

# NEXUS

## Special points of interest:

- **Programs conducted**
- **Faculty achievements**
- **FDPs attended**

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## VISION

To become a Technical Education Centre of Excellence in the field of Electronics and Communication Engineering and to attain international repute by becoming a trendsetter in the field

## MISSION

To empower emerging engineers with state of art technology along with high pattern of discipline, nurture career improvement and develop human and social intellectual qualities necessary for the successful practice of the profession.

## Memtransistors

Can we have computers which mimic human brain? It seems that we are about to design such systems as neuromorphic (brain-like) chips are being developed. These chips are designed such a way they operate in a way similar to that of human brain.

Computers have separate processing and memory storage units, whereas the brain uses neurons to perform both functions. Neural networks can achieve complicated computation with significantly lower energy consumption compared to a digital computer. Mark Hersam and his team from Northwestern University have developed a three terminal device called memtransistor which performs memory storage and information processing. This gate-tunable memtransistor can act like a synapse, which can transmit information from one artificial neuron to another. Another challenge in this area, is to implement a neuron which may have a thousand synapses. The developers state that their design accommodates additional terminals, which mimic the multiple synapses in neurons. Hence these memtransistors can serve as a foundational circuit element for neuromorphic computing.

The integration of memtransistors to form complicated circuits is yet to be explored, though.

*Courtesy: IEEE Spectrum, Feb 2018*

## PROGRAMS CONDUCTED

- **FDP on Electronic Design Automation**

KTU sponsored 5- day faculty development programme on Electronic Design Automation was conducted by the department from 18-Dec-2017 to 22-Dec-2017, under the leadership of Dr. I. Selvamani (Assoc. Professor, ECE ) and Mr. Anoop B.K. (Asst. Professor, ECE). Dr. S. Raghavan (Professor, Dept. of ECE, NIT Trichy) inaugurated the programme and delivered a session microwave circuits and antennas. Dr. K.A Navas (HoD, Dept.of ECE, GCEK ) delivered session in circuit design automation and various tools used for the same.



- **C++ workshop for S6 ECE students**

A three day workshop on C++ programming was co-ordinated by Ms. Sini Simon M. (Asst. Professor, ECE) for S6 ECE students to introduce them to programming, with C++ from 3-Jan-2018 – 5-Jan-2018. Ms. Derroll David (Asst. Professor, Dept. of CSE) initiated them to pro-



- **Workshop on open source programming tools**

A workshop was co-ordinated by Mr. Adarsh K.S. (Asst. Professor, ECE ) for M. Tech students from 1-Feb-2018 – 3-Feb-2018 to familiarise open source programming tools. Mr. Arun Babu S. from Bitsforge Technologies Pvt. Ltd, handled the sessions and hands on.



## **FACULTY ACHIEVEMENTS**

- Dr. D. Anto Sahaya Dhas (Professor, ECE) has been selected as Executive Committee member of IEEE-SSCS Indian chapter for the year 2018-2019.
- Mr. Anoop B. K. (Asst. Professor, ECE) co-authored and published a book titled “Lesion Detection Using Segmented Structure of Retina” with Dr. Perumal Sankar
- Ms. Linet K. (Asst. Professor, ECE) and Prof. M. Vasudevan Nair (Assistant Professor, Dept. of Applied Sciences and Humanities) authored and published a book titled “Business Economics”, which is as per the KTU Syllabus.

## **FDPs ATTENDED BY FACULTY**

- Ms. Ann Mathew attended DTE Kerala sponsored FDP on Next Generation Wireless systems from 27-Nov-2017 – 1-Dec-2017, at Govt. College of Engineering, Kannur
- Ms. Bindhu Sebastian, Ms. Lekhsmy S., Mr. Adarsh K.S., and Mr. Vinod J. Thomas attended DTE Kerala sponsored FDP on Nanotransistor based device and circuit design from 5-Dec-2017 – 9-Dec-2017 , at Govt. College of Engineering, Kannur
- Mr. Anoop B.K, Mr. Binil Kumar K., Mr. Jayesh George and Mr. Manoj K.C. attended faculty development programme on Signal & Image Processing: Issues, Challenges and Techniques at Deenabandhu Chhotu Ram University of Science and Technology, Sonapat, Haryana from 1-Jan-2018 – 12-Jan-2018
- Ms. Linet K. and Ms. Divya K. attended KTU sponsored FDP on Emerging Fields of Mathematics for Researchers at College of Engineering, Thalassery from 18-Dec-2017 to 22-Dec-2017.
- Dr. D. Anto Sahaya Dhas and Dr. I . Selvamani attended two week AICTE sponsored faculty development programme on “Adaptation of computational intelligence in wireless communication systems & network security” from 4-Dec-2017 to 17-Dec-2017 at Adhiyamman College of Engineering, Hosur.

## **UPCOMING EVENTS**

### **Department tech fest**

Tech fest would be conducted on 6<sup>th</sup> March, 2018.

Staff Co-ordinators: Mr. Jayesh George, Ms. Jerrin Yomas & Ms. Linet K.

Student Co-ordinators: Fabian Alex, Anjana Varadan , Rahul Joshy (S6 ECE)

## **EDITORIAL BOARD**

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