

Malaviya National Institute of Technology Jaipur

Department of Electronics & Communication

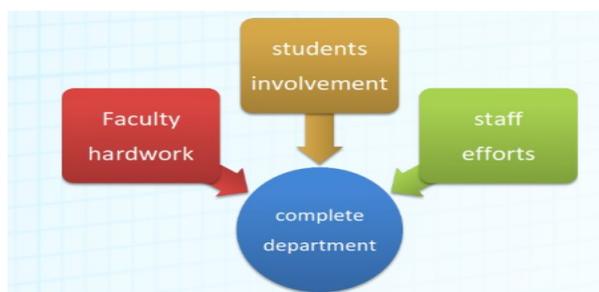
Newsletter Oct-Dec 2019

Vision

To create a centre for imparting technical education of international standards and conduct research at the cutting edge of electronics & communication technology to meet the current and future challenges of technological development.

Mission

To create technical manpower for meeting the current and future demands of industry and academia: to recognize education and research in close interaction with electronics & communication & related industry with emphasis on the development of leadership qualities in the young men and women entering the portals of the institute with sensitivity to social development and eye for opportunities for growth in the international perspective.

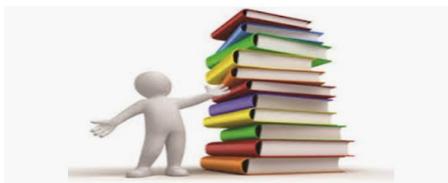


Seminar/Symposia/Workshop/Conference/STC Organized:



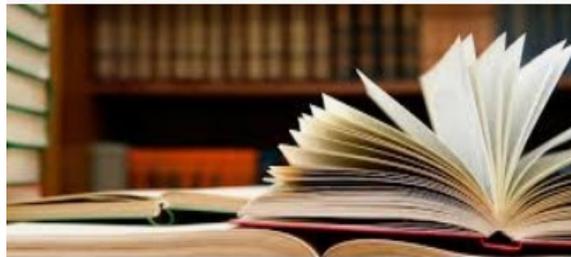
1. National Short Term Course on VLSI Chip Design Hands on using open source softwares at Malaviya National Institute of Technology Jaipur, Jaipur, India from 16-12-2019 to 20-12-2019
2. National Workshop on One Week Global NKN Winter Faculty Development Program on "AI and Machine Learning" at Electronics and ICT Academy, MNIT, Jaipur from 23-12-2019 to 27-12-2019.
3. National Short Term Course on **AICTE (ATAL) Sponsored workshop on Robotics and Computer Vision** at Malaviya National Institute of Technology, Jaipur, India from 16-12-2019 to 20-12-2019.
4. National Short Term Course on **E & ICT sponsored 5 days FDP on "RF and Microwave Components: Design Challenges and their Solutions"** at Malaviya National Institute of Technology, Jaipur, India from 14-10-2019 to 18-10-2019.

