



Photonic Networks Area (Maruta Laboratory)

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Research Areas & Topics

Towards the next generation of high-speed, large-capacity, and highly-efficient photonic networks, Maruta Laboratory is in charge of research and education for advanced photonic technologies including the following subjects:

◆ Photonic Networks

- High-speed optical switching
- Next-generation optical access network
- Radio-over-Fiber (RoF) communication system

◆ Ultrafast All-Optical Signal Processing

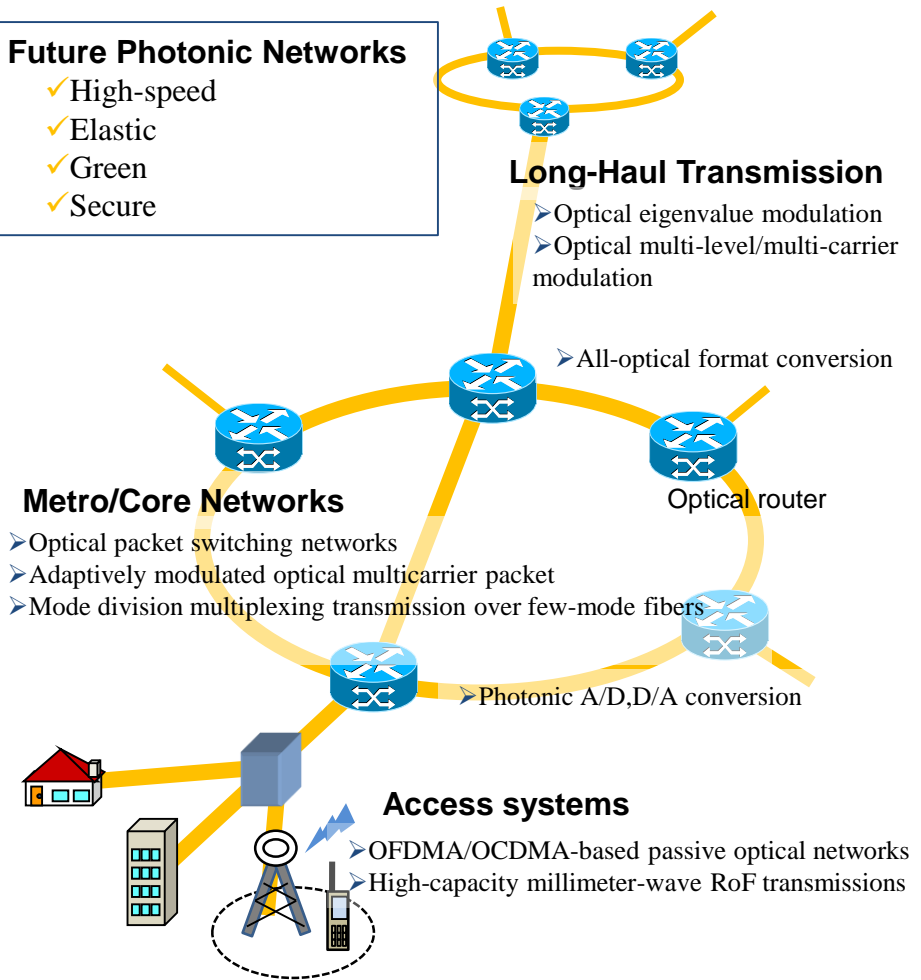
- All-optical analog-to-digital/digital-to-analog conversion
- All-optical modulation format conversion

◆ Long-Haul Optical Fiber Transmission

- Optical multi-level/multi-carrier modulation
- Mode division multiplexing transmission
- Optical eigenvalue modulation

Future Photonic Networks

- ✓ High-speed
- ✓ Elastic
- ✓ Green
- ✓ Secure



URL: <http://wwwpn.comm.eng.osaka-u.ac.jp>

(OFDMA = Orthogonal Frequency Division Multiple Access)
(OCDMA = Optical Code Division Multiple Access)