

Message



Dr. Gangan Prathap

I remember very fondly my visit to the campus of the Sree Buddha College of Engineering, Pattoor, Kerala recently. At that time I was fortunate to be presented with the first copy of the first issue of Bodhi, the joint newsletter of the Sree Buddha College of Engineering and its sister institution, the Sree Buddha College of Engineering for Women at Elavumthitta. It is therefore a very pleasant task to honour this request from the editors to write a message for the second issue.

To be true to its name, I wish that the newsletter will resolve to lead the community of students and teachers that it represents, and the larger community of its readers and well-wishers, to true enlightenment and awakening. For many are the distractions and diversions of life and very few the paths to self-realisation and fulfilment, I'm sure that in this world beset by conflict and contradiction, Bodhi will encourage harmony and balance in all its reports and reviews.

Activities at SBCE

Inauguration of New Central Library

The New 'State of the Art' Central library in SBCE was inaugurated by Dr. Gangan Prathap (*Director, NISCAIR*) on 12th August 2010. (*Contd. on page 2.*)



Dr. Gangan Prathap inaugurating the New Library block at SBCE in the presence of Prof. K. Sasikumar (Chairman, SBCE).

Embedded Systems & Molecular Medicine now at SBCE

M. Tech Programme in Embedded Systems (Department of Electronics and communication Engineering) and Molecular Medicine (Department of Biotechnology and Biochemical Engineering) was inaugurated by Dr. Gangan Prathap, on 12th August 2010.



Dr. Gangan Prathap inaugurating the M. Tech Programme in Embedded Systems in the Department of Electronics and Communication Engineering, SBCE

The Department of Biotechnology and Biochemical Engineering is a unique department with interdisciplinary subjects, offering a B. Tech program in Biotechnology and Biochemical Engineering and an M. Tech program in Molecular Medicine. SBCE is the only college to offer an M. Tech program in Biotechnology and Biochemical Engineering with specialization in Molecular Medicine.



Dr. Gangan Prathap inaugurating the M. Tech Programme in Molecular Medicine in Department of Biotechnology and Biochemical Engineering at SBCE.

From Editor's Desk

SBCE & SBCEW aims at unique programs so as to empower students for the well being of the society and to meet the ever growing industrial demands. Nevertheless, from the very beginning, the institutions were focused on Research too, instead of being just a retailer of knowledge. This is evident from the collaborated research projects and industry institute interaction programmes going on in the campus in tandem with the regular academic activities.

- Vaisakh G. (Chief Editor)



Dr. Gangan Prathap (Director, NISCAIR) releasing BODHI by handing over the first copy to Dr. Suresh Babu (Principal, TKM College of Engineering., Kollam).

Library Block in SBCE (Contd. from page 1)

Central Library, in the three storied building, spreads to 1800 square meters. It can accommodate 500 users. The Library, at present, houses more than 35000 books, 5000 back volumes of periodicals and journals, standards, 2500 CD-ROMs, Project reports etc. on different disciplines. Library is presently subscribing to about 60 National and International Journals, 75 Magazines in print form annually and 6 daily Newspapers.

The digital library is housed in the first floor of the library and has a capacity to accommodate 40 users. More than 1500 International Online Journals in different areas subscribed through INDEST-AICTE consortium are available in this section. Reading room housed in the ground floor has a capacity of 250 users.

Faculty Training Programme

A training program on 'Rules and regulations regarding conduct of University Exam' was conducted on 9th November 2010 by Prof. Lalu Varghese (Member, MPS).

Campus Active Programme

The 'Campus Active Programme' is taking new dimensions with the inclusion of remedial classes and Personality Development Programme. In addition to this, NSS activities and various Club activities are being undertaken.

INIZIO '10

INIZIO'10, the programme of BUDS (Association of Students of the Department of Biotechnology & Biochemical Engineering) was inaugurated by Prof. K Sasikumar (Chairman, Sree Buddha Educational Society) on 2nd July 2010.



Prof. K Sasikumar inaugurating INIZIO'10

OSDD Seminar on Drug Design

On 13th August 2010 BUDS, Academy of Chemistry Teachers and OSDD joined hands and conducted a seminar on 'Drug Design'.