Publications



1. Usha Choudhary, Vijay Janyani , "ACO–OFDM with Improved Bandwidth Efficiency over Long Haul and MIMO Optical Fiber Communication Systems" , IETE Journal of Research Volume :0 / 0-0 / 2019.
2. Jain, Prateek, Amit M. Joshi, and Saraju P. Mohanty , "iGLU 1.0: An Accurate Non-Invasive Near-Infrared Dual Short Wavelengths Spectroscopy based Glucometer for Smart Healthcare" , arXiv preprint arXiv:1911.04471 Volume :00 / 00-00 / 2019
3. M. Bunruangses, P. Youplao, I. S. Amiri, N. Pornsuwancharoen, S. Punthawanunt, G. Singh and P. Yupapin , "Electron Cloud Density Generated by Microring Embedded Nano-grating System" , Plasmonics (SCIE Journal, I.F.: 2.926) Volume :1 / 1-6 / 2019 ISBN: 1557-1955
4. Amit Kumar Garg, Vijay Janyani, Ghanshyam Singh, Tawfik Ismail, Hossam Selmy , "Dedicated and Broadcasting Downstream Transmission with Energy-Efficient and Latency-Aware ONU Interconnection in WDM-PON for Smart Cities" , Optical Fiber Technology (SCI, I.F.: 1.35) Volume :52 / 1-9 / 2019 ISBN: 101949
5. S. Singhal , "Elliptical Ring Terahertz Fractal Antenna" , Optik - International Journal for Light and Electron Optics Volume :194 / 1-8 / 2019
6. Zaineb Gharsallah, Monia Najjar, Bhuvneshwer Suthar, Vijay Janyani , "Slow light enhanced bio sensing properties of silicon sensors" , Optical and Quantum Electronics Volume :51 / 358 / 2019 ISBN: ISSN: 0306-8919
7. Sidharth Pancholi, Amit M. Joshi , "Improved Classification Scheme using Fused Wavelet Packet Transform based Features for Intelligent Myoelectric Prostheses" , IEEE Transaction on Industrial Electronics (Early Access) Volume :00 / 00-00 / 2019
8. Gurjit S. Walia, Gaurav Jain, Nipun Bansal, Kuldeep Singh , "Adaptive Weighted Graph Approach to Generate Multimodal Cancelable Biometric Templates" , IEEE Transactions on Information Forensics & Security Volume :00 / 00-00 / 2019
9. M. Bunruangses, P. Youplao, I. S. Amiri, N. Pornsuwancharoen, S. Punthawanunt, G. Singh and P. Yupapin , "Microring Distributed Sensors Using Space-Time Function Control" , IEEE Sensor Journal Volume :21 / 1-13 / 2019
10. Kamayani Shrivastava, R.P. Yadav, K.C. Jain , "Joint MAP Detection for OFDM in Presence of Phase Noise from Free Running and Phase Locked

- Loop Oscillator" , An International Journal of Wireless Personal Communication Volume :80 / 01-14 / 2019 ISBN: ISSN 0929-6212
- 11.S. Chouhan, D. K. Panda, V. S. Kushwah, S. Singhal , "Spider-Shaped Fractal MIMO antenna for WLAN/WiMAX/Wi-Fi/Bluetooth/C-band applications" , AEU- International Journal of Electronics and Communications Volume :0 / 1-8 / 2019
 - 12.A. S. Chauhan and Vineet Sahula and Atanunendu Shekhar Mandal , "Novel Randomized Placement For FPGA Based Robust ROPUF with Improved Uniqueness (Accepted)" , Springer Journal of Electronic Testing: Theory and Applications (JETTA) Volume :99 / 16 / 2019 ISBN: 1573-0727
 - 13.Amit Kumar Garg, Vijay Janyani, Ghanshyam Singh, Tawfik Ismail, Hossam Selmy , "Dedicated and Broadcasting Downstream Transmission with Energy-Efficient and Latency-Aware ONU Interconnection in WDM-PON for Smart Cities" , Optical Fiber Technology (SCI, I.F.: 1.35) Volume :52 / 1-9 / 2019 ISBN: 101949
 - 14.Vimal Kumar Agrawal, Raju Patel, Dharmendar Boolchandani, Tarun Varma and Kamaljit Rangra , "Sensitivity and reliability enhancement of a MEMS based wind speed sensor" , Microelectronics Reliability Volume :104 / 1-6 / 2019 ISBN: 0026-2714/



Placement Data

Eight students got placed in different companies during Oct-Dec 2019.



ARTICLE

3D Printing Electronic Components

While several methods exist for 3D printing electronic components, typically this is accomplished by utilizing a dual-material fused filament process with conductive thermoplastic filaments. These thermoplastic filaments are often made with copper, but occasionally carbon and graphene are used instead. The latter are more brittle than copper, however, and have a tendency to shatter when subjected to significant vibrations.

As with all 3D printing, a digital CAD model of the desired part must first be designed, as this will serve as the printer's instruction model, providing it with all the dimensional data required to build the component. Once the printing process begins, a trace is created (sort of like a part's "fingerprint"), and then the requisite materials needed for that specific part are added in layers.

One key challenge when it comes to 3D printing electronic components compared to other printing projects is the need to use wider and thicker traces to compensate for the fact that the conductive ink, paint or filament utilized to build the traces has a higher resistance than the copper that is commonly used.