL05** - BLISS - Experiments Control for ESRF EBS Beamlines
Matias Guijarro - European Synchrotron Radiation Facility
- 12:00 - 12:15 **WEBPL06** - Sardana Based Continuous Scans at ALBA - Current Status
Zbigniew Reszela - ALBA-CELLS Synchrotron
- 12:15 - 12:30 **WEBPL07** - Optimised Multi-Dimensional Image Scanning With Rascan
Nader Afshar - Australian Nuclear Science and Technology Organisation

12:30 – 13:30 WEKPL – KEYNOTE SPEAKER 3 – Plenary Room

Chair: Oscar Matilla (ALBA, ES)

WEKPL01 - The Sagrada Familia Basilica by Antoni Gaudí

Carles Gelpí - Universitat Politècnica de Catalunya Servei de Directori de la UPC, ES

Thursday, October 12th

08:30 – 09:30 THKPL – KEYNOTE SPEAKER 4 – Plenary Room

Chair: Matthew Bickley (ALBA, ES)

THKPL01 - More Than Particles: How Accelerators Can Speed Up Advanced Manufacturing... and What's Next

Gregorio Ameyugo - Commissariat à l'énergie atomique et aux énergies alternatives CEA Saclay - Centre NanoInnov CEA LIST - Europe and International, FR

09:30 – 10:45 THAPL – USER INTERFACES AND USER EXPERIENCE (UX) 2 – Plenary Room

Chairs: Andy Götz (ESRF, FR) and Reinhard Bacher (DESY, GE)

09:30 - 09:45 **THAPL01** - Implementation of Web-based Operational Log System at RIBF

Akito Uchiyama - RIKEN Nishina Center

09:45 - 10:00 **THAPL02** - Best Practices for Efficient Development of JavaFX Applications

Grzegorz Kruk - European Organization for Nuclear Research Beams Department (BE)

10:00 - 10:15 **THAPL03** - Usability Recommendations for the SKA Control Room Obtained by a User-Centred Design Approach

Valentina Alberti - INAF-Osservatorio Astronomico di Trieste

10:15 - 10:30 **THAPL04** - Python for User Interfaces at Sirius

Douglas Bezerra Beniz - Brazilian Synchrotron Light Laboratory

10:30 - 10:45 **THAPL05** - Nomad 3D: Augmented Reality in Instrument Control

Yannick Le Goc - Institut Laue-Langevin

10:45 – 11:15 COFFEE BREAK – Exhibition and Poster Area

11:15 – 12:45 THBPL - SOFTWARE TECHNOLOGY EVOLUTION 3 – Plenary Room

Chairs: Gianluca Chiozzi (ESO, GE) and Lize Van den Heever (SKA, ZA)

11:15 - 11:30 **THBPL01** - C2MON SCADA Deployment on CERN Cloud Infrastructure

Brice Copy - European Organization for Nuclear Research Beams Department (BE)

11:30 - 11:45 **THBPL02** - Behavioural Models for Device Control

Luigi Andolfato - European Organisation for Astronomical Research in the Southern Hemisphere

11:45 - 12:00 **THBPL03** - A New ACS Bulk Data Transfer Service for CTA

Mauricio Alejandro Araya - Universidad Técnica Federico Santa María

12:00 - 12:15 **THBPL04** - The Design of Tango Based Centralized Management Platform for Software Devices

Xiaowei Zhou - Institute of Computer Application China Academy of Engineering Physics

12:15 - 12:30 **THBPL05** - The ELT Linux Development Environment

Federico Pellegrin - European Organisation for Astronomical Research in the Southern Hemisphere

12:30 - 12:45 **THBPL06** - First implementation of RASHPA, a High-performance RDMA-based Data Acquisition Platform for 2D X-ray Detectors

Wassim Mansour - European Synchrotron Radiation Facility

11:45 – 12:45 THBPA – IT INFRASTRUCTURE FOR CONTROL SYSTEMS – Parallel Room

Chairs: Roland Müller (BESSY, GE) and Alain Buteau (SOLEIL, FR)

