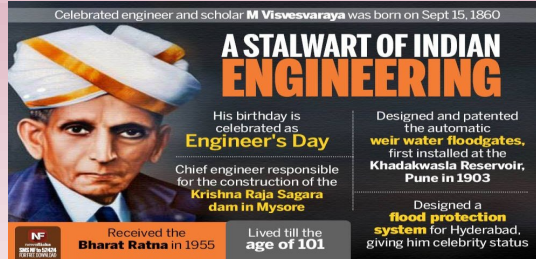


ELECTRO SYNERGY

WHY ENGINEERS DAY?

Engineer's day is celebrated in India on September 15th of the every year to commemorate the birthday of the legendary civil engineer Sir Mokshagundam Visvesvaraya

Sir M Visvesvaraya was internationally recognized for his contribution in harnessing rainwater resources in India.



SIKKIM'S FIRST GOVERNMENT ENGINEERING COLLEGE FOUNDATION LAID!

The Chief Minister of Sikkim Mr. Pawan Chamling attended the foundation stone laying ceremony of Sikkim First's Government Engineering College, Sikkim Institute of Science and Technology (SIST) at CCCT, Chisopani premises today. Also present were Area MLA cum SLA Speaker K.N. Rai, Minister HRDD R. B. Subba, Cabinet Ministers, Principal Secretary HRDD Mr. G. P. Upadhyaya, Officials, Panchayats, Students and teachers.

At the onset of the program the Chief Minister alongside dignitaries laid the foundation stone, visited the proposed site and inspected the layout and design of the upcoming SIST. Addressing, the gathering Chief Minister Pawan Chamling spoke in brief about the significance of the engineering college which will benefit the students of South and West Sikkim. Speaking about how the State Government has always emphasized on the importance of education, the Chief Minister announced that SIST is the third polytechnic college established in Sikkim.

In addition, he also shared the government's endeavour to bring about a paradigm shift in the primary level of education in the state. He urged the teachers and stakeholders of the education system to equip the students for a competitive and demanding education system of the modern world. He also stated that the introduction of a new educational institute in the area will provide various employment avenues for the youth and public alike of the surrounding areas



DEPARTMENTAL MISSION

M1: To transform young minds into productive Electrical engineers using technical knowledge and professional skills through contemporary curriculum and effective learning system with continuous evaluation.

M2: To provide student exposure to modern engineering tools and innovative projects to become globally competent Electrical engineers embedded with ethical values and leadership capabilities.

M3: To serve the people of state and nation by providing a broad and high quality education with co-curricular and extracurricular activities to students for all round development.

DEPARTMENTAL VISION

To create an institute of Global repute for providing technical ability and professional skills in the field of Electrical & Electronics Engineering

ROBOTICS

Robotics is an interdisciplinary branch of engineering and science that includes mechanical engineering, electrical engineering, computer science, and others. Robotics deals with the design, construction, operation, and use of robots, as well as computer systems for their control, sensory feedback, and information processing.

These technologies are used to develop machines that can substitute for humans. Robots can be used in any situation and for any purpose, but today many are used in dangerous environments (including bomb detection and de-activation), manufacturing processes, or where humans cannot survive. Robots can take on any form but some are made to resemble humans in appearance. This is said to help in the acceptance of a robot in certain replicative behaviours usually performed by people.

PREM GUPTA

WE WELCOME OUR NEW FACULTY MEMBERS IN CCCT FAMILY

- Yuvraj Sharma
- Dinesh Sharma
- Kalawati Sharma
- Phur Tshering Sherpa
- Pranish Pradhan
- Preeti Gupta
- Zarmit Lepcha.

TEACHER'S DAY CELEBRATION

CCCT family celebrated teacher's day on the 9th of September, 2017. The function was organized by the students wherein various performances such as group song and group dance were performed.

The program stirred great enthusiasm among the teacher's and the students as well. The beginning of the function was marked by the cake cutting ceremony and offering of khadas to all the faculty members.

The function ended on a good note.

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GRID INTERACTIVE SOLAR POWER PLANT

More recently the Ministry of Power, Government of India is giving prime importance to the capacity addition of power from the renewable sources of energy i.e., Solar power, Wind power, Small hydro power and Biomass power. The Ministry of New and Renewable Energy has fixed state wise renewable power target to be achieved by the year 2022 so that the cumulative achievement is 1,75,000MW in the renewable sector. Sikkim in particular has been given target of 36MW in solar sector. Sikkim is in nascent stage as far as generating power from the solar is concerned. Due to the topographical limitations the huge solar installation may not be possible here however the roof top solar plant in the grid interactive mode may play the pivotal role in meeting up the solar target. This study provides the feasibility study of small solar power plant in South Sikkim.

