NITK NEWSLETTER

WAVES

National Institute of Technology Karnataka, Surathkal
Mangalore - 575 025, Karnataka, India

Message from the Director

It is with great pleasure and pride I present this third edition of "WAVES" which is the mouthpiece of NITK. This biannual newsletter of NITK documents all the important events and activities that took place during January–June, 2016. This is very informative, well documented and gives a gist of all the events that happened in the even semester.

I congratulate the editorial team of WAVES for their commendable work in bringing out this volume in time. I thank the editorial team for their tireless effort and wish they will keep up the good work in future also for the benefit of NITK community.

K N Lokesh

Message from the Registrar

*N*ational Institute of Technology Karnataka, Surathkal evolved from Karnataka Regional Engineering College, Surathkal, a great Institute of technological excellence. It serves to remind us that we are the custodian of an extra ordinary legacy of intellectual and material culture which it is our duty to communicate to the present and preserve for the future. Today, and in the days to come, we have to prove that NITK is worthy of its legacy, aspirations of its people, its alumni, and its region.

In fast forward there are new problems, new solutions, new difficulties, new courage, and new achievements all for inviting the great future. Our pathway to this goal is energy, enthusiasm, warmth, wonderment and above all a feeling better than any other. The engine powering us ahead are our students, alumni, parents, friends and all best wishers of NITK. If we all together lend our voice to the great mission and vision of this Institute we will be worthy of our legacy.

The Institute Magazines are to strengthen our intellectual foundations. 'Waves' the Institute Newsletter is aptly named as the Institution is facing Arabian Sea and its eternal waves. Ocean waves contain tremendous energy potential. In physics, a wave is an oscillation accompanied by a transfer of energy. Indeed we experience this positive energy in NITK.

Any given academic year has its own unique set of events, accomplishments, beginnings and endings. The pages of this second edition cover many of the happenings of the past few months and some exciting news of upcoming events. I look forward to reading and viewing more of them in future editions. I wish all the best for the Editorial Team in their present and future endeavours.

K. Ravindranath

Editorial Team

G. Srinikethan
Professor, Department of Chemical Engineering
Coordinator

Katta Venkataramana
Dean *(Academic)*

Ashok Babu T P
Dean *(Faculty Welfare)*

A.U Ravi Shankar
Dean *(Planning & Development)*

K Chandrasekaran
Dean *(Research & Consultancy)*

Udaykumar R.Y
Dean *(Students' Welfare)*

Muralidhar Kulkarni
Prof. I/C (*Training & Placement)*

Gaurav Chowdhury
Assistant Registrar *(Academic)*
Co-coordinator

Contents (Jan., 2016 - June, 2016)

RANKINGS (2016)

S.No.	Survey	All India Rank	Rank Among NITs	Date
1.	Silicon India Rankings	9	Only NIT in the list	April 19, 2016
2.	India Today	8	1	May, 2016
3.	The Week-Hansa Research Best University Survey	14	2	May 29, 2016
4.	The Week- Hansa Research Best Engineering Colleges	12	1	June 19, 2016
5.	Outlook	9	2	June 25, 2016
6.	GHRDC-Top Engineering Colleges of Super Excellence	2	1	July, 2016

RECENT ADMINISTRATIVE APPOINTMENTS

Dean (Faculty Welfare): **Dr. Ashok Babu T P,** Professor, Department of Mechanical Engineering, NITK has been appointed as Dean (Faculty Welfare) with effect from March 14, 2016. Prof. Ashok Babu T P brings an impressive history of research, leadership and management. We welcome Prof. Ashok Babu T P to the position.

We thank **Prof. A. Kandasamy** for his sincere efforts as Dean (Faculty Welfare) from January 18, 2013 to March 13, 2016. Prof. A. Kandasamy has managed to create a pleasant working relationship among the members of the faculty and institute administration, which has been conducive in solving the various official demands/problems of the community he has headed.

Dean (Planning & Development): **Dr. A.U Ravi Shankar,** Professor, Department of Civil Engineering, NITK, has joined as Dean (Planning & Development) on March 14, 2016. Prof. A.U Ravishankar also brings an impressive background of research, leadership and management. We welcome Prof. A.U Ravishankar to the position.