11:15 - 11:30 **THBPA01** - Cyber Threat, the World Is No Longer What We Knew

Stephane Perez - Commissariat à l'Energie Atomique et aux Energies Alternatives CEA DAM Ile de France

- 11:30 - 11:45 **THBPA02** - Securing Light Source SCADA Systems
Leonce Mekinda - European XFEL GmbH
- 11:45 - 12:00 **THBPA03** - The Back-End Computer System for the Medipix Based PI-MEGA X-Ray Camera
Marcelo Moraes - Brazilian Synchrotron Light Laboratory
- 12:00 - 12:15 **THBPA04** - Orchestrating MeerKAT's Distributed Science Data Processing Pipelines
Anton Joubert - SKA South Africa National Research Foundation of South Africa Department of Science and Technology
- 12:15 - 12:30 **THBPA05** - Network Traffic Patterns and Performance Improvements for Tango Based Control System and PLC
Michal Ostoj-Gajewski - Solaris National Synchrotron Radiation Centre Jagiellonian University
- 12:30 - 12:45 **THBPA06** - Configuration Management for the Integrated Control System Software of ELI-ALPS
Lajos Schrettner - ELI-HU Nonprofit Ltd.

12:45 – 13:45 LUNCH TIME

13:45 – 15:30 THCPL – SYSTEMS ENGINEERING, COLLABORATIONS AND PROJECT MANAGEMENT – Plenary Room

Chairs: Chris Marshall (LNLS, US) and Enzo Carrone (SLAC, US)

- 13:45 - 14:15 **THCPL01** - Speaking of Diversity
Karen White - Oak Ridge National Laboratory
- 14:15 - 14:30 **THCPL02** - Highlights of the European Ground System - Common Core Initiative
Mauro Pecchioli - European Space Operations Centre European Space Agency
- 14:30 - 14:45 **THCPL03** - A Success-History Based Learning Procedure to Optimize Server Throughput in Large Distributed Control Systems
Yuan Gao - Stony Brook University Electrical & Computer Engineering Department
- 14:45 - 15:00 **THCPL04** - SKA Synchronization and Timing Local Monitor and Control - Software Design Approach
Ralph Braddock - University of Manchester School of Physics and Astronomy
- 15:00 - 15:15 **THCPL05** - TANGO Heads for Industry
Andrew Gotz - European Synchrotron Radiation Facility
- 15:15 - 15:30 **THCPL06** - Sustaining the National Ignition Facility (NIF) Integrated Computer Control System (ICCS) over its Thirty Year Lifespan
Barry Fishler - Lawrence Livermore National Laboratory National Ignition Facility Programs Directorate National Ignition Facility Project

13:45 – 15:30 THCPA – FUNCTIONAL SAFETY AND MACHINE PROTECTION SYSTEMS – Parallel Room

Chairs: Mark Heron (DLS, UK) and Alessandro Ercolani (ESA, GE)

- 13:45 - 14:00 **THCPA01** - Safety Instrumented Systems and the AWAKE Plasma Control as a Use Case
Enrique Blanco Vinuela - European Organization for Nuclear Research Beams Department (BE)
- 14:00 - 14:15 **THCPA02** - ESS Accelerator Safety Interlock System
Denis Paulic - European Spallation Source ERIC
- 14:15 - 14:30 **THCPA03** - Applying Layer of Protection Analysis (LOPA) to Accelerator Safety Systems Design
Feng Tao - SLAC National Accelerator Laboratory
- 14:30 - 14:45 **THCPA04** - Development of a Safety Classified System With LabView and EPICS
Christophe Haquin - Grand Accélérateur Nat. d'Ions Lourds
- 14:45 - 15:00 **THCPA05** - Development and Implementation of the Treatment Control System in Shanghai Proton Therapy Facility
Ming Liu - Shanghai Institute of Applied Physics

