



Contribution ID: 525

Type: Oral Presentation

## NON-SPECIALIST LECTURE: Optical Fibre Communication: Silica Information Super-Highways

Wednesday, 6 July 2016 09:40 (40 minutes)

**Abstract content (Max 300 words) [http://events.saip.org.za/getFile.py?target=\\_blank](http://events.saip.org.za/getFile.py?target=_blank) Formatting & Special chars**

High speed Internet and global connectivity are indispensable aspects of modern lifestyle. Optical communication technologies form the cornerstone of broadband connectivity. Information transmitted through an optical fibre undergoes various effects as the lightwave signal interacts with the silica material. These material interactions include attenuation, dispersion, non-linear and polarization effects. In this non-specialist lecture, these effects and their impact on network performance, bitrate and reach are presented. The evolution of optical fibre material for long-haul, fibre-to-the-home and big data projects is also discussed.

**Apply to be considered for a student award (Yes / No)?**

No

**Level for award (Hons, MSc, PhD, N/A)?**

N/A

**Main supervisor (name and email) and his / her institution**

N/A

**Would you like to submit a short paper for the Conference Proceedings (Yes / No)?**

NO

**Please indicate whether this abstract may be published online (Yes / No)**

YES

**Primary author:** Dr GIBBON, Timothy (NMMU Physics Department)

**Presenter:** Dr GIBBON, Timothy (NMMU Physics Department)

**Session Classification:** Division for Physics of Condensed Matter and Materials (1)

**Track Classification:** Track A - Division for Physics of Condensed Matter and Materials