We thank **Prof. Mattur C. Narasimhan,** Department of Civil Engineering for his sincere efforts as Dean (Planning & Development) from February 01, 2014 to March 13, 2016. During the period of Prof. Mattur C. Narasimhan, the Institute has seen meticulous

planning of the expansion and diversification of developmental proposals and its implementation. We are all quite excited at the prospect of Dean Prof. A.U Ravishankar building on the solid foundation laid by Prof. Mattur C. Narasimhan and all his predecessor Deans over the decades.

Dean (Alumni Affairs & Institutional Relations): **Prof. K. Chandrasekaran** has been appointed as the Dean (Alumni Affairs & Institutional Relations) i/c w.e.f May 15, 2016.

We thank **Prof. M.B Saidutta** for his sincere efforts as Dean (Alumni Affairs & Institutional Relations) from May 15, 2013 to May 14, 2016. His success in creating Industry-Academia linkage is very well appreciated by the entire NITK family. Currently NITK has 56 active MoU partners with various Industries and Universities of National & International repute.

Professor i/c (Training and Placements): **Dr. Muralidhar Kulkarni,** Professor Department of Electronics &Communications, NITK has been appointed as the Professor i/c (Training and Placements) with effect from June 15, 2016. Prof. Muralidhar Kulkarni also brings with him an impressive track record of industrial research, leadership and management.We welcome Prof. Muralidhar Kulkarni to the position.

We thank **Prof. Laxman Nandagiri,** Department of Applied Mechanics and Hydraulics for his sincere efforts as Prof i/c (Training and Placements) from April 01, 2014 to June 14, 2016. Prof. Laxman Nandagiri, himself an icon of excellence, with his strong relations with the industry, the Institute has always been a favorite destination of recruitment for many reputed firms.

MAJOR INITIATIVES

Project Title: Methanol as a Clean Energy Source for India.

Submitted under

Indo-US 21st Century Knowledge Initiative

University Grants Commission which oversees the program has conveyed the approval of the commission to the head-wise financial allocation for Rs. 91,18,600 foe 3 years w.e.f 01st August, 2016 to 31st July, 2019.

PI: Prof. MB Saidutta, Department of Chemical Engineering

A grant of **Rs. 31,64,400** is being given for the first year.

Executive Summary: Methanol is an exceedingly clean burning fuel for IC engines, turbines and fuel cells. It is also good chemical feed-stock to prepare petrochemical products. Besides coal and biomass, Methanol could also be prepared from recycled carbon dioxide and water using alternative energies. In a co-operative research project between **National Institute of Technology Karnataka, Surathkal and Loker Hydrocarbon Research Institute at the University of Southern California, Los Angeles, CA, USA,** methods will be explored to convert low quality coal in India with non-edible biomass to high value syngas for large scale methanol production.

PROJECT SANCTIONED UNDER

NEWTON – BHABHA FUND SCHEME OF Royal Academy of Engineering, London, UK

ON

BUILDING CAPACITY IN TEACHING AND COLLABORATIVE RESEARCH IN SENSOR SYSTEMS FOR PUBLIC UTILITIES

UK PARTNER INSTITUTION: UNIVERSITY OF BIRMINGHAM

Project Title: Building capacity in teaching and collaborative research in sensor systems for public utilities.

Lead Institution: National Institute of Technology Karnataka, Surathkal, Mangalore, India.

Lead Applicant: Prof. M.B. Saidutta, Department of Chemical Engineering.

Partner Institutions:

1. University of Birmingham, School of Civil Engineering and School of Electronic, Electrical and Systems Engineering, U.K.
2. Srinivas Institute of Technology, Mangalore, India.
3. A.J.Hospital & Research Centre, Mangalore, India.
4. IBM-ISDL, Chennai, India.
5. Thought Focus, Bengaluru, India.

6. Robert Bosch Engineering & Business Solutions (India) Pvt.Ltd. Bengaluru, India.

Project Start Date: March 17, 2016

Project End Date: February 28, 2018

Project Funds sanctioned by RAE, UK: GPB 47,500.00

First Instalment of sanctioned funds: GPB 33,250.00

Main Objectives of the Project:

Under the project, two major utilities have been selected for investigation. The project will culminate in a pilot scale report on optimal utilization of both electrical power and clean water in NITK campus. The main activities to be undertaken in the project are as follows:

✦ Modelling and design of sensor network to monitor and regulate the consumption of electric power and clean water in NITK campus.

✦ Selection and procurement of appropriate sensors and related hardware.

✦ Implementation of the sensor network.

✦ Extensive data acquisition, its analysis and steps to regulate the usage based on the analysis.

