

# 20th Real Time Conference



**Sunday, June 5, 2016 - Friday, June 10, 2016**

**Padova, Italy**

## Conference Topics

<span style="font-size:16px"><span style="font-family:verdana,geneva,sans-serif">RT2016 is an interdisciplinary conference on realtime data acquisition and computing applications in the physical sciences. These applications include</span></span>

<span style="font-size:16px"><span style="font-family:verdana,geneva,sans-serif">High energy physics</span></span>

<span style="font-size:16px"><span style="font-family:verdana,geneva,sans-serif">Nuclear physics</span></span>

<span style="font-size:16px"><span style="font-family:verdana,geneva,sans-serif">Astrophysics and astroparticle physics</span></span>

<span style="font-size:16px"><span style="font-family:verdana,geneva,sans-serif">Nuclear fusion</span></span>

<span style="font-size:16px"><span style="font-family:verdana,geneva,sans-serif">Medical physics</span></span>

<span style="font-size:16px"><span style="font-family:verdana,geneva,sans-serif">Space instrumentation</span></span>

<span style="font-size:16px"><span style="font-family:verdana,geneva,sans-serif">Nuclear power instrumentation</span></span>

<span style="font-size:16px"><span style="font-family:verdana,geneva,sans-serif">Realtime security and safety</span></span>

<span style="font-size:16px"><span style="font-family:verdana,geneva,sans-serif">General Radiation Instrumentation</span></span>

**<span style="font-family:verdana,geneva,sans-serif">Topics</span></b>**

<span style="font-size:16px"><span style="font-family:verdana,geneva,sans-serif">Specific topics include (but are certainly not limited to) the list shown below. </span></span>

## Emerging Technologies / Feedback on Experience

Hardware, software, tools, and techniques / Lessons learned from successes and failures.

## New Standards

Standard such as ACTA/ $\mu$ TCA

## **Data Acquisition**

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

## **Real Time Safety and Security**

For small and large instruments

## **Upgrades**

Improvement of existing large and small systems.

## **Control, Monitoring, Test and Real Time Diagnostics Systems**

For small and large instruments.

## **Trigger Systems**

As applied to the physical sciences.

## **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.

## **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.)

## **Front End Electronics and Fast Digitizers**

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

## **Processing Farms**

Processing farms for high level trigger and online selection.

# Real Time Simulation

Simulation of real time DAQ