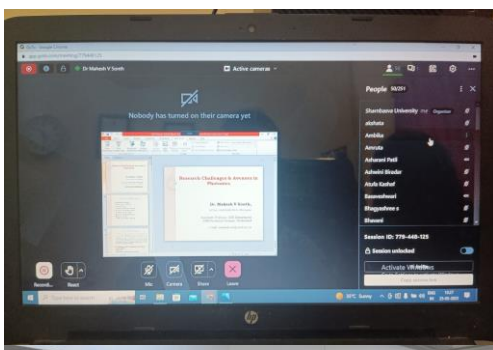


Event Name	Expert talk on “ Research Challenges and Avenues in Photonics ”
Centre (name)	IETE Kalaburagi Centre, Kalaburagi.
Venue (College/Institute)	Department of E&CE, FETW, Sharnbasva University, Kalaburgari.
Date & Time	25th March 2023 at 1:00 PM
Chief Guest	Dr. Mahesh V Sonth Associate Professor, E&CE Department, CMR Technical Campus, Hyderabad Mobile: 9901669486 Email ID: Mahesh.ece@cmrtc.ac.in
Topic of Chief Guest Speech & Highlights (Max. 25 words)	He delivered a speech on “ Research Challenges and Avenues in Photonics ” In photonic crystal (PhC) where light propagates in a material with periodic refractive index has proven to be successful candidate for controlling the optical properties. The talk begins with a discussion on research motivation. This is followed by an introduction of photonics, its basic forms and some basic design applications.
Important dignitaries attended	1. Dr. Lakshmi Patil Maka, Dean, Sharnbasva University 2. Prof. Shivganga Patil 3. Prof. Sushma Patil 4. Dr. Sujata Malapure 5. Dr. Shivleela Patil 6. Prof. Sheetal Patil
Brief Report including above information	The PhCs material structures affect the properties of the photons. The structures with periodic variations in dielectric constant might affect the photonic modes in a material. In PhCs the lattice periodicity variation in refractive index forms a photonic bandgap (PBG) in the crystal. For a full bandgap light is forbidden to propagate in any direction. In PBG, the light propagation is prohibited and completely reflected inside the PhCs structure. The PBG is an important discovery that has led to various scientific engineering applications, i.e. the control of spontaneous emission, trapping of photons, and near zero-threshold lasing. PhCs can be generally divided into one-dimensional (1D), two-dimensional (2D) and three-dimension (3D) arrangements. In 1D PhCs, the light travels in periodic modulation of permittivity, which occurs only in one direction. A good example of 1D PhC is Bragg gratings that are widely used in vertical cavity surface emitting lasers (VCSELs). There are several types of common source when exciting the photonic structures in FDTD numerical modelling. In photonic crystal (PhC) where light propagates in a material with periodic refractive index has proven to be successful candidate for controlling the optical properties. The most widely used material in electronics is silicon. In recent years, optical sensors have seen a enormous improvement because of the increasing demand of sensing applications in healthcare, defense, automotive, environment etc.

Photographs



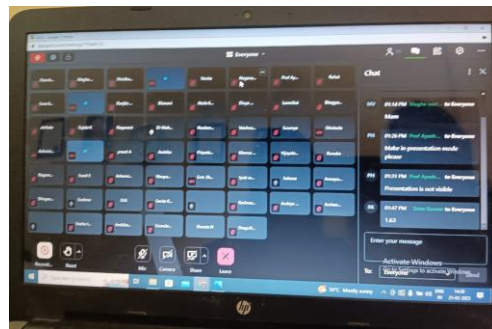
Organized webinar on "Research Challenges & Avenues in Photonics" in online mode.



UG students have participated in the webinar.



An enlightening and informative talk by Dr. Mahesh V Sonth, Associate Professor, CMR Technical Campus, Hyderabad.



More than 60 participants from various colleges were participated online.