✦ Prepare pilot scale report for the two utilities for NITK and propose a scaled-up model for the city of Mangalore.

Apart from the work outlined above, the following academic activities will also be taken up.

✓ Conduct training programmes / short courses / workshops on topics in applied research for the faculty and students of NITK, partner institutions and industries by experts from UK, NITK and industry partners.

✓ Enhance the quality of industrial research within NITK and its partners in India.

✓ Engage UK and Indian faculty in supervising research projects relevant to industry.

✓ Build long term academic links between NITK and UK universities and industry.

✓ Students of all the partner institutions at undergraduate, graduate and PhD level will work towards achieving the project objectives under the guidance of the faculty of NITK and UK Universities as well as experts from industry partners.

	DESIGN INNOVATION CENTRE, NITK SURATHKAL (DIC@NITK) (ESTD. UNDER NATIONAL INITIATIVE FOR SETTING UP OF DESIGN INNOVATION CENTRES, OPEN DESIGN SCHOOL & NATIONAL DESIGIN INNOVATION NETWORK) Co-ordinator: **Dr. S. M. Kulkarni, Professor Mechanical Engineering**

Preamble :

DIC@ NITK is established under the national initiative mentioned above in the form of hub and spoke model. DIC@NITK will be a spoke/satellite institution of the hub at Centre for Product Development and Prototyping, IISc Bangalore

Objectives of DIC@NITK:

✦ To promote a culture of innovation and creative problem solving.

✦ To serve as a place that imparts design based education and practice

✦ systematic design through projects.

✦ To enhance interdisciplinary design-focused innovation and creativity.

✦ To facilitate interdisciplinary design-focused education, research and entrepreneurial activities in order to create commercial opportunities and build partnerships between academics and industry.

✦ To promote, nurture and advance the culture of design and innovation in the country leading to significant contributions and breakthroughs impacting quality of human life

✦ To promote increased interactions/collaborations with institutes/organizations World-wide working in the areas of design and innovation.

Functions of DIC@NITK

✦ Be one of the spoke/satellite centres of the Design Innovation Centre at IISc

✦ The Spoke Centre would focus on product design, industrial design, process design or system design with the outcomes aligned to the needs of the society.

✦ The spoke centre, over a period of time, is expected to run at least two new courses at undergraduate/ post graduate level with an enrolment of about 40 students per course. The structure, course content, course design should be innovative and tailored to the objective.

✦ Research scholars and Faculty in Design in the spoke centre shall attend the workshops and summer schools conducted at IISc

- Faculty in the spoke Centre will participate in the workshops and the incubation program of the Design Innovation Centre at IISc.

- The spoke Centre will conduct workshops for design educators, students and practitioners in collaboration with the First Party.

Accomplishments of DIC@NITK

In line with objective of bringing and propagating 'Design Thinking' in Engineering, following actions are planned of which some are already in place.

- Two Product Design courses at UG and PG levels have been started

- Usage Design and Analysis softwares for various courses in UG and PG has commenced

- Self learning resources for Machine Design, FE Design Analysis, Simulation are launched and students are using them extensively

- Project based tutoring to encourage 'Design Thinking' -

Design Innovation Centre is presently provided following amenities

- A Design Studio

- A Prototyping Studio

- A Media Centre for Self learning and Design Expression

Funding and Budget for DIC@NITK

DIC activities are funded under the national initiative through CPDM, IISc Bangalore for a period of three years. This funding is budgeted for achieving the objectives listed above.

Project based funding for students is a unique feature of DIC. DIC is aleady funding following student projects

1. Development of a hybrid all terrain bicycle

2. Development of a low cost key less entry to enclosed places

3. Development of low cost bullet proofing light weight bricks

GIAN INITIATIVES

Short Course Sponsored by GIAN (MHRD) on Internet of Things (IoT) (January 18 – 22, 2016)
Resource Person: Dr. Krish Prabhu, CTO, AT&T Inc, Dallas, USA

OVERVIEW

Human society is marching towards a world dominated by connectivity through Internet covering majority of its activities. By 2020 "Internet of Things (IoT)" is expected to link users, things and cloud services using the Internet enabling new use cases and new business models across multiple markets and applications. The idea of a globally interconnected continuum of devices, objects and things in general, emerged with the RFID technology, and this concept has considerably been extended to the current vision that envisages a plethora of heterogeneous objects interacting with the physical environment. Today, a large number of different means (WiFi, 2G/3G cellular, satellite and fixed Ethernet) have enabled communication between heterogeneous devices and the next generation systems (5G wireless) which are already pointing towards a super-efficient means of communication. When many interconnected objects act in unison, they are said to have "ambient intelligence". Most of us think about being connected in terms of computers, tablets and smart phones. IoT describes a world where just about anything can be connected and can communicate in an intelligent fashion. In other words, with the Internet of Things, the physical world becomes one big information system.

