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**Short Course Title**

Gallium nitride micro-LEDs: a novel, multi-mode, high-brightness and fast response display technology

**Abstract**

Gallium nitride micro-LED technology interfaces very effectively to silicon CMOS to facilitate highly sophisticated data modulation and structured lighting functions. This rapidly emerging capability is poised to play a key role in the prospective convergence of displays with communications, lighting, sensing and imaging systems, including multiple scenarios where the display can be interactive with its environment. We will provide an overview of these new capabilities which are challenging conventional conceptions of display technology and set these in the broader context of the evolution of micro-LEDs.

**Speaker Biography**

Martin D. Dawson is Director of Research at the University of Strathclyde's Institute of Photonics in Glasgow, UK, which he helped establish over 20 years ago. He is also, since 2012, the inaugural Head of the UK's only Fraunhofer Research Centre, Fraunhofer CAP. Professor Dawson is known for his wide-ranging work on III-V semiconductor optoelectronics including extensive and pioneering contributions to micro-LED technology. He has authored or co-authored over 800 journal and conference papers and was a founder of micro-LED company mLED Ltd, sold in 2016 to a multi-national corporation. He holds fellowships of the IEEE, OSA, Institute of Physics and the Royal Society of Edinburgh and has been awarded the Aron Kressel Award of the IEEE Photonics Society and the Dennis Gabor Medal and Prize by the Institute of Physics.