Mr. Zakir Thomas (Project Director, OSDD, New Delhi) delivered the inaugural address. Keynote address delivered by Dr.G.P.S. Raghava (Head of the Dept. of Bioinformatics, Institute of Microbial Technology, Chandigarh) was followed by the lectures of Dr.Vinod Scaria (Scientist, Institute of Genomics and Integrative Biology, New Delhi) and Dr.U.C.Jaleel (Dept. of Cheminformatics, Malabar Christian College, Calicut). Researchers and faculty members of various colleges participated in the seminar.



Mr. Zakir Thomas inaugurating seminar on Drug Design

Industry - Institute Interaction Programme

Dr. Anoop Kumar (Scientist F & SIC, Molecular Medicine Division, Sree Chitra Tirunal Institute for Medical Sciences & Technology) addressed the M. Tech students and faculty on 30th November 2010 on 'Genome analysis - Implications and Analysis'.

CURSO '10

Dr. Pavithran (former Chief Engineer of K.S.E.B. & Principal, Mount Zion College of Engg., Chengannur) inaugurated CURSO '10, the activities of TACHYONS (Association of Students of Electrical and Electronics Engineering of SBCE) for the year 2010 - '11, on 30th July 2010. A Seminar on 'Blue print for Excellence' was delivered by Mr. M.V John, (former Deputy Chief Engineer of K.S.E.B). An Introductory class for Electrical CADD was also arranged.



Dr. Pavithran inaugurating CURSO '10

CYBORG 2010 - '11

Dr. Nithin Nagaraj (AP, Department of Electronics, Amrita School of Engg., Karunagappally) inaugurated the activities of CYBORG (Association of students of Computer Science & Engineering) for the academic year 2010 - '11 on 18th August 2010. A technical talk on 'Cryptography' by Dr. Nithin Nagaraj followed the inauguration.



Dr. Nithin Nagaraj inaugurating the activities of CYBORG for the year 2010 - '11

Training and Placement Cell

Training Programme was organized for the final year students from 24th to 29th September, 2010. The programme covered vital areas including Personality Development. The sessions were handled by Mr Vishnu and Mr Aravind of Advent Training Solutions, Trivandrum.

A training programme for 1st year students focusing on self discipline and grooming was arranged from 1st to 3rd December 2010. The sessions were handled by Dr. C. N. Somarajan.

INCANTARE '10

The activities of CASTELLOS (Association of Students of Department of Civil Engineering) for the year 2010, INCANTARE '10, was inaugurated by Er. T. K. Jayakumar (Asst. Executive Engineer, PWD Roads Division, Attingal) on 16th July 2010 with a technical session on Highway Development. A technical session on Realignment of Highways was undertaken by Ms. Arya R. Nair (AP, Dept. of Civil Engg. of SBCE).



Er. T. K. Jayakumar inaugurating INCANTARE '10

Seminar on Vasthu

On 29th September 2010, Dr. Somi Sebastian (Principal, SBCE) inaugurated an informative and innovative technical session conducted in SBCE on 'Vasthuvidya' by Er. Biju M. S. (Project Engineer, Vasthuvidhya Gurukulam, Aranmula) and Ar. P. B. Sajan (Joint Director, COSTFORD). The session organized by CASTELLOS was about the importance of traditional architecture – the Vasthuvidya in our day to day life and the technology involved in it. The session was followed by a debate competition for the students of SBCE. The winners were awarded with cash prize by Ms. Lekshmi S. Chandran (AP, Dept. of Civil Engg., SBCE).

Seminar on Intellectual Property Rights

A seminar on 'Role of Intellectual Property Rights in the Knowledge Era' was jointly organized by PIC-Kerala/KSCSTE & Dept. of Biotechnology and Biochemical Engg. of SBCE on 14th September, 2010. Dr. Somi Sebastian (Principal, SBCE) inaugurated the function.

The technical sessions were undertaken by Shri.R. S. Praveen Raj (Scientist, IP Management & Technology Transfer, NIIST, Thiruvananthapuram), Dr. Bismi Gopalakrishnan (Lecturer, Dept. of Law, University of Kerala, Thiruvananthapuram), Mr. Safikh S. (Project Scientist PIC, KSCSTE) and Shri.Ajith M. (Asst. Controller of Patents & Designs from Patent office, Chennai).