This course was delivered as a single module of 14 lectures. The lectures addressed the conceptual framework of IoT, the Network facilities, the hardware requirements, Data storage and analytics, data security and end-to-end IoT ecosystem. Applications of IoT to smart cities, smart factories, smart grids, health care, asset management and automotive sector were presented as case studies. The participants had an excellent interaction with the expert faculty through discussions and assignments and gained immensely from this course.

COURSE OBJECTIVES:

The main objectives of the Course were to introduce the participants to the following topics and update them about recent progress in IoT:

1.   Concept of global connectivity through internet and "IoT".

2.   World of Sensor network and WiFi – connectivity.

3.   Data collection, storage and data analytics technologies

4.   IoT ecosystem and its various applications

5.   Role of IoT for Smart Cities, Smart Factories, Health-care facilities, Smart Grid, etc.

FOLLOWING TOPICS WERE COVERED IN THE COURSE

- The Framework for IoT

- Networking for IoT – cellular, WiFi, satellite and fixed

- Sensors and IoT endpoints

- IoT data collection, storage and streaming analytics

- IoT application creation environment

- Cyber security aspects of an IoT network

- IoT service creation environment

- The end-to-end IoT ecosystem

- IoT for Smart Cities, Smart Factories, Automotive, Health Care etc.

- Case Studies: IoT for Asset Management (Location and Tracking), Smart Grid etc.

GIAN COURSE ON NANOTECHNOLOGICAL BASIS FOR ADVANCED SENSORS

OVERVIEW

The GIAN course titled "Nanotechnological Basis for Advanced Sensors" conducted between May 16 – 21, 2016 consisted of 12 sessions. Being the coordinator of the programme I gave the introductory talk in which the prominence of nanotechnology in the present day and the properties of nanomaterials have been covered. The types of nanomaterials and nanostructures and their inevitable use in a wide range of applications was also brought to lime light. The organic and inorganic nano materials as sensors were discussed in the later sessions, on 5th day of the programme. Prof. Piet Lens from UNESCO-IHE, the subject expert delivered 14 lectures in 4 days (16 to 19th June 2016). Prof Piet N Lens in his lectures spoke about the use of nanotechnology in the present scenario and the need for development and processing of nanomaterials. The production of functional materials through biogenic synthesis of nanoparticles and its potential for the environment of biotechnologies for environmental protection. Further ccharacterization of nanomaterials and nanostructures has been largely based on the surface analysis techniques and conventional characterization methods developed for bulk materials where discussed. Prof. Lens also threw light on the risk assessment and management of these nanomaterials under the current legislative framework. Dr. Udaya Bhat, Assoc. Professor, Dept. of Metallurgical and Materials Science, NITK gave lecture on the Imaging technique for nanomaterial characterization elucidated the principle behind the working of the different imaging equipment's available along with the demonstration of few like the Transmission electron microscope available in our institute that aids in the analysis of the crystallinity, shape and dimensions of the sample. Some information on organic nanomaterials, their structure and characteristic absorption through FTIR, XRD, etc. were dealt by Dr. P. E. Jagadeeshbabu in his talk on optical characterization techniques and its implication. He stressed upon the significance of the bending and stretching of the bonds in Fourier transform spectroscopy and also interpretation of the spectrum of the same.

The potential of sensors in the present day and its advancement from the past decades were described by Professor R J Kurupadam, NEERI where he spoke the role of Nanotechnology in the development of nanosensors and its immense applications. He emphasized on how quantum dots have played a prominent role in the development of nanosensors. He also spoke on the impact of the nanomaterials to the environment and mitigation measures to be taken to prevent the speciation of the metal ions into the flora and fauna. Dr. Hariprasad Dasari from Department of Chemical Engineering gave a lecture on the importance of fuel cell in our daily life. He also threw light on the current research trends in the field of Fuel Cell engineering and how we can improvise and emendate the methods. Nano membranes have seen unconventional be it in the waste water treatment or detection of microorganisms, Dr. Arun Isloor from Department of Chemistry shared his knowledge on the different methodologies for the development of nano membranes and how we could amend the existing ones in order to produce membranes with better efficiency. The fabrication of semiconductor devices has revolutionized with advancement of nanotechnology. In the last and concluding session I spoke on the use of ion implantation for semiconductor device fabrication and in metal finishing, as

well as various applications in materials science research for detection the physical, chemical, or electrical properties of the solids.