- 15:00 - 15:15 **THCPA06** - A Real-Time Beam Monitoring System for Highly Dynamic Irradiations in Scanned Proton Therapy
Grischa Klimpki - Paul Scherrer Institut Center for Proton Therapy
- 15:15 - 15:30 **THCPA07** - Development of an Expert System for the High Intensity Neutrino Beam Facility at J-PARC
Kazuo Nakayoshi - High Energy Accelerator Research Organization Institute of Particle and Nuclear Studies
- 15:30 – 16:00 COFFEE BREAK – Exhibition and Poster Area**
- 16:00 – 16:45 THDPL – EXPERIMENT CONTROL 2 – Plenary Room**
Chairs: Guifré Cuní (ALBA, ES) and Markus Janousch (PSI, CH)
- 16:00 - 16:15 **THDPL01** - Configuring and Automating an LHC Experiment for Faster and Better Physics Output
Clara Gaspar - European Organization for Nuclear Research Physics Department (PH)
- 16:15 - 16:30 **THDPL02** - GigaFRoST (Gigabyte Fast Read-Out System for Tomography): Control and DAQ System Design
Tine Celcer - Paul Scherrer Institut
- 16:30 - 16:45 **THDPL03** - areaDetector: What's New and What's Next?
Mark Lloyd Rivers - Consortium for Advanced Radiation Sources The University of Chicago
- 16:45 – 17:15 THMPL – MINI-ORAL – Plenary Room**
Chairs: Denis Nicklaus (FERMILAB, US) and Kuo-Tung Hsu (NSRRC, TW)
- 16:45 - 16:48 **THMPL01** - A Simple Temporal Network for Coordination of a Collaborative System-of-Systems in Research Operations With Large Exogenous Uncertainties
Michael Schaffner - Sandia National Laboratories
- 16:48 - 16:51 **THMPL02** - Upgrade of KEK Electron/positron Linac Control System for the Both SuperKEKB and Light Sources
Kazuro Furukawa - High Energy Accelerator Research Organization
- 16:51 - 16:54 **THMPL03** - A New Simulation Architecture for Improving Software Reliability in Collider-Accelerator Control Systems
Yuan Gao - Stony Brook University Electrical & Computer Engineering Department
- 16:54 - 16:57 **THMPL04** - Telescope Control System of the ASTRI SST-2M prototype for the Cherenkov Telescope Array
Elisa Antolini - Università degli di Perugia Fisica e geologia
- 16:57 - 17:00 **THMPL05** - Applying Ontological Approach to Storing Configuration Data
Maria Anatolyevna Ilina - Russian Academy of Sciences The Budker Institute of Nuclear Physics
- 17:00 - 17:03 **THMPL06** - Cameras in ELI Beamlines: A Standardized Approach
Birgit Plötzener - ELI Beamlines Czech Republic Institute of Physics
- 17:03 - 17:06 **THMPL07** - DARUMA: Data Collection And Control Framework For X-Ray Experimental Stations Using MADOCA
Takahiro Matsumoto - Japan Synchrotron Radiation Research Institute Controls and Computing Division
- 17:06 - 17:09 **THMPL08** - SLAC's Common-Platform Firmware for High-Performance Systems
Till Straumann - SLAC National Accelerator Laboratory
- 17:09 - 17:12 **THMPL09** - VME Based Digitizers for Waveform Monitoring System of Linear Induction Accelerator (LIA-20)
Evgeniy Sergeevitch Kotov - Russian Academy of Sciences The Budker Institute of Nuclear Physics
- 17:12 - 17:15 **THMPL10** - New VME-Based Hardware for Automation in BINP
George Alexandrovitch Fatkin - Russian Academy of Sciences The Budker Institute of Nuclear Physics

16:45 – 17:15 THMPA – MINI-ORAL – Parallel Room

Chairs: Enrique Blanco (CERN, CH) and Yingbing Yan (SSRF, CN)

