

Workshop Speaker	
Full Name	Nobuhiko Kikuchi
Affiliation	Hitachi
Presentation Title	Advanced IM/DD-PAM signaling for short to intermediate reach applications and its future prospects
Biography	
<p>Nobuhiko Kikuchi has received the B.E. and M.E. degrees in precision mechanics from Tokyo University, Japan, in 1988 and 1990, and the D.E. degree in electrical engineering from Tokyo University, Japan, in 2010. In 1990, he joined Central Research Laboratory, Hitachi Ltd. where he has been working on various topics in high-speed optical fiber communication systems, such as fiber non-linear effects, polarization effects, long-reach WDM systems, coherent and direct-detection multilevel signaling. Recently, he is researching into the application of multilevel signaling and DSP to short to inter-mediate reach high-speed optical transmission systems.</p> <p>Dr. Kikuchi is a member of the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and Institute of Electronics, Information, and Communication Engineers (IEICE) of Japan.</p>	
200 words abstract	
<p>Growing inter- and intra-DC traffic pushes up the speed of short to intermediate reach optical transceivers very rapidly, and its channel speed already reaches up to 100 Gbit/s by the use of IM/DD PAM4 signaling in the forthcoming IEEE 400GbE. In this talk, the presenter will firstly introduce his research activities on advanced PAM signaling techniques by the more intense use of DSP. Next, emerging advanced IM/DD transmission technologies, such as KK-receivers and Stokes receivers, will briefly be reviewed. Finally the presenter will discuss possible technical choice on the next generation short- to intermediate- reach transceivers, especially in view of looming low-cost coherent transceivers.</p>	