Prof. Uday Kumar Yaragatti, Director, in charge NITK Surathkal presided over the valedictory function and distributed the rewards to the participants. Prof. Uday Kumar Y appreciated the organization of the programme and the importance of the GIAN which is one of the innovative and missionary programme of our Honorable Prime Minister Shri Narendra Modi and Honorable Minister Human Resource Madam Smriti Zubin Irani. The participants shared their views on the course and their scope for future research and career.

GIAN Course on SEMANTIC WEB (April 11-15, 2016)

Foreign Faculty: Dr. Sven Groppe, Institute of Information Systems (IFIS) at University of Lübeck, Germany

Host Faculty: K. Chandrasekaran, Department of Computer Science and Engineering, NITK Surathkal

OVERVIEW:

The GIAN supported advanced level course on "SEMANTIC WEB" provided the opportunity for students, faculty, researchers to understand the basics of the Semantic Web and especially the core of the family of Semantic Web languages. Afterwards the lecturer introduces the technologies and approaches for efficient data handling, query processing and rule evaluation specialized to the Semantic Web world. In order to take the full advantage of the course tutorial sessions and discussion / networking sessions were conducted among the participants and the lecturer. This course was attended by faculty, research scholars, UG and PG students from the well-known institutions and the count was approximately 60 (includes internal and external participants).

IMPACT OF TEQIP ON NITK

In 2002-03, the Government of India with the financial assistance from the World Bank launched Technical Education Quality Improvement Programme (TEQIP) as a long-term Programme of 10-12 years, to be implemented in three phases for systemic transformation of the Technical Education System. The first phase of TEQIP commenced in March 2003 and ended in March 2009, covering 127 institutions in 13 states .The objective of TEQIP was to improve the infrastructure, equipments and faculty/staff development. The focus was more on under graduate programme. Funding was given to lead institute and many other institutes in the region were networked to the lead institute. Under this project NITK as a lead institute received Rs. 210 million.

The second phase of Technical Education Quality Improvement Programme (referred to as TEQIP-II) is fully integrated with the Eleventh Five-year Plan objectives for Technical Education as a key component for improving the quality of Education in existing institutions. The reform process of TEQIP-I needs to be sustained and scaled-up for embedding gains in the system and taking the transformation to a higher level. To continue the development activities initiated through TEQIP-I, a sequel project was planned as TEQIP-II with a financial outlay of Rs. 125 million. This was launched in March 2011 with NITK entering into MOU with MHRD for successful implementation of the project. The prime objectives of the project are, scaling up Postgraduate Education, creation of an environment to nurture Demand - Driven Research & Development, encouraging innovation and enhancing existing capacity. This will enable the participating Institutions to become dynamic, demand-driven, quality conscious, efficient and forward looking and capable of supporting rapid economic and technological developments occurring at local, State, National and International levels.

Eight Expert Lecture programmes, one National Conferences, one International Conferences and One Finishing School programme were conducted under Industry Institute Interaction, Faculty and Staff Development and under Enhancement of Research and Development activities.

About 37 faculty members have undergone training on various subjects under the activities Faculty and Staff Development, Institution Management Capacity Enhancement.

Two Programmes of National Importance titled as "Workshop on Skill Development" and "Workshop on Mission Make in India" in line with Govt. of India vision were held during financial year 2015-16 with the participation of members from neighboring Industries/Institutions and experts from National level Institutions.

One Peer mentoring programme for academically weak students of B. Tech. & M. Tech has been conducted in E & C Engineering Department.

A total 51 Faculty members have undertaken foreign visits for Research Interaction (Top 200 Universities in the World as per QS ranking) up to the end of 31-03-2016. An expenditure of ` 100.648 lakh was incurred to support this programme.

A total 45 Non-Teaching Staff (including officers) have participated in various training programmes/ workshops, personality development programmes held in various Institutes and Professional bodies within India.