- 16:45 - 16:48 **THMPA01** - The Interlock System of FELiChEM
Ziyu Huang - University of Science and Technology of China National Synchrotron Radiation Laboratory
- 16:48 - 16:51 **THMPA02** - Investigations of Spatial Process Model for the Closed Orbit Feedback System at the Sis18 Synchrotron at GSI
Sajjad Hussain Mirza - GSI Helmholtzzentrum für Schwerionenforschung GmbH Beam Diagnostics Group
- 16:51 - 16:54 **THMPA03** - A Simulation System for the European Spallation Source (ESS) Distributed Data Streaming
Carlos Reis - Elettra-Sincrotrone Trieste S.C.p.A.
- 16:54 - 16:57 **THMPA04** - RF Energy Management for the European XFEL
Olaf Hensler - Deutsches Elektronen-Synchrotron
- 16:57 - 17:00 **THMPA05** - The AFP Detector Control System
Luís Seabra - Laboratory of Instrumentation and Experimental Particle Physics
- 17:00 - 17:03 **THMPA06** - Building Controls Applications Using HTTP Services
Ted D'Ottavio - Brookhaven National Laboratory Collider-Accelerator Department
- 17:03 - 17:06 **THMPA07** - Improvement of Temperature and Humidity Measurement System for KEK Injector Linac
Itsuka Satake - High Energy Accelerator Research Organization Accelerator Laboratory
- 17:06 - 17:09 **THMPA08** - Processing of the Schottky Signals at RHIC
Andrei Sukhanov - Brookhaven National Laboratory Collider-Accelerator Department
- 17:09 - 17:12 **THMPA09** - MACUP (Material for data ACquisition - UPgrade): Project Focusing on DAQ Hardware Architecture Upgrade for SOLEIL
Guillaume Renaud - Synchrotron Soleil

17:15 – 19:00 THPHA - POSTER SESSION –Poster Area

17:15 – 19:00 THSH1, THSH2, THSH2 – SPEAKERS' CORNER SESSION – Speakers' Corner Area

THSH1 - Screen 1:

- 17:15 - 17:45 **THSH101** - Using Control Surfaces to Operate CS-Studio OPIs
Claudio Rosati - European Spallation Source ERIC
- 17:45 - 18:15 **THSH102** - PyDM: A Python-Based Framework for Control System Graphical User Interfaces
Daniel Lawrence Flath - SLAC National Accelerator Laboratory
- 18:15 - 18:45 **THSH103** - Using Color Blindness Simulator During User Interface Development for Accelerator Control Room Applications
Sakire Aytac - Deutsches Elektronen-Synchrotron MCS

THSH2 – Screen 2:

- 17:15 - 17:45 **THSH201** - Integration of MeerKAT and SKA telescopes using KATCP <-> Tango Translators
Athanaseus Johannes Tishetso Ramaila - SKA South Africa National Research Foundation of South Africa Department of Science and Technology
- 17:45 - 18:15 **THSH202** - Design and Implementation of the LLRF System for LCLS-II
Carlos Serrano - Lawrence Berkeley National Laboratory
- 18:15 - 18:45 **THSH203** - Internet of Things (IoT): Wireless Diagnostics Solutions
Roberto Homs-Puron - ALBA-CELLS Synchrotron

THSH3 – Screen 3:

- 17:15 - 17:45 **THSH301** - ADStream Module
 Bruce Hill - SLAC National Accelerator Laboratory
- 17:45 - 18:15 **THSH302** - 1000 Things you always want to know about SSO but you never dared to ask!
 Luis Rodriguez - European Organization for Nuclear Research
- 18:15 - 18:45 **THSH303** - CS-Studio Display Builder.
 Kay-Uwe Kasemir (ORNL, Oak Ridge, Tennessee)

Friday, October 13th

08:30 – 09:15 **FRKPL – KEYNOTE SPEAKER 5 – Plenary Room**

Chair: Kazuro Furukawa (KEK, JP)

