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Single-photon technology for HEP

Wednesday 22 May 2013 14:00 (1h 30m)

The lecture will introduce the concept of disruptive technologies using the example of the Digital Photon Counter (DPC, dSiPM) developed at Philips since 2004. The major characteristics of disruptive technologies will be worked out and examples given. As the development of the technology at Philips was triggered by its potential application in medical imaging, in particular in Positron-Emission-Tomography (PET), the benefits of using DPC in PET will be explained.

The concepts of analog and digital SiPM will be compared and the advantages of the early digitization concept will be highlighted in particular in view of industrial applications. One of the most important prerequisites for this is scalability, so special focus and attention will be given to this aspect by introducing the Philips digital systems concept. The question of how to bring such a technology to market and how to define the product will also be discussed. First application examples will be shown and a brief outlook on future developments will be provided.

Brief biography of the speaker

York Haemisch received the Diploma from Technical University of Dresden in 1989, the Ph.D. in solid state physics from University of Wuerzburg in 1994, and the M.Sc. Eng degree from University of Pennsylvania in 2002. In 1993, he joined GE Medical Systems as Product Specialist in PET-Systems. In 1997, he joined ADAC Laboratories as Product Manager PET Global. In 2001, he joined Philips Healthcare US as its Chief Scientific Officer PET. From 2006 to 2010 he worked in Bioscan Inc. as its VP Pre-clinical Imaging Technologies. Since 2010, as Senior Director of Philips Corporate Technologies, he is working in the field of Digital Photon Counting. Throughout his work, he has introduced the first Philips PET-CT, the first time-of-flight (TOF) PET/CT, the first pre-clinical sub-mm PET/CT and Digital Photon Counting technology.

Presenter: HAEMISCH, York (P)

Session Classification: Single-Photon Technology in Medicine (2nd Module)