It is reiterated that total 251 faculty members have attended various Training/ Workshop/Conference/ Seminar in India and abroad under funding from TEQIP-II. Likewise 40 non-teaching staff members have attended various training programme elsewhere in India and also 51 students have been financially supported for their research work under TEQIP-II.

In addition, 16 Half Time Teaching Assistants (HTTAs) and 4 Post Graduate Research Assistants (PGRAs) were admitted to the Institution under the TEQIP-II project.

SOLVE the Virtual Lab at NITK is a part of Virtual Lab project from NMEICT , MHRD.

NITK is currently hosting 5 simulation based labs and two remote triggered labs , this year NITK has received approval for two more simulation based labs (I. Network Simulation -NS3 Lab and II. Fluid machinery Lab)

All the Labs in SOLVE are designed and created by NITK students. We have more than a Lakh users presently for the web site vlabs.ac.in. and conducted 50 workshops on Virtual lab and delivered outreach seminars /expert lectures on Virtual Lab

Remote triggered Lab is available on **rtlabs.nitk.ac.in**

Faculty members involved

Dr. Panduranga Vittal K

Dr. Vidya Shetty K

Dr.Pruthviraj U

Dr. Mohit P. Tahiliani

Dr. K V Gangadharan

About Centre for System Design

Centre for System Design envisages an interdisciplinary approach and means for realization of successful engineering systems. Key components for this are system modeling & simulation, understanding system dynamics, system optimization, virtual and physical experimentation. The Centre aims at facilitating and providing required environment for all the key components of system design. The Centre focuses on how to address and solve problems that transcend traditional boundaries. Modern engineering problems are comprised of elements from all the traditional disciplines and these elements must be integrated to meet the overall design objectives. SOLVE is the first large scale interdisciplinary project taken up by centre with MHRD funding. NITK Surathkal has signed an MOU with M/s. National Instruments, Bangalore (NI) in the area of Centre for Graphical System Design. Centre is also pursuing with many industries and R&D labs to have active collaborations and MOUs.

PLACEMENT STATISTICS DURING THE YEAR 2015-16

UNDERGRADUATES			
Department	**TOTAL ELIGIBLE STUDENTS**	**PLACED**	**% PLACEMENT**
Civil Engineering	72	49	68
Chemical Engineering	40	37	93
Computer Engineering	91	90	99
Electronics & Communications Engineering	87	83	95
Electrical & Electronics Engineering	85	77	91
Information Technology	87	84	97
Mechanical Engineering	114	107	94
Metallurgical & Materials Engineering	33	28	85
Mining Engineering	34	27	79
TOTAL (B.TECH)	**643**	**582**	**91**
POSTGRADUATES			
M.TECH	486	189	39
MCA	88	54	61
MBA	35	22	63
M.Sc (Chemistry)	8	3	38
M.Sc (Physics)	7	2	29
TOTAL (UG/PG)	1267	852	67
NUMBER OF COMPANIES VISITED	AVERAGE SALARY (LPA)	MAXIMUM SALARY (LPA)	MEDIAN (LPA)
244	8.27	25.00	7.00

1 MW ROOF TOP SOLAR POWER PLANT

National Institute of Technology Karnataka (NITK) Surathkal has signed a Power Purchase Agreement (PPA) with clean Max Enviro Energy Solutions Pvt ltd. (Clean Max) Mumbai, through Solar Energy Corporation of India (SECI), New Delhi. As per this agreement Clean Max will set up 1 MW grid connected roof top solar power plant on twelve Academic, Administrative and Hostel buildings of the NITK Surathkal. Also, as per the agreement NITK Surathkal will purchase power generated from these roof top plants set up by clean max on a levellised tariff of Rs 5.59 for 25 years. This helps to reduce the power intake from the Mangalore Electric supply Company (MESCOM) and for implementation of sustainable technologies in NITK campus. Presently electricity requirement is around 5 lakh units per months and paying around 40 Lakhs per month to the MESCOM for the same. The proposed solar power plant is expected start generation by the end of September 2016.

Following people were present during the signing of the agreement Prof. K. Chandrasekaran (Director In-charge), Shri. K. Ravindranath (Registrar), Prof A.U. Ravishankar (Dean Planning and Development), Dr. Dattatraya N. Gaonkar (Asst. Prof and Nodal officer For Implementation Of Solar at NITK Surathkal), Prof. Udayakumar R. Y. (Dean Student Welfare). From the Clean max side Mr. Andrew Hines (Head of Business Development for South India) was present.