In this project a photovoltaic grid-interactive power plant with a capacity of 1kWp is designed and installed at rooftop of Mechanical workshop in a polytechnic college Centre for Computer and Communication Technology, Chisopani South Sikkim for the feasibility analysis of the small solar power plant. The installed solar power plant has a PV panel facing south direction with the site receiving an average solar radiation of 2.45kWh/m²/day during March, 2.93kWh/m²/day during April and 3.10kWh/m²/day during May. Various performance parameters of solar power plant like array yield, final yield, reference yield and performance ratio were calculated and analysed from the data retrieved on daily basis. The energy exported to the grid and efficiency of the hybrid inverter were also calculated. The actual performance results of the plant were compared with the simulation values obtained from the solar software namely PVsyst. Then the actual performance parameters were extrapolated for a year with the help of solar radiation map of Sikkim available from the Ministry of New and Renewable Energy Department, Govt. of India, website. It is found that the plant is operating close to the predicted generation of energy modelling software, giving the desired result. The monitored data and operating performance of PV system may be applied to the future bigger projects.

Ms. SHRISTHI SHRESTHA
LECTURER DEE

FRESHER'S WELCOME

Every year CCCTian's celebrates Fresher's party to welcome the new comers. This event was organised by the existing 2nd year students on 8th Of July 2017. The program started with well mannered greetings and offering of khadas. There were various activities and tasks given in order to choose Mr. and Miss Fresher's. This year Mr fresher's title was won by Mr Molen Pradhan and the Miss Fresher's by Miss Binita limbo. We would like to welcome all the freshers to the CCCT family.



INDEPENDENCE DAY CELEBRATION 2017

On the 15th of august 2k17 we celebrated 70th independence day in our college. On this day we all gathered in the assembly lawn and our principal sir hoisted national flag and after that some cultural activities were shown and also sweets were distributed to all the students. After that we dispersed and went for the final football match of our college team in Timi Tarku where our college team bagged the trophy as a runner up.



	NAME	AVG %
T O P P E R S	DRISHTY RAI (DCIE)	88
	TIKA MAYA SHARMA (DE&C)	74.13
	BIPAL KHANAL (DCST)	81.05
	ANJEELA BHUTIA (DEE)	75.55

MENTORING

Mentoring is a professional activity for helping and supporting the weaker sections of the student. Our college is implementing this new activity from this year. Mentoring includes various faculty members as a mentor, for assistance of the students. Mentoring so far has proved to be promising for the betterment of the students.



5TH DEPARTMENTAL ADVISORY MEETING



The Electrical & Electronics Engineering Department (DEE) of Centre for Computers and Communication Technology (CCCT) conducted its 5th Departmental Advisory Board Meeting. The DAB meeting was convened by Course in Charge DEE, Mr. Mukesh Kumar Sharma and were attended by Mr. Raj Jha, Sr. General Manager of IPCA laboratories as

industries representative, Mr Tshering Bhutia as parents representative, Ms. Agustina Rai as alumini representative, Pawan Kr. Chettri, Ugen Yangchen, & Sid-darth Kumar as student representative, Mrs. Shristhi Shrestha & Mr. Tashi Rapden Wangchuk as faculty representative. The meeting was conducted successfully as per the NBA requirement.

FAREWELL

"Like a rare gem Found in the depths of the earth You are one of those jewels Of whom there is a dearth Like a prized possession Always kept safe and secure Your teachings and lessons Will be in our hearts for sure"

WE WILL MISS



- ◆ Mr Moses Pradhan
- ◆ Mr Safal Chettri
- ◆ Miss Puja Pradhan
- ◆ Miss Neha Thapa
- ◆ Mr Tharmendra Chettri

"Success is achieved & maintained by those who try and keep trying"

RECENT TECHNOLOGIES USED IN PULSE DOPPLER RADAR

Starting from identifying the enemy planes to announcing early warning of a tornado or tsunami, the radar technology has been extensively used and is one of the most vital technology in the current world. Pulse Doppler radar can measure target range and velocity of both immobile and moving target almost accurately. Velocity is found out by sending the successive pulses towards the target and measuring the in-between phase difference of the returned signal from the target. In PD radar target will be detected along with strong unwanted peaks or clutter since it does not use any digital techniques to increase Signal to Noise Ratio at the receiver. It is also susceptible to jamming since no anti-jamming measures are used.

