

Workshop on Technology trends in optical communications

A workshop on Technology trends in optical communications was held at BCE Bhagalpur on 18 -19th July 2016. The program of the workshop is placed at annexure 1. The event was very well communicated to all engineering and polytechnic institutions including media news. The workshop was very well attended by faculty, students of BCE Bhagalpur and other engineering and polytechnic institutions.

Mr A K Chaudhary, Commissioner, Bhagalpur was the chief guest of the inaugural function and Dr J Jha, Ex Vice Chancellor and retd DST Patna was the guest of honour. Prof Vijoy Kumar, Principal Consultant Academic,DST Patna, Dr Navin Nischal, Associate professor Dept of Physics,IIT Patna, Dr Sumanta Gupta, Assistant Professor Dept of Electrical Engineering IIT Patna, Dr Saurabh Kumar Pandey, Assistant professor Dept of Electrical Engineering IIT Patna, Prof Nirmal Kumar, Principal BCE Bhagalpur were the other guests of the inaugural function.

In the inaugural function all the guests highlighted the importance of the role of optical fibre in high speed communications and the workshop by eminent faculty of IIT Patna would certainly upgrade the domain knowledge of teachers and students of the colleges.

Commissioner Bhagalpur expressed how important is to become IT literate which enhances the capabilities of individuals, save time and energy and optical fibre communication has revolutionized the IT and telecom sector. He appreciated the effort of the college to organize such events and promised to extend all possible support from the administration to enhance the academic environment in this prestigious college.

Dr J Jha traced back the origin of optical communication in ancient days when fire/smoke was used to transmit information. However the information transfer rate was very slow. Now the light signals are guided through fibres and the technology has so advanced that several Tb/s of information transfer is possible. Hence it is the need of the hour to upgrade the knowledge of engineers in this field.

Principal, BCE Bhagalpur stated that Bhagalpur city had been chosen as potential candidate for converting into smart city in Bihar and optical fibre communication would be the best media for interconnecting the road traffic signaling systems and other utilities through IOT which are fundamental requirements of a smart city and hence this workshop would greatly help in this endeavour.

After the inaugural function, the workshop proceeded as per the programme enclosed.

The power point presentations of Dr Navin Nischal on Nature of Light and Laser, Optical fibre for communication and Optical security are enclosed. These presentation were well received by faculty and students across all departments.

The power point presentations by Dr Sumanta Gupta on Optical Communication- Past, Present, and Future, light wave systems and design and DWDM technology are enclosed. These presentations basically highlighted the capabilities of a fibre of a size of a hair can be used to transmit data at tera bits/second rates. He also highlighted the nuances of single mode and multi mode fibres and their uses.

The power point presentations by Dr Saurabh Pandey on Properties and Impairments in Optical Fiber and compensation techniques, optical transmitters and receivers and Optical amplifiers are enclosed. He highlighted different types of impairments in optical fibres and corrections.

At the end of the workshop, Prof Vijoy Kumar, Principal Consultant Academic, SPFU, DST Bihar presented the actual use of optical fibre systems in the telecom industry. He highlighted that the total cost of a km OFC system is about 65% constitute the expenditure towards laying, piping and other costs. OFC cable and equipment cost is only about 35%. Hence the industry is looking for Optical systems where laying is not involved. One of the promising solution is Free Space Optics.

On the whole the workshop was very successful. Principal BCE Bhagalpur distributed certificates to all the faculties, staff and students who participated in the workshop

Workshop on Technology Trends in Optical Communications
18-19 July 2016 at Bhagalpur

Tentative Programme Schedule

Day	Time	Event/ Topic	Speaker	
18 th 2016	July	9:00 am - 10:30 am	Inauguration of the Workshop	
		10:30 am – 11:00 am	Tea Break	
		11:00 am – 12:30 pm	Optical Communication- Past, Present, and Future	Dr. Sumanta Gupta
		12:30 pm – 1:30 pm	Nature of Light and Laser	Dr. Naveen K. Nishchal
		1:30 pm – 2:30 pm	Optical Fiber for Communication	Dr. Naveen K. Nishchal
		2:30 pm – 3:30 pm	Lunch break	
		3:30 pm – 4:30 pm	Optical Transmitter and Receiver	Dr. Saurabh Kumar Pandey
		4:30 pm – 6: 00 pm	Light wave Systems and Design	Dr. Sumanta Gupta
19 th 2016	July	9:00 am – 10:00 am	Optical Amplifiers	Dr. Saurabh Kumar Pandey
		10:00 am – 11: 00 am	WDM Technology and Modulation Formats	Dr. Sumanta Gupta
		11:00 am – 11:30 am	Tea Break	
		11:30 am – 12:30 pm	Optical Security	Dr. Naveen K. Nishchal
		12:30 pm – 02:00 pm	Properties and Impairments in Optical Fiber and compensation techniques	Dr. Saurabh Kumar Pandey
		2:00 pm – 3:00 pm	Lunch	
		3:00 pm – 3:45 pm	Coherent Optical Communication	Dr. Sumanta Gupta
		3:45 pm – 4:30 pm	Deployment of optical Communication: Industry perspective	Mr. Vijoy Kumar
		4:30 pm – 5:30 pm	Panel discussion and Q/A	
		4:30 pm – 5:30 pm	Tea	