MOMENT 2010 - '11

Er. P. Rajendra Prasad (*Dy. General Manager of Kerala Minerals & Metals Limited, Chavara.*) inaugurated the activities of MOMENT for the academic year 2010 - '11 on 18th August, 2010.

Dr. John George (*Scientific Officer, Research and Development Department, Kerala Minerals & Metals Limited, Chavara.*) presented a seminar on various industrial processes associated with manufacturing, storing and packing of Titanium Oxide.



Er. P. Rajendra Prasad inaugurating the activities of MOMENT for the academic year 2010 - '11.

Achievers !!

- Sreejith M. and Bipin Vidyadharan of 7th Semester EEE secured 1st prize in National Level Paper Presentation at *Younus College of Engineering, Kollam.*

- Ranjith R. Pillai and Nithin John of 7th Semester EEE secured 1st prize in National Level Paper Presentation at Cross Roads '10 organized by *Mar Baselios College of Engineering, Thiruvananthapuram.*

- Anu Elias and Vinduja V. of 7th Semester BT&BCE secured 2nd prize in Poster Presentation at International Symposium on Bioprocess at *Sahrdaya College of Engineering Thrissur.*

- Naveen Parameswar and Ciril Rajan of 5th Semester ECE secured 1st prize in debate competition at *College of Engineering, Thiruvananthapuram.*

- Ciril Rajan of 5th Semester ECE secured 2nd prize in Creative Writing Competition at *College of Engineering, Thiruvananthapuram.*

SPICMACAY @ SBCE

SPICMACAY chapter of Sree Buddha College of Engineering, Pattoor organized a Rajasthani Kalbeliya Dance Programme on 12th August, 2010. The dance was performed in its true form by the Kalbeliyas, a snake-charmer community from Rajasthan. The performance relied heavily on the music of 'been' and 'duff'.



Rajasthani Kalbeliya Dance Programme organised by SPICMACAY chapter of SBCE

Cross Country Championship

Kerala University Inter Collegiate Cross Country Championship 2010-'11 for men (12km) and women (6km) was conducted at SBCE on 3rd September 2010. Of the 30 colleges participated, L.N.C.P.E. Thiruvananthapuram and S.N. College for Women Kollam secured 1st position for men's and women's championship respectively.

Inter Collegiate Judo Championship

SBCE secured second position at the Kerala University Inter Collegiate Judo Championship conducted at *Bishop Moore College, Mavelikara* on 1st December, 2010. Sanjay Menon of BT7 won gold medal and was selected for All India Championship (100kg). Mohamed Basil (81kg) and Vivek R. (73kg) of CS7 and Abhijith Sankar (90kg) of ME5 won silver medal. Devesh Raj (56kg) of CS5, Abhijith Gopal (60kg) of EE1&2, Jose T. Nedumpuram (66kg) of CS7 and Sirajudeen P. A. (open category) of CS7 won bronze medal respectively.



The Judo Team of SBCE

Movie Club

Movie club of SBCE is organizing shows of Documentaries and Classical Movies from all around the world. This includes CJ7 (*Stephen Chow*), Nacho Libre (*Jared Hess*), Home - Documentary (*Yann Arthus Bertrand*), Bicycle Thief (*De Sica*) and Children of Heaven (*Majid Majidi*).

Matsyakeralam

SBCE joined the Matsyakeralam project of Department of Fisheries by stocking freshwater fish seeds in the Karingali Puncta.

Papers published

•Dr. Somi Sebastian (*Principal, SBCE*) published papers titled ‘Nanoscience and Nanotechnology - A Review’ and ‘Vibrational Spectroscopic Studies of Acetaldehyde Semicarbazones’ in the *Oriental Journal of Chemistry*, Vol 26(3), 2010.

•Dr. Jency Blesson (*AP-BT&BCE*) published a paper on ‘Nitrogen fixation of Cyanobacterial Biofertilizers in Presence of Chemical Fertilizers’ in *Trends in Biosciences* 3(1):80, 2010. ISSN 0974 - 8431.

•Ms. Manju B. R. (*AP-BS*) published a paper on ‘Wavelet Design for Fault Diagnosis of Roller Bearings using Continuous Wavelet Transform’ in the *International Journal for Mechanical Engineering and Technology*, June - July 2010.