FRKPL01 - The Birth of the Gravitational Wave Astronomy

Eugenio Coccia - School of Advanced Studies GSSI, IT

09:15 – 11:00 **FRAPL – PROJECT STATUS REPORT 2 – Plenary Room**

Chairs: John Maclean (ANL, US) and Darren Spruce (MAXIV, SE)

09:15 - 09:30 **FRAPL01** - Status of the Square Kilometre Array

Lorenzo Pivetta - SKA Organisation

09:30 - 09:45 **FRAPL02** - Commissioning and Calibration of the Daniel K. Inouye Solar Telescope

Chris John Mayer - Advanced Technology Solar Telescope National Solar Observatory

09:45 - 10:00 **FRAPL03** - Status of the Control System for the SACLA/SPring-8 Accelerator Complex

Toru Fukui - RIKEN SPring-8 Center Innovative Light Sources Division

10:00 - 10:15 **FRAPL04** - Diagnostics and Instrumentation Challenges at LCLS-II

Patrick Krejcik - SLAC National Accelerator Laboratory

10:15 - 10:30 **FRAPL05** - Hardware Architecture of the ELI Beamlines Control and DAQ System

Pavel Bastl - Institute of Physics of the ASCR

10:30 - 10:45 **FRAPL06** - The Laser MegaJoule Facility Control System Status Report

Hugues Durandeau - Commissariat à l'énergie atomique et aux énergies alternatives CEA /CESTA

10:45 - 11:00 **FRAPL07** - The ESRF's Extremely Bright Source - a 4th Generation Light Source

Jean-Michel Chaize - European Synchrotron Radiation Facility

11:00 – 11:30 **COFFEE BREAK – Exhibition and Poster Area**

11:30 – 12:15 **FRBPL - WORKSHOPS SUMMARY – Plenary Room**

Chair: Oscar Matilla (ALBA, ES)

11:30 - 11:34 **FRBPL01** - EPICS Satellite Meeting

Timo Korhonen - European Spallation Source ERIC

11:34 - 11:38 **FRBPL02** - White Rabbit Tutorial Workshop

Javier Serrano - European Organization for Nuclear Research Beams Department (BE)

11:38 - 11:42 **FRBPL03** - TANGO Workshop

Jean-Michel Chaize - European Synchrotron Radiation Facility

11:42 - 11:46 **FRBPL04** - PLC Based Control Systems

Enrique Blanco Vinuela - European Organization for Nuclear Research Engineering Department (EN)

11:46 - 11:50 **FRBPL05** - HDF5 and Data Format

Elena Igorevna Pourmal - The HDF Group

11:50 - 11:54 **FRBPL06** - Control System Cybersecurity Workshop

Stefan Lueders - European Organization for Nuclear Research

11:54 - 11:58 **FRBPL07** - Motion Control Workshop

Yves-Marie Abiven - Synchrotron Soleil

11:58 - 12:02 **FRBPL08** - Sardana - Scientific SCADA Suite

Zbigniew Reszela - ALBA-CELLS Synchrotron

12:02 - 12:06 **FRBPL09** - User Experience in MicroTCA

Thomas Walter - Deutsches Elektronen-Synchrotron

12:06 - 12:10 **FRBPL10** - MRF Timing Protocol Users Workshop

Eric Bjorklund - Los Alamos National Laboratory AOT Division

- 12:15 – 13:00** **FRXPL – CLOSING REMARK – Plenary Room**
Chair: David Fernandez-Carreiras (ALBA, ES)
- 12:15 - 12:30 **FRXPL01** - ICALEPCS 2019
Kevin A. Brown - Brookhaven National Laboratory
- 12:30 - 12:45 **FRXPL02** - ICALEPCS 2021
David Fernandez-Carreiras - ALBA-CELLS Synchrotron
- 12:45 - 13:00 **FRXPL03** - Final Remarks
David Fernandez-Carreiras - ALBA-CELLS Synchrotron