22nd Virtual IEEE Real Time Conference

Monday 12 October 2020 - Friday 23 October 2020

Scientific Program

Data Acquisition System Architectures

Readout data paths and system architectures as well as conceptual design for future instruments (machines and detectors)

Real Time System Architectures and Intelligent Signal Processing

Includes system architectures dealing with realtime data acquisition, extraction, compression, intelligent signal processing and storage applied to the physical sciences.

Front End Electronics and Fast Digitizers

Ultra-fast ADCs, TDCs and Switched Capacitor Arrays in the GHz range and their applications.

Trigger Systems

As applied to the physical sciences, including GPU implementation architecture

Fast Data Transfer Links and Networks

Includes every data transfer protocol from local data transfer up to global fast networks with their associated hardware (routers, switches, etc.)

Control, Monitoring,Test and Real Time Diagnostics Systems

For small and large instruments.

Web applications for physics

Root, data visualization and fast data display applications

Real Time Simulation

Simulation of real time DAQ

Emerging Technologies, New Standards and Feedback on Experience

Hardware standards such as ACTA/µTCA. Software, tools and techniques. Discussion of development or implementation of a system with a focus on the unexpected problems and lessons learned along the way.

Real Time Safety and Security

For small and large instruments

Deep Learning and Machine Learning

Deep Learning and Machine Learning for real-time applications, DL and ML methods, algorithms applied specifically to real-time data processing