ONARP: Optical Networks Accessing, Routing, and Positioning,
The 8th international conference on emerging networks and systems intelligence (EMERGING 2016, Venice, Italy, Oct 9-13, 2016)
http://www.iaria.org/conferences2016/EMERGING16.html

The special session, ONARP: Optical Networks Accessing, Routing, and Positioning, on the 8th international conference on emerging networks and systems intelligence (EMERGING 2016) includes optical code labeling network accessing, routing, and robot positioning, optical true time delay, etc. There was special emphasis on the network switching technology, which plays a major role in active optical networks (AONs) and passive optical networks (PONs). A brief introduction to ONARP's papers is as follows:

Prof. Huang *et al.* offer a new optical code labeling (OCL) based on optical code- division multiple-access (OCDMA) technique for packet switching in the network. In order to improve the efficiency of label-recognition and network throughput, bipolar label coding is employed in the proposed scheme. Label switching capabilities in packet loss probability (PLP) is greatly enhanced since our proposal enlarges the Hamming distance of the star diagram of the decoded label signals. His group also proposes a network security scheme in which optical network coder/decoders (codecs) reconfigure signature label codes to enhance system confidentiality for optical multi-protocol label switching (OMPLS) transmissions. The results verify that the proposed approach via signature labels reconfiguration is effective as against eavesdropping. Next, Prof. Chen *et al*. propose and demonstrate radio-over-fiber (ROF) technologies on a bidirectional transmission passive optical network (PON), which can achieve less than 0.1 dB power penalty by 25km transmission distances.

Moreover, Prof Wen-Piao Lin's photonic true time-delay technique for phased-array beam steering is proposed and analyzed for radar systems. It using a high-dispersion compensation fiber (DCF) and a phased array antenna can provide a continuous radio-frequency squint-free beam scanning. Finally, Mr. Cheng Jhe-Ren *et al* investigate lightwave robot positioning with composite codes acquisition. Memetic algorithms (MA) can then be undertaken over the measured time difference of arrivals (TDOAs) to obtain more accurate robot location.