

Workshop Speaker	
Full Name	William Shieh
Affiliation	The University of Melbourne
Presentation Title	Transforming coherent technologies for short-reach applications
Biography	
<p>William Shieh received the M.S. degree in electrical engineering and the Ph.D. degree in physics from the University of Southern California, Los Angeles, in 1994 and 1996, respectively. Since 2004, he has been with the Department of Electrical and Electronic Engineering, University of Melbourne, Melbourne, Australia. His current research interests include OFDM techniques in both wireless and optical communications, few-mode fibers for optical communications and sensing, coherent optical communication systems, and optical packet switching. He has published more than 200 journal and conference papers, and submitted 14 U.S. patents (nine issued) covering areas of polarization controller, wavelength stabilization in WDM systems, and Raman amplifier-based systems and subsystems. He has been awarded Australian Future Fellowship, 2011-2014. He is a fellow of both IEEE and Optical Society of America (OSA).</p>	
200 words abstract	
<p>Optical communications using high-speed on-off-keying signaling by direct modulation (DM) and direct detection (DD) was one of the most inspiring breakthroughs for telecommunication in 1980s. The wide deployment of 2.5-Gb/s per wavelength long-haul optical fiber links in 1990s drove the emergence of the Internet as a global phenomenon. However, the revival of the optical coherent detection from the last decade brought a thorough evolution to long-haul optical transmissions, which completely substitutes the role of DM-DD and contributes a 10-time scaling of the fiber channel capacity. This talk presents novel modulation techniques that bridge the gap between the conventional DM-DD and the advanced coherent system, aiming to accelerate the implementation of coherent technologies to short reach optical communications.</p>	