

**8th thematic workshop: International Symposium On Advanced  
Intraoperative Imaging of Radioisotopes and Presymposium workshop TOF  
PET**

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## **System architecture for TOF PET readout**

*Friday 4 September 2009 17:30 (25 minutes)*

INFN will fund a 3 years R&D program to develop a TOF-PET prostate probe.  
A lot of experiences can be found and used in all involved fields: light sensors, scintillators, electronics.  
A readout architecture will be presented, introducing the requirements and discussing the implementation.  
An ASIC (Application Specific Integrated Circuit) will be designed to obtain the requested performances in term of precision of measurement, small size, low power.  
The ASIC will equip the detection units which include also the sensor controls.  
A control unit connected to several detection units will compute the coincidence trigger, collects the incoming data and transfer them to a PC for further processing and imaging.  
A discussion will follow the presentation.

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