

Digital burst mode receivers for IM-DD optical communication systems

Faster Broadband for a better internet experience

Dr Benn Thomsen works on a range of photonic technologies within the Optical Networks Group. He focuses on dynamic optical networks both for core and access applications. His research seeks to develop components and subsystems, and explore the requirements and performance limits of these in dynamic networks. The work combines the characterisation of optical devices with system modelling and experimental verification in a realistic network scenario in order to assess the suitability, performance and requirements of these devices in dynamic networks.

Digital multi-rate optical receiver technology developed at UCL offers the capability to serve different customers with different bit rate services up to 10Gb/s, reducing access network costs and improving efficiency. This technology is enabled by the next generation high speed analog-to-digital converters and intelligent digital signal processing. The result is a single receiver solution for deployment in the central office of broadband-to-the-home networks.

Other technologies that Dr Thomsen is currently working on include:

dynamically reconfigurable coherent networks and spatial multiplexing in multimode optical fibre transmission.

Dr Thomsen's areas of expertise include:

- Ultrashort pulse generation
- Complete characterization of optical pulses using spectrographic techniques
- All optical signal processing
- Dynamic optical network architectures
- Physical layer subsystems for dynamic optical networks

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Dr Benn Thomsen,
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Group

Applicable to:

- Telecommunications
- Fibre-To-The-Home
- Data Centres

Partner Companies:

- Oclaro



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