THE ELECOMM

A Quarterly Newsletter

Department of Electronics & Communication Engg, Echelon Institute of Technology, Faridabad

This is the third issue of "THE ELECOMM" of the academic year 2022-2023. I would like to take this opportunity to motivate all the students to submit the assignments of SWAYAM MOOCs on time and prepare well for the upcoming SWAYAM MOOC exam and earn the required credits.

Nitu Chauhan
Editor

Highlights

- ❖ **Article on Li-Fi**

- ❖ **Lohri celebration**

- ❖ **Holi and Women's Day Celebration**

- ❖ **Faculty development programme**

- ❖ **Faculty achievements**

Li-Fi

LiFi is a wireless optical networking technology that uses LEDs for data transmission. In simpler terms, LiFi is considered to be a light-based Wi-Fi that uses light instead of radio waves to transmit information. Using light to transmit data allows LiFi to deliver a couple of advantages such as working in areas susceptible to electromagnetic interference like hospitals and aircraft cabins and working across higher bandwidth while offering higher transmission speeds. Since light is used as a medium of communication that's why it is also called as visible light communication (VLC).

Working of Li-Fi

LiFi is a Visible Light Communications system transmitting wireless internet communications at very high speeds. The technology makes a LED light bulb emit pulses of light that are

undetectable to the human eye and within those emitted pulses, data can travel to and from receivers. Then, the receivers collect information and interpret the transmitted data. This is conceptually similar to decoding Morse code but at a much faster rate – millions of times a second. LiFi transmission speeds can go over 100 Gbps, 14 times faster than WiGig, also known as the world's fastest WiFi.

Data is captured in modulated light frequencies of a solid-sate LED light source and is then transmitted and received by LiFi-enabled devices. A photosensitive detector demodulates the light frequency signal and converts it back into an electronic data stream and – in so doing – allows for faster-than-ever, more secure, bi-directional wireless communication.
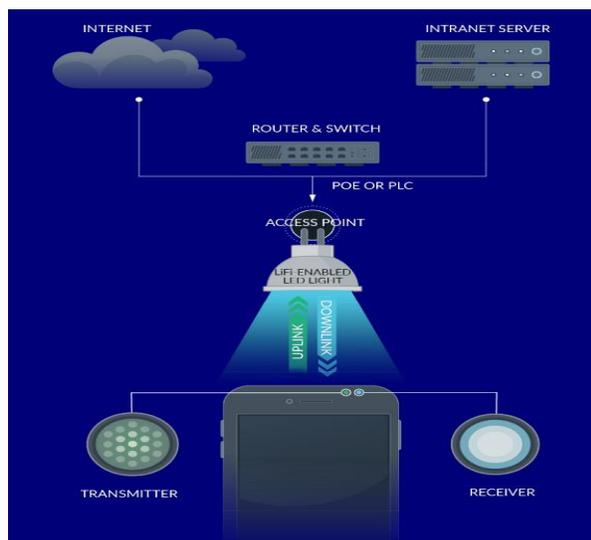
Communication using Li-Fi

Advantages: Li-Fi is highly efficient and provides faster transmission of data, internet connections – about 100 times faster than WiFi.

Disadvantages: Because it relies on light to transmit data, it becomes highly susceptible to outside interference and normal light, sunlight can sabotage the transmission. Since it is a new technology there is lack of infrastructure.

- Vishakha
Assistant Professor
ECE Deptt.

Lohri celebration

Echelon Institute of Technology celebrated Lohri festival on 13 Jan., 2023 with lot of enthusiasm. There was an arrangement of bonfire along with music. The event began with a prayer to God for a joyous and successful Hindu New Year. All teachers and students took part in the celebration enthusiastically. The programme kicked off with "Lohri Poojan". Popcorns, groundnuts, and sweets were distributed. Students and Teachers danced on the Punjabi folk songs also.

Holi and Women's Day celebration

After two years of low-key celebrations owing to Covid-19 pandemic, Echelon institute of Technology celebrated Holi as well as women's day in the premises with new zeal and fervor on 7th March 2023. It turned out to be a day full of colors, excitement and wishes. And a cake cutting ceremony by all the female faculties was also organized in the admin seminar hall for women's day. The highlight was the eco-friendly way of Holi celebration. Flowers and traditional gulaal were used by the students and teachers for celebrations.

Glimpses of Rangoli for Holi and Women's Day Celebration

Faculty development program on Research Methodology

A Faculty Development Program was jointly organized by Department of Computer Science and Department of Computer Applications under the aegis of Institution's Innovation Council of the institute. All the faculty members participated in the 6 days FDP, which was held in two phases- Phase 1 - 31st March to 2nd April 2023, Phase 2 – 7th April to 9nd April 2023. The FDP was very informative and helpful for all the faculty members.

Glimpses of FDP on Research Methodology

Faculty Achievements:

Following faculty members of the department participated in several faculty development programs and workshops:

Ms. Nitu Chauhan

- Participated in the one week Professional Development Programme on 'Leadership for Academicians of Higher Educational Institutions' organized by National Institute of Technical Teachers Training and Research (NITTTR), Chennai from 27-2-2023 to 3-3-2023.

- Participated in six days Faculty Development Program on 'Research Methodology' held at Echelon Institute of Technology in two phases- Phase 1 - 31st March to 2nd April 2023, Phase 2 – 7th April to 9th April 2023.

Ms. Mrinal Manjari

- Participated in six days Faculty Development Program on 'Research Methodology' held at Echelon Institute of Technology in two phases- Phase 1 - 31st March to 2nd April 2023, Phase 2 – 7th April to 9th April 2023.

Ms. Nidhi Singla

- Participated in six days Faculty Development Program on 'Research Methodology' held at Echelon Institute of Technology in two phases- Phase 1 - 31st March to 2nd April 2023, Phase 2 – 7th April to 9th April 2023.

Ms. Diksha Kushwahae

- Participated in six days Faculty Development Program on 'Research Methodology' held at Echelon Institute of Technology in two phases- Phase 1 - 31st March to 2nd April 2023, Phase 2 – 7th April to 9th April 2023.

Ms. Maridula Moudgil

- Participated in six days Faculty Development Program on 'Research Methodology' held at Echelon Institute of Technology in two phases- Phase 1 - 31st March to 2nd April 2023, Phase 2 – 7th April to 9th April 2023.

Acknowledgment