Paper Presentations & Courses

•Mr. Binu B. Pillai (*AP-ME*), presented papers on ‘Imparting Engineering Education Inculcating Industry Partnership’ and ‘The role of Communication Skills in Transforming Professional Students to Global Competitors’ at the 21st Annual Convention of ISTE Kerala Section conducted at *St. Joseph’s College of Engg. and Tech., Palai* on 20th November, 2010 and *DAV Institute of Engg. and Tech., Jalandhar* on 6th September, 2010.

•Ms. Raji R. Pillai (*AP-CS*) presented a paper titled ‘Linear text segmentation using classification techniques’, at the international conference, *Amrita ACM-W Celebration on Women in Computing in India(A2CWIC)*, conducted at *Amrita Viswa Vidyapeetham, Coimbatore*, on 16th September, 2010.

•Mr. Aneesh Kumar S. (*AP-ECE*) presented a paper titled ‘A modified fractal antenna for multiband applications’ at the 2010 IEEE International Conference on Communication Control and Computing Technologies at *St. Xavier’s Catholic College of Engg. & Tech.* from 7th to 9th October 2010.

•Mr. Sanu Krishna (*AP-ME*) presented a paper titled ‘Modelling and Experimental determination of Thermal conductivity of Nanofluids’ at 16th ISME conference on Mechanical Engineering for Sustainable Development organised by *IIT Delhi*.

•Ms. Vinitha Alice Mathew (*Lecturer-CS*) attended a staff development programme on ‘Compiler Design’ from 21st June to 2nd July 2010 conducted by the Dept. of CSE & IT of *Rajagiri School of Engg & Tech.* in association with *NITCalicut* and *ISTE*.

•Ms. Praseetha K. (*AP-EEE*) and Ms. Deepa C.V. (*Lecturer-EEE*) attended training programme on ‘Recent trends in Power systems’ at *Saintgits College of Engg., Kottayam* from 26th to 28th October, 2010.

•Ms. Manju B. R., (*AP-BS*) attended a Short Term Training Programme on ‘Applied Mathematics for Engineers’ from 29th October 2010 to 4th November 2010 at *Rajiv Gandhi Institute of Technology, Kottayam*.

•Ms. Sindhu V (*Lecturer EEE*) attended training programme on ‘Electrical System Design’ at *Mar Baselious College of Engg, Trivandrum* from 8th November to 13th November, 2010.

•Ms. Vidya V. (*AP-ME*) attended a National Workshop on ‘Advances in Metrology and Measurements’ at *Dept. of Manufacturing Engg. Anna University, Chennai* on 22nd and 23rd November 2010.

•Assistant Professors (*CE*), Mr. Vaisakh G. and Ms. Bilu Susan Babu, attended a Workshop on ‘Computer Aided Design and Drafting Lab’ at *TKM College of Engg. Kollam* on 24th November 2010.

•Mr. Vaisakh G also attended Workshop on ‘Recent Advances in Concrete Technology and RCC Design’ at *College of Engg, Thiruvananthapuram* from 29th November to 4th December 2010.

•Assistant Professors (*BT&BCE*), Ms. Simi Santhosh, Ms. Anjali T.G., Ms. Neethu Thomas, and Ms. Ashna R., attended National Workshop and Seminar on the topic ‘Sustainable Energy and Green Environment and workshop on Bioreactors’ at *Mohandas College of Engg. and Tech., Trivandrum* from 4th to 6th December 2010.

Topping all the way

SBCE congratulates the following students who have topped in their respective semesters from various departments.

Remya Ramachandran(BT1), Siby Geevarghese (BT4) and Aiswarya B. Chandran (BT6) from BT&BCE.

Neethu Elsa James (CS1), Prince Shaji (CS4) and Syama Sasi (CS6) from CSE.

Sam John (EC1), Anu Aliyas (EC4) and Chippy Vijayan (EC6) from ECE.

Maheswari S. (EE1), Danly Elizabeth Mathew (EE4) and Sujith Rajan Thomas (EE6) from EEE.

Shiyas I. (ME1), Vaisakh G. Krishnan (ME4) and Sanjay Babu S. (ME6) from ME.

Lincy Varghese (CE1) and Chinnu Sara Prasad (CE4) from CE.

