

Workshop Speaker	
Full Name	Tomoo Takahara
Affiliation	Fujitsu Laboratories Ltd.
Presentation Title	What can DD do for short reach?
Biography	
<p>Tomoo Takahara received the B.E. degree in communication engineering and M.E. degree in information systems science from the University of Electro-Communications, Tokyo, Japan, in 1991 and 1994, respectively. From 1994 to 1997, he worked in Matsushita Electric Works Ltd. In 1997, he joined FUJITSU LABORATORIES LTD., Kawasaki, Japan. He is currently a Research Manager at the Photonics Innovation Project. He is a Member of the Institute of Electronics, Information and Communication Engineers (IEICE) of Japan.</p>	
200 words abstract	
<p>For a long time, direct detection has been used for optical communication systems. Around 1990 many efforts were paid for the investigations of coherent detection technologies. At that time coherent detection were not introduced widely. In 2005 coherent detection with digital signal processing was proposed. That is, it is so called digital coherent. Digital coherent has been widely used for especially relatively long haul optical transmission systems today. Optical system design was changed by this digital coherent technology. And now digital coherent may be introducing to relatively short reach applications also. However, digital signal processing can improve direct detection also.</p> <p>In this presentation, I would like to discuss followings,</p> <ul style="list-style-type: none"><li>-What can we do using direct detection?</li><li>-When do we need to introduce digital coherent for relatively short reach applications?</li><li>-What application is remained for direct detection?</li></ul>	