

**5<sup>th</sup> International Conference and Exhibition on**

# LASERS, OPTICS AND PHOTONICS

**November 28-30, 2016 Atlanta, USA**

## **The radio frequency photomultiplier tube and optical frequency comb: High resolution, high rate and highly stable timing technique for single photons**

**Amur Margaryan**

Yerevan Physics Institute, Armenia

The radio frequency photomultiplier tube (RFPMT) combines the picosecond timing resolution of a streak camera with the fast readout of a photomultiplier. It is an entirely new device, currently under development at Yerevan and Glasgow in collaboration with Photek Limited (UK). Combination of the RFPMT with the optical frequency comb results in a high resolution (1 ps), high rate ( $\geq 1$  MHz) and highly stable (10 fs/hr) timing technique for single photons. Such a device potentially has a large range of applications in fields ranging from physics to biomedical imaging. The principles of operation of the RFPMT will be described and possible applications to ultra-precise measurements in Physics and to ultra-high resolution optical microscopy will be outlined.

### **Biography**

Amur Margaryan has completed his PhD from Yerevan Physics Institute and continued studies in the field of Experimental Nuclear Physics at Yerevan Physics Institute; Serpukhov proton accelerator, Serpukhov, Moscow region; JLab, Newport News, VA, USA; MAX-lab, Lund, Sweden; and GRAAL experiment at European Synchrotron Radiation Facility in Grenoble, France. He is the Leading Scientific Researcher at A I Alikhanyan National Science Laboratory (Yerevan Physics Institute). He has published more than 150 papers in reputed journals. His current research interest is in Ultrafast Photon Detectors and Optoelectronic Devices.

mat@mail.yerphi.am

### **Notes:**