Knowledge Sharing Platform

⇒ BT&BCE

The Department of Biotechnology and Biochemical Engineering of SBCE organised seminars on *Human and Animal Cloning* (Dr. Thomas M. Varghese), *Algae as Biofuel* (Dr. Jency Blesson), *From life to Metagenomics* (Mr. Manoj Narayanan), *Plastics* (Ms. Simi Santhosh) and *ISO 9001 - An Effective Tool for Quality Improvement* (Prof. Krishna kumar K.) in connection with the Knowledge Sharing Platform at SBCE.

⇒ ECE

Seminars on *Classification of Organisms Based on the Chaos Game Representation of the Mitochondrial Genomes* (Ms. Karthika Vijayan), *3D Television Technology* (Mr. Jayaraj V. S.), *Carbon Chips* (Ms. Anjana Prasad) and *ARM Processor* (Mr. Alex P. George) were organised by the Department of Electronics and Communication Engineering of SBCE.

⇒ CSE

Following are the seminars organised by the Department of Computer Science and Engineering of SBCE - *Domain Independent Feature Based Segmentation of Texts* (Ms. Raji R. Pillai) and *Digital Water Marking* (Ms. Usha Gopalakrishnan).

⇒ ME

Faculty of Department of Mechanical Engineering shared their expertise on the topics *Management of Redressal Mechanism in Kerala* (Mr. Binu B. Pillai), *Modeling and Verification of Thermo physical properties of Nano Fluids* (Mr. Sanu Krishna S. S.), *AVG Collision Avoidance using Fuzzy Logic* (Ms. Vidya V.), *Automobile Aerodynamics* (Mr. Arun Ajith Kumar) and *Aero spike Nozzles* (Mr. Dileep).

⇒ EEE

Electrical and Electronics Engineering Department contributed on - *SMES and its Power System Applications* (Mr. Sheleel F.), *Online Monitoring of Partial Discharges in Generators* (Mr. Vishnu J.), *Dry Type Transformer* (Ms. Aparna K. G.) and *Biodiversity* (Ms. Sindhu V.).

⇒ CE

Seminars on - *Solid Waste Management using Fuzzy Logic* (Ms. Lekshmi S. Chandran), *Effect of Shear Wall on Dynamic Response of High-rise Buildings* (Mr. Vaisakh G.), *Solid Waste Management in Thiruvananthapuram City* (Ms. Vijitha V. Kumar), *Design of Highway Alignment* (Ms. Arya R. Nair), and *Bus Rapid Transit System* (Ms. Soumya G.) was organised by the Department of Civil Engineering.

⇒ BS

The Department of Mathematics and Basic Sciences presented seminar on *An Insight in to Wavelets* (Ms. Manju B. R), *Run Flat Tyres* (Mr. Pradeep Kumar R.), *Excerpts from Investigations on Various Phytochemicals against MDR Bacteria* (Dr. Preetha G. Prasad) and *Holography* (Ms. Lekshmi Jayamohan).

Anti Ragging Awareness

Mavelikara Taluk Legal Services, KELSA and NSS unit of SBCE collectively organized a Legal literacy class on 'Anti Ragging' for the 2nd year students on 22nd July 2010.

NSS Orientation Programme

Orientation Programme for the NSS volunteers from first year students was conducted in SBCE on 22nd of October. Chief Guest of the occasion was Prof. Anitha Sanker (NSS State Liaison officer). Special address on 'Aims and Objectives of NSS' was delivered by Prof. Anitha Sanker. Thirty five students received NSS Certificates.

Red Ribbon Club

As part of the National Blood Donation day, a blood donation camp was organized by Red Ribbon Club of SBCE in the college auditorium. The Red Ribbon Club was officially inaugurated by Prof. Anitha Sanker 22nd of October, 2010.



Blood donation camp was organized by Red Ribbon Club.

World AIDS day

As part of the 'World AIDS day', a rally was organized with the active participation of students of SBCE, PHC nurses and ASHA Workers. A function was organized at Padanilam (Nooranadu) which was inaugurated by Sri V. Vinod (Block Panchayat President, Nooranadu). First year NSS volunteers presented a Skit on this occasion.

Bhoomitrasena

Bhoomitrasena (Environment Club) was inaugurated in SBCE on 12th of July 2010 by Dr. Suneeth kumar S. M. (Principal, SBCEW). A project on beautification of the Mechanical block was under taken on this occasion.