STUDENT ACTIVITIES

Students 'Council

INCIDENT 2016

Incident 2016 was held over 4 days during March 03rd to 06th 2016. More than three thousands students participated in the Annual Cultural Extravaganza in numerous events, conducted in diverse fields of Fine arts, Photography, Aerobics, Dance, Drama, Fashion shows, DJs, Beach events, Incident Idol competition, Vocal-Instrumental singing competitions, (solo & Group) comedy nights, sand art demonstrations, Informalz, quiz competitions, world fests, Rangoli competitions, workshops on Photography, Filmmaking, Hypnotisms, Rangoli designing, different dances viz., Bhangra, Classical, Zoomba etc.

The new addition and attraction of INCIDENT 16 was the Incident Idol competition which attracts the youth at large as the competition was neck to neck. The preliminary eliminations rounds were done as auditions and the finalists showcased their talents in the final day during INCIDENT and the winner was having the privilege to get a direct entry into the SHANKAR MAHADEVAN ACADEMY. Another breath-

taking performance was displayed by the Silver String and Loud Street Girls from Russia; a mesmerizing performance by the group of 6 girls on violin, guitar and drums who really thrilled the audience and raised the heartbeats.

INCIDENT16 also thrilled the youths by means of Slam Dunk; a national basketball championship and Chakravyuha; Pro Kabaddi Inter collegiate tournament conducted at indoor matting. The main shows of INCIDENT16 edition were DJ night, Laughter night, Karaoke night, World fest, Western night, and concert by Rehman sisters and Altaf Ali.

PARTICIPATION:

- Football team in Independence Cup, Dasara Tournaments, DKDFA, District League Football tournament, P C Zahir memorial South India inter Professional collegiate Football Tournament held at Yenepoya University, "REVELS" All India Inter engineering collegiate tournament, and Invitational Tournaments.

- Cricket team in KSCA Third Division League cricket Tournament, All India Inter NIT Cricket Tournament held at NIT Calicut, DKCA Cup Inter Club, Inter Collegiate and Inter professional collegiate Cricket tournament organized by DKCA for of Mangalore and Udupi Districts.

- Basketball(Men & Women) team in Dasara District level tournament, All India Inter NIT Tournament held at NIT Calicut, DK District Basketball Association James Naismith tournament, "REVELS" All India Inter Engineering Collegiate Tournament and Slam Dunk Basketball Tournaments.

- Chess team: Monsoon Chess Tournament, NITK Cup Chess tournament held at NITK, Surathkal.

- Badminton (Men & Women) Teams in Dasara, All India Inter NIT Tournament held at SVNIT Surat, and "REVELS" All India Inter Engineering Collegiate Tournaments.

- Hockey(Men)-Dasara Tournaments, DK District League Hockey tournament, All India Inter NIT Tournament, "REVELS" All India Inter Engineering Collegiate tournament.

- Tennis (Men) team in All India Inter NIT Tennis Tournament Held at SVNIT Surat and "REVELS" All India Inter Engineering Collegiate tournament.

- Aquatics Men and Women teams in All India Inter NIT Aquatics held at NITK Surathkal and "REVELS" All India Inter Engineering Collegiate competitions.

- Table Tennis: Men & Women teams in Dasara District level and "REVELS" All India Inter Engineering Collegiate invitational Tournaments held at MIT Manipal.

- Volley Ball: All India Inter NIT Volleyball Tournament held at SVNIT Surat and "REVELS" All India Inter Engineering Collegiate tournament.

- Athletics Men and Women in All India Inter NIT Athletic Championships held at MNIT Jaipur and "REVELS" All India Inter Engineering Collegiate Championships.

- Hand Ball: All India Inter NIT sports held at SVNIT Surat

- Weight Lifting, Power Lifting and Body Building: Teams in All India Inter NIT Sports held at MNIT Jaipur

- Kabaddi, Men in All India Inter NIT Kabaddi tournament held at NIT Rourkela.

EVENTS ORGANISED:

- All India Inter NIT Sports in Aquatics Men & Women and Hockey Men championships were organized at our Institute during 18th to 20th March, 2016.

- Dasara District level Hockey and Mangalore University Inter Collegiate Cricket tournaments were organized at our Institute Grounds by taking help of DPES.

- KSCA Mangalore Zone I, II & III Division league Cricket tournaments were held at our grounds.

