Ytterbium Based Lasers Sources And OPOs For Quantum Technologies: Latest Capabilities

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In this talk we will review the latest developments in Ytterbium based fiber laser and OPO technologies and discuss their implementation in a range of quantum based experiments. This will include a route to the detection of quantum signatures at 690nm (using third harmonic generation); the generation and detection of down-converted photon pairs at 2.080 μm (as a potential source for free-space quantum communications) and; the use of our tuneable near-IR OPO source to interrogate SiN and AlN integrated waveguides with entangled photons.