NSS volunteers handing over a donation collected for destitute children to Prof. B. Vijayakumar (Professor in Charge of Principal)

News from SBCEW

Onam Celebration

ONAM was celebrated in SBCEW on 20th August 2010 with full fervour and enthusiasm. Traditional Flower Rangoli, Cultural programmes and common 'Valla Sadya' Lunch were arranged.



Snapshot from Onam Celebrations at SBCEW

NSS Unit

NSS unit (No.228) has been sanctioned to SBCEW from the main office at Kalamassery. Ms. K. Smitha (AP-CE) took charge as the NSS Officer.

Freshers' Day

Freshers' Day at SBCEW was celebrated with full zeal and vigour with a series of cultural programmes on 19th August 2010.

Paper Presentations

Mr. Vinod V (Lecturer-BS, SBCEW) presented a paper titled 'Structural and Di-Electric Studies on Nano Crystalline $MgFe_2O_4$ synthesized via Spray Pyrolysis', at the International Conference on Nano Technology held at K.S.Rangaswamy College of Technology, Erode from 13th to 16th December 2010.

Music & Cultural Club

The Music & Cultural Club of SBCEW was inaugurated by Dr. S.M. Suneeth Kumar (Principal, SBCEW) with a classical flute recital on 20th November 2010.

Table Tennis Facility

The new Table Tennis Facility in SBCEW was inaugurated by Mr. Yatheesh (Treasurer, SBCEW) on 25th November, 2010.



Mr. Yatheesh inaugurating the TT facility at SBCEW

Personality Development programme

A Motivation cum Counseling Lecture by Dr.C. N. Somarajan (a specialist in this aspect) was arranged by the Management on 9th November, 2010 exclusively for the 1st year students.

Guest motivation lecture on 'Studies and Communication Skill' by Dr. Ruble Raj (Principal, Marian College, Kuttikanam) was arranged by the Management on 13th December 2010.



Dr. C. N. Somarajan interacting with students of SBCEW

Bhoomithra Club

The Bhoomithra Club of SBCEW has undertaken plantation of saplings and general Campus cleaning works.

Campus Active Programme

Campus Active Programme has been introduced to improve communication skills for personality-development through group discussion and seminars along with some extracurricular activities. For this an evening time table has been put up.

Buddholsavam 2010

BUDDHOLSAVAM (Annual function of the Sree Buddha institutions) was hosted this year at Sree Buddha College of Engineering, Pattoor on 21st October, 2010. BUDDHOLSAVAM-2010 was inaugurated by Mr. Thushar R. (Idea Star Singer fame). More than 200 students from Sree Buddha College of Engineering Pattoor, Sree Buddha College of Engineering for Women Elavumthitta, Sree Buddha Central Schools of Pattoor and Karunagappally, participated in the events. Cultural programmes like patriotic songs, classical dance forms, classical music, instrumental music, fusion dance, cinematic dance etc were staged. Teachers of SBCE family also graced the occasion. Cash Prize for suggesting the name 'BODHI' for the News Letter was awarded to Mr. Rahul Sivam of ME3 during the function. Students who had scored more than 8.0GPA in the University Examinations were awarded prizes on this occasion.



Mr. Thushar (Idea Star Singer fame) inaugurating Buddholsavam 2010 at SBCE



Chairman, Prof. K. Sasikumar felicitating Mr. Thushar



The Audience



Students of SBCE performing Group Song during Buddholsavam 2010.



A Group Performance by students of SBCEW!



Bharathanatyam performance from Sree Buddha Central School, Karunagappally.



Thiruvathira being performed by students of Sree Buddha Central School, Pattoor.

Editorial Board

Chief Editor: Mr. Vaisakh G. (CE)

Editorial Board (Staff): Dr. K. I. Koshy (VP, SBCEW), Mr. Gijoy S. (ME), Mr. Manoj Narayanan (BT&BCE), Mr. Pradeep R. (BS), Mr. Sheleel F. (EEE), Mr. Jishnu (ECE), Ms. Misha Ravi (CS), Dr. Jency Blesson (BT&BCE).

Editorial Board (Student): Amjith T.R.(ME8), Amal Raj (CE6), Vishnu M. (BT6), Naveen Parameswar (EC6), Arjun S. Unnithan (CS8), Akshaya R. (EC4), Athira Haridas (CE4), Crystal Sara Shaji (BT6), Archana Ramesh (EE4), Abin A. Kumar (ME4).