- An Intra-Mural Athletics and Aquatics competitions were conducted by DPES during January, 2016, for our students and response from students was spontaneous and overwhelming.

- 'Slam Dunk' Basketball Tournament was organized for invited Institutions all over Karnataka, Kerala and Tamilnadu during 2nd to 6th, of March, 2016.

- Chakravyuha Pro Kabaddi Inter collegiate tournament were conducted at indoor matting during 3rd to 5th March, 2016.

- Phoenix-2015-16 an Inter year Sports and Games competition has been organized during the months of March and April.

2nd INTERNATIONAL DAY OF YOGA CELEBRATION

Second International Day of Yoga was celebrated at National Institute of Technology Karnataka Surathkal on 21st June.16 at its premises with full of enthusiasm and healthy spirit. The Indoor Badminton Hall (Sports Complex) of the Institute was converted to a Yoga hall with mats and turfs. The programme started

at 9 a.m. with a massive crowd of around 300 students from the Institute's English medium and Kannada Medium High School and NCC Cadets along with their Teachers came with procession covering different corners of the campus spreading the awareness of Yoga and its benefits through the placards and slogans. NITK faculty and staffs and their family members also participated in the programme.

The programme was coordinated from the office of the Dean (Students' Welfare) and Honb'le Registrar-Shri K Ravindranath, Dean (Faculty Welfare) - Prof. T.P. Ashok Babu and Dean (Planning & Development) - Prof. A.U. Ravi Shankar inaugurated the program in the presence of the other senior faculty member and other administrative staff. Dean (Students' Welfare) - Prof. Udaykumar R Yaragatti delivered the introductory speech and felicitated the dignitaries and welcome the participants which was followed by the Traditional Lighting of the Lamp.

The main attraction of the celebration was the presence of the expert trainers from Isha foundation leaded by Sadguru Jaggi Vasudeva, the INNER ENGINEERING EXPERT who is the Indian icon of International Day of Yoga celebration at UN. Sri Sarang Norway; Hatha Yoga Teacher, Trainer Mr. Paresh Narendra and Mr Ruben Menezes from Isha foundation was guiding the crowd with their different moves of yogic practices. Sri Norway also explained about the holistic approach of Yoga and its benefits in today's date to the modern society in his introductory address. The entire session ran on a video presentation done by Sadguru Vasudeva himself. Every moves and practices were shown and demonstrated and explained with their benefits and then with the guidance of the trainers the same was made to practice to the participants. The session ran for almost 2 hrs and at the end everyone were feeling relaxed and reenergised. The session ends with the chanting of the AUM and meditation for 5minutes.

FAREWELL TO FACULTY & STAFF

Sl.No.	Name	Date of joining service	Date of retirement
1	Sri. Jaya V Shetty, Senior Technician, Department of Mechanical Engineering	01-11-1988	29-02-2016
2	Sri. Gopala Moolya, Works Assistant, Library	30-03-1982	31-03-2016
3	Sri. Mahabala Poojary, Senior Attendant, Department of Mining Engineering	03-04-1982	30-04-2016
4	Sri. Chandrahasa Rai. D Assistant Executive Engineer, Department of Mining Engineering	01-09-1986	31-05-2016
5	Sri. P.S Sheshappa Naik, Senior Attendant, Department of Physics	15-10-1977	31-05-2016

UPCOMING EVENTS

- **GIAN Courses:**

☐ AN INTRODUCTION TO ENGINEERING: **SIMPLE IDEAS – MAJOR IMPACT**

   Resource Person: Prof. Sandeep Gupta, Chair, Dept. of EE, Univ. Of Southern California, LA

   Event Date: August 1 – 5, 2016.

☐ **SOFTWARE MINING AND ANALYSIS**

   Resource Person: David Lo, School of Information Systems, Singapore Management University, Singapore

   Host Faculty: K. Chandrasekaran, Department of Computer Science and Engineering, NITK Surathkal.

   Event Date: October 17, 2016 to October 21, 2016

☐ **CUTTING EDGE INTERNET TECHNOLOGIES: Internet of Things (IoT) and Crypto Currency**

   Course Area: Electronics, Electrical, Information & Communication Technology

   Resource Person: Prof. Irena Bojanova, National Institute of Standards and Technology (NIST), USA

   Host Faculty: K. Chandrasekaran, Computer Science and Engineering, NITK Surathkal.

   Event Date: December 05, 2016 to December 10, 2016

- **14th Annual Convocation (November 12th, 2016)**