The Andrew & Erna Viterbi Faculty of Electrical Engineering

Electronics
Computers
Communications

VINCENT MEYER COLLOQUIUM

Professor Paul Lecoq

Professor Paul Lecoq graduated as an Engineer in Physics Instrumentation at the Ecole Polytechnique de Grenoble in 1972 and as a PhD in Nuclear Physics, at the University of Montreal, in 1974. Since then he has been at CERN, working on major international experiments in particle physics. He was the technical coordinator for the construction of the crystal-based electromagnetic calorimeter of the CMS experiment at the Large Hadron Collider at CERN, which played a central role in the discovery of the Higgs boson. He is the founder of the CERN-based International Crystal Clear Collaboration of 28 institutes and companies for the development of scintillator science, and was the founder of the SCINT Conference Series. In particular, Professor Lecoq and his team are making ground-breaking modifications to current PET technology. A member of numerous advisory committees and international societies Prof Lecoq has been a driving force behind the CERIMED initiative for networking physics and medicine in medical imaging. With well over 100K citations, he has been honoured as an IEEE Fellow, a member of the European Academy of Sciences (currently the head of the Physics division of the Academy) and an ERC Advanced Grant recipient.

Picosecond timing resolution with scintillators for a new generation of HEP detectors and Time-of-Flight PET scanners

Wednesday, June 26, 2019 ■ 12:30 ■ Meyer Bldg., Auditorium 1003

[Refreshments at 12:30, the lecture will start at 12:45]

Abstract: The future generation of radiation detectors is more and more demanding on timing performance for a wide range of applications, such as particle identification in nuclear physics and high energy physics detectors, time of flight (TOF) techniques for PET cameras and a number of photonic applications based on single photon detection.

It will be shown that the possibility to reach 10ps TOF resolution at small energies, as required in finely granulated calorimeters and PET scanners, although extremely challenging, is not limited by physical barriers and that a number of disruptive technologies open the way to new radiation detector concepts with unprecedented performance. A core implication of this is the reduction of the radiation dose, scan time, and costs per patient, all by an order of magnitude.

For further information see:
http://webee.technion.ac.il/Vincent-Meyer-Colloquium

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