WIT2014 Workshop on Intelligent Trackers

Wednesday, 14 May 2014 - Friday, 16 May 2014

University of Pennsylvania

Scientific Programme

Applications of intelligent detectors

Applications will define the physics requirements. For example in the case of a track angle measurement device, is something that can measure angles with a certain resolution at a certain rate actually useful? What separation and position of layers is needed and what pixel of strip size. Never mind how to connect it all together.

Coupled layer and monolithic architectures

Basic designs for trackers that measure angle, or some other primary. Not so much emphasis on the application itself, but in the construction and operation.

Development of specific components, for example low mass interposers

R&D work on novel interconnects etc.

Electronic circuits (3D and conventional)

Development of new IC's for implementation of on-detector intelligence.

High speed communication

High bandwidth connections to the off-detector DAQ may be needed. How can they be implemented?

System integration

Cooling, mechanics, etc. to solve specific challenges presented by structures implementing local intelligence (as opposed to generic developments applicable to conventional trackers).

Real Time Pattern Recognition

Advanced Algorithms