



RajaRajeswari Group of Institutions
Center for Test and Data Sciences



SelectSmart Activity Report

On

Fiber Optics and its Applications

By Dr. Nakeeran K
Program Lead, EEE,
University of Aberdeen,
United Kingdom

Conducted on: **12-Sep-2020**@ 11 am

Via: Zoom Meetings / YouTube

ACTIVITY REPORT

Activity Name	Fiber Optics and its Applications
Activity Type	Lecture
Conducted By	CTDS Bangalore

About the Activity:

This is a lecture / webinar activity presented by Dr. Nakeeran K, Program Lead, EEE, University of Aberdeen, United Kingdom.

About the Mentor:

Membership of Professional Bodies:

- Institute for Electrical & Electronics Engineers (IEEE) - Senior Member
- Senior Member of Optical Society of America (OSA) - Senior Member
- Institution of Engineering & Technology (IET)
- Chartered Engineer (CEng)

Admin Responsibilities:

- Electrical & Electronic Engineering Group Leader

Lectures:

- C/C++ Programming (MEng/BEng/BScEng)
- Electricity & Magnetism (MEng/BEng/BScEng)

Laboratories:

- Electrical & Electronics Circuits (MEng/BEng/BScEng)
- C/C++ Programming (MEng/BEng/BScEng)

Supervision:

- PhD study
- MEng Advanced Topics study
- MEng/BEng Honours degree projects
- MEng/BEng Group design projects

Video Link of the Activity:

<https://youtu.be/O1P-MwoFzv0>

Invitation:



RAJARAJESWARI GROUP OF INSTITUTIONS CENTER FOR TEST AND DATA SCIENCES



are organizing a **WEBINAR** session on

FIBER OPTICS AND ITS APPLICATIONS

Date: **12-Sep-2020** | Time: **11am** | Platform: **Zoom**

CONDUCTED BY



Dr. Nakkeeran
Program Lead, EEE,
University of Aberdeen,
United Kingdom



Meeting ID: **965 1704 0397**
Password: **128175**

Zoom Meeting Limit: 100 pax

Only Zoom participants get the opportunity to interact live with the mentor via Zoom.

Also this session will be streamed via YouTube LIVE

Supported by



Students login via <http://college.selectsmart.net> and get access to
Uploaded Webinar Contents | Online Assessment | Certification Details

If you have any issues, email us to info@selectsmart.net

Mentor Profile:






DR . NAKKERAN

MENTOR COUNCIL : UK

- ❖ 20 years Experience in Teaching
- ❖ Working with School of Engineering , Aberdeen ,United kingdom
- ❖ Senior Lecturer & Programme Leader (EEE)
- ❖ Fellowship in IET ,C Eng. , Senior Member OSA & IEEE
- ❖ **PhD** From Anna University, M Tech, B tech
- ❖ Research interest includes Solitons , Fibre Sensors, Optical Fibre Sensors and Non linear Science
- ❖ Passionate about helping students

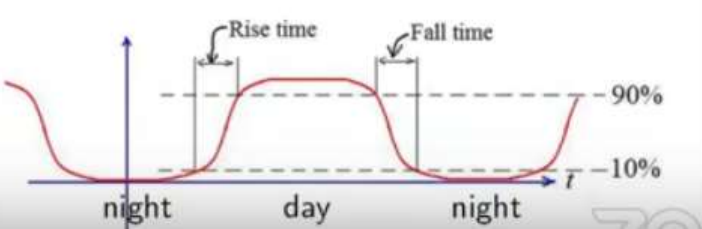
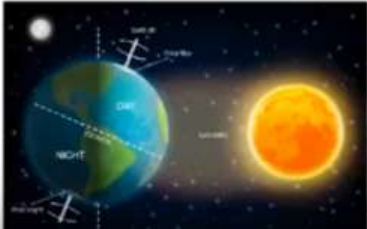
Photo Gallery:

Fibre Optics and its Applications
└ Introduction



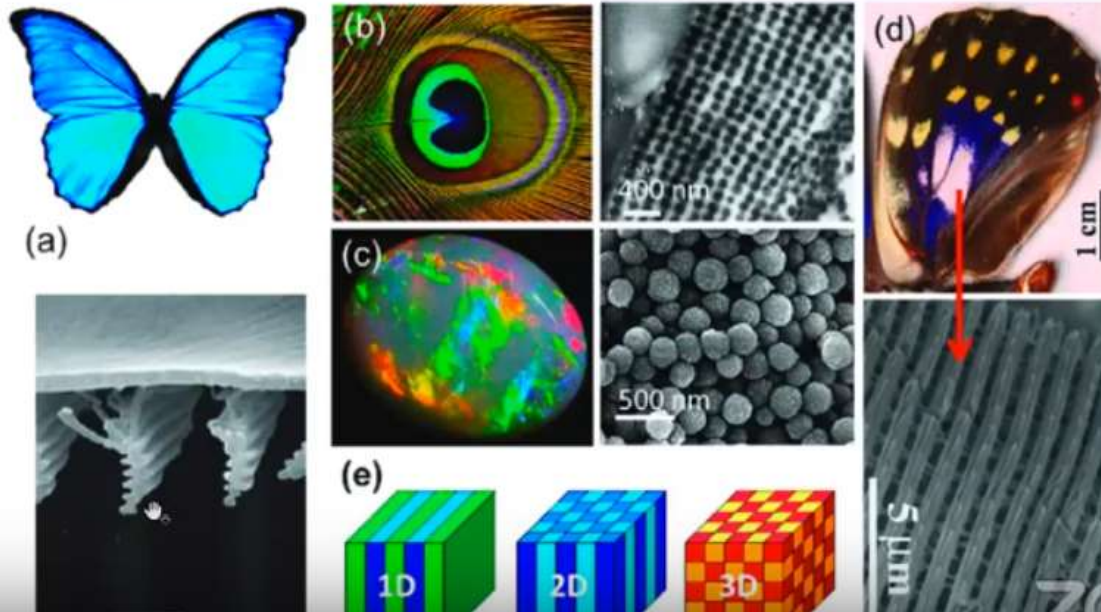
LIGHT: God of Information and Intelligence

- ❶ Light is the abundant source (mainly Sun) that is available to all living species that have eyes (detector) for vision.
- ❷ **Optical systems and sensing are basically naturally available things.**

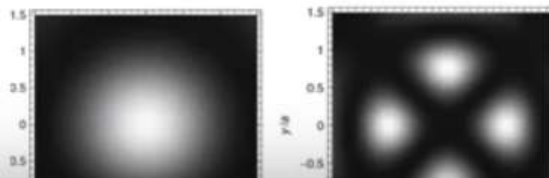
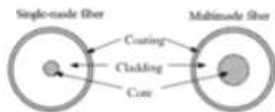
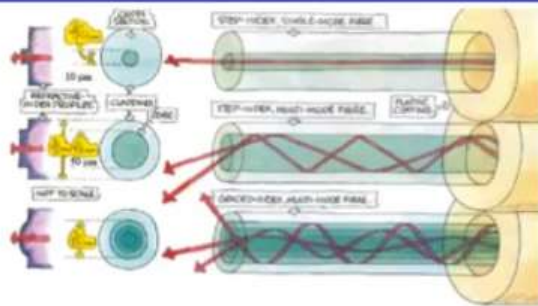




Need for Suitable Detectors



Electromagnetic Wave Propagation Equation



$$\nabla \times E = -\frac{\partial B}{\partial t}$$

$$\nabla \times H = \frac{\partial D}{\partial t}$$

$$\nabla \cdot D = 0$$

$$\nabla \cdot B = 0$$

Maxwell's equations can be used to obtain the wave equation that describes light propagation in optical fibres.

$$\nabla \times \nabla \times E = -\frac{1}{c^2} \frac{\partial^2 E}{\partial t^2} - \mu_0 \frac{\partial^2 P}{\partial t^2}$$