



QUANTIC

The UK Quantum Technology Hub
in Quantum Enhanced Imaging

QuantiCAM : The fastest and most sensitive camera in the world

How can we construct a high-resolution camera capable of imaging the time-of-arrival of each of the billions of photon/s emitted from labelled biological cells or reflected by optical radar?

Miniaturised single photon detectors based on a conventional CMOS fabrication technology (the same as used for microchips or sensors in mobile phone cameras) now make this possible. CMOS SPADs offer both single photon sensitivity and high precision time of arrival detection.

Today's digital cameras capture photons in packets of 10-100 thousand and provide them for external display or recording at fraction of second intervals. QuantiC is developing cameras operating 10 thousand times faster whilst timing photons with 10's of picosecond precision. Positron emission tomography (PET), fluorescence imaging and optical LIDAR are prominent applications.

QuantiC is using its unique access to the latest STMicroelectronics technologies to deliver time-resolved CMOS SPAD sensors in a number of formats (point, line and image sensors) addressing the following market areas:

- Medical imaging
- Defence and security
- Spectroscopy
- Optical communications
- Microscopy and biological imaging
- Scientific research instrumentation



QuantiC has a £4M Partnership Resource Fund to support industry led projects to develop our new technology and facilitate its translation to market.

For more information , please contact:

Dr Michael Fletcher
QuantiC Business Development Manager
michael.fletcher@glasgow.ac.uk

Professor Robert Henderson
Project Technology Lead
Robert.Henderson@ed.ac.uk