

# **Abstract**

**Moustafa Hussein Aly**

## **Enhancing Performance of Optical Transmission in Diffused Channels using All Optical Orthogonal Frequency Division Multiplexing**

In this paper, an all optical orthogonal frequency division multiplexing (OFDM) is proposed for achieving better performance compared with single carrier communications and eliminating intersymbol interference in optical wireless communications. The paper shows the overall architecture along with the design considerations should be followed for parameters calculation. Analytical evaluation of the system in terms of probability of error is carried out in a non-directed (diffused) wireless optical channel. The paper confirms with simulation that the proposed system shows promising results for a high speed optical wireless channel.