

METRON

ELECTRONICS & INSTRUMENTATION ENGINEERING DEPARTMENT

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ACCREDITATION VISIT BY INSTITUTION OF ENGINEERS

The Expert team members from Institution of Engineers Accreditation Board had their visit for inspection in Vimal Jyothi Engineering College from 19th November to 21st November 2014. They were well impressed by our infrastructure developments & the teaching methodology which leads us to the motto: WHERE PERFECTION IS THE TRADITION. The expert committee member who came for the inspection in Electronics & Instrumentation department was Mr. Prof. K N Raja Rao, Advisor & Professor of Electronics & TeleCommunication Department of R V College of Engineering, Bangalore. His valuable suggestions has become an eye opener which will lead to more improvements in the coming future.



STTP ON RF SYSTEMS & SIMULATION TOOLS

Ms, Reema Mathew & Mr Dhanoj M of EIE Department attended the Short Term Training Program on RF Systems & Simulation tools which was conducted by the Govt College of Engineering, Kannur from 17th to 22nd November 2014, sponsored by Directorate of Technical Education, Govt of Kerala. The Hands-on sessions was based on the Antenna Design & Simulation for Better Performance. The classes commenced from 9.00am till 4.00pm. The eminent resource persons were from NIT Calicut,, GEC Kannur,



FDP ON DSP & CONTROL SYSTEMS: PRINCIPLES & APPROACHES

Mr. Avinash KK & Mr. Akhil Jose of EIE Department attended a Faculty Development Program on DSP & CONTROL SYSTEMS conducted by College of Engineering, Vadakara under the banner of TEQUIP Phase—II from 1st December 2014 to 6th December 2014. The classes were scheduled from 9.00am to 4.15pm. The resource persons were from NIT Calicut, NIT Surathkal, RIT Kottayam etc. There were hands on sessions in the afternoon on Matlab platform. There were more than 35 participants.



UNIVERSITY RANK HOLDERS (2010-2014 Batch)



Sangeetha P.K.
1st Rank - 10AE27



Sreeragi C.K.
2nd Rank - 10AE28



Thulasi M Santhi
3rd Rank - 10AE30

Staff Achievements:

- Ms. Ann Soniya Micheal presented a paper in an International Conference on the paper titled Design of Fuzzy Logic Controller for Continuous Crystallisation conducted by TKM College of Engineering, Kollam on 17th October 2014. The paper was published in Elsevier Publication with an ISBN No: of
- Mr. Dhanoj Mohan attended a User's Conference conducted by YOKOGAWA Industries Ltd on 10th October 2014, at GATEWAY Hotel, Cochin.
- Mr. Dhanoj Mohan attended a National Workshop on Recent Advances in Lasers for Communication, Signal & Material Processing, conducted by Department of Electronics & Communication of ToCH Institute of Science & Technology from 12 th to 14th November 2014.
- Mr Abdul Latheef, Ms Reema Mathew & Ms Divya K Vinod attended a STTP on Advancements in Analog Circuits conducted by Govt College of Engineering, Kannur under the banner of Board of Technical Education of Kerala from 26th to 28th November 2014.

DEPARTMENTAL ACTIVITIES:

- Three staffs from EIE Department had gone to Bangalore & Mysore in search of Companies for conducting a placement drive in Vimal Jyothi campus. Most of the reputed companies which they visited include, YOKOGAWA, Mercedes Benz, Prolific, National Instruments, General Motors, Shin Biomedical Equipments, Siemens Hearing Aids, Freshers World etc. The visit to those companies will produce more oppurtunities for our students to get placed. The staffs who took initiative in this process were Mr. Vimal Kumar, Mr. Akhil Jose & Mr. Dhanoj Mohan. The department have posted two placement coordinators who are deeply obliged to the placement activities in the campus. The placement coordinators of our department are Ms. Ann Soniya Micheal & Mr. Clint Augustine.
- The Academic Audit of S7 EIE was held on 3rd December 2014 & that of S5 EIE was held on 10th December 2014.
- The Course Team meeting of S4 EIE was held on 28th November 2014 & that of S8 was held on 9th December 2014.

Fifty years of lasers: from basics to advanced technology

Fifty years ago, on 16 May 1960, the first laser, the ruby laser, was demonstrated at Hughes Research Laboratories by Theodore Maiman.



There has been an explosive growth in the field of lasers and their application to practically all branches of science and technology. Looking at the history of research into photons and their applications, the impact of the laser on many areas of research is very evident, making it one of the greatest achievements in modern science. Fifty years after its first demonstration, the use of the laser has become widespread not only in commercial applications but also as a versatile research tool in areas ranging from fundamental physics to chemistry, biology and medical research, material processing, ultra-precision measurement realization of quantum devices and materials, high energy accelerators, energy technology, space technology etc.

Lasers on the other hand have demonstrated a versatility and capability for constant innovation that surpasses that of many other main scientific discoveries. A beautiful case in point mentioned by Federico Capasso is the concept of matter waves, and consequently the realization of matter lasers in Bose–Einstein condensates. Another example of the laser concept transferred to different types of waves is phonon lasers, which are based on the coherent emission of phonons rather than photons.

At the same time, the optical laser continues to push the extremes of physics. The realization of lasers emitting intense, attosecond-long pulses enables the observation of atomic-scale electron motion. And researchers are already venturing towards zeptosecond pulses, whose duration is shorter than the oscillation period of an electron's wave function in an atom. Such lasers could open entirely new possibilities in the imaging of electron motions.

This type of diversity in laser physics is bound to continue. For sure, new types of lasers will continue to emerge also in the spirit of laser pioneer Arthur Schawlow's jocular notion that anything will lase if pumped hard enough. At the same time, the pathways to the generation of laser radiation may not always follow conventional wisdom. Lasers without population inversion are one example where modern developments have revised our understanding of the fundamental operation principles of lasers. Similarly, new developments will continue to push extremes in laser parameters. Be it the high-power lasers that drive research into nuclear fusion at the National Ignition Facility at the Lawrence Livermore National Laboratory in California. Or nanoscale lasers based on the interaction with surface plasmons, so-called spasers which challenge another dogma in laser science, namely that lasers require resonant cavities larger than roughly half the wavelength of the laser light. Such spasers could lead to new functionality on photonic chips.

Fifty years after the first laser, research in lasers still takes unusual turns. Not only does the development and enhancement of conventional laser sources continue in academic and industrial research labs, but the very basic laser concept is constantly renewed and revived. Unlike the story of the automobile, or indeed the transistor, the story of the laser remains very much an open book and may still take a few unexpected yet profound new twists.

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