In order to enhance the features of a PD radar such as, increased SNR at the receiver multiple inputs and multiple outputs (MIMO) antennas along with digital beam forming techniques can be used.

An area for fresh research MIMO technology increases the performance of wireless communication systems at no extra cost of spectrum, only hardware complexity proliferates. The use of manifold antennas at the transmitter and receiver will result in an array gain and as well multiplexing gain.

Digital Beam forming techniques in radar results in target detection with suppressed unwanted peaks or clutter and an increased SNR but the main constraint towards implementation of DBF in Radar, Radio Frequency sensing systems, and Communication systems is its requirement of manifold transceiver modules for each antenna element. This leads to an increment in weight, size, power, and cost of the overall system.

Some works has been done, to eradicate the problem of using manifold transceiver elements by merging the features of spread spectrum techniques with DBF technique resulting in Spread Spectrum Digital Beamforming technology.

Spread Spectrum Digital Beam forming is a novel technique, being used to overcome the limitation of conventional digital beam forming by use of "one transceiver per element". This makes the SSDBF technique CSWAP (cost, size, weight and power) empowered. It uses low cost/low profile/low power DBF phased arrays. It can range to high frequencies (e.g. X, Ku, and Ka bands) and high bandwidth (e.g. hundreds of MHz to GHz). Its waveforms and parameters are agile and programmable, it can be made to support any radar or communication applications.

Ms. NIMA DONKA TAMANG
LECTURER, DEE

SANKALP SE SIDDHI

On 9th August CCCT administered The New India pledge with all students, faculty and staff. It was in line with the guidelines of MHRD and AICTE for a series of activities to commemorate 75 years of 'Quit India' movement and 70



years of Independence.

New India Pledge

Let us together pledge for a New India
Let us together pledge that by 2022 we build a New India
Let us together pledge towards a Clean India
Let us together pledge towards a Poverty Free India
Let us together pledge towards a Corruption Free India
Let us together pledge towards a Terrorism Free India
Let us together pledge towards a Communalism Free India
Let us together pledge towards a Casteism Free India
Together let us strive whole heartedly to accomplish the pledge for a new India

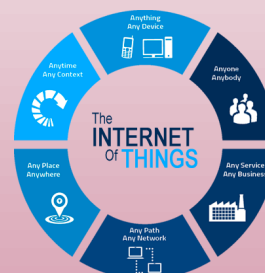
INTERVIEW WITH OUR NEW FACULTY

1. When did you join CCCT as a faculty?
A. This year (2017) on the month of August.
2. What difference did you find after you became faculty in CCCT?
A. In the first place I came to know that to earn respect we have to give respect but rather than being a faculty it was fun being student here (laugh).
3. What difficulties you find in CCCT as a faculty?
A. As I was student here before I had many friends like brothers and sisters so it was hard for me to scold them and be harsh to them whenever they were taking me for granted.
4. How about your teaching experience?
A. I came here as a teacher being an ex-student, at first it was really hard for me to face large amount of student and teach them at the same time. I also felt like it was not my cup of tea and for some days I regretted for not going for further studies. But now I have started feeling like I have been given a golden opportunity to prove myself as a student and also a teacher.
5. What change you want to see in CCCT if you get chance?
A. I prefer to change the timing system for example in the morning there should be theory classes and afternoon there should be labs/practical because after lunch it is hard for student to concentrate as their stomach is full and also the weather is hot over here.

YUVRAJ SHARMA
NEW FACULTY

IOT (INTERNET OF THINGS)

The Internet of things (IoT) is the inter-networking of physical devices, vehicles (also referred to as "connected devices" and "smart devices"), buildings, and other items embedded with electronics, software, sensors, actuators, and network connectivity which enable these objects to collect and exchange data.



PRITAM RAI

INTERVIEW WITH FRESHERS

1. How did you come to know about CCCT?
A. I was going through internet looking for different polytechnics in Sikkim where I happened to find CCCT.
2. How was your first day at CCCT?
A. First of all I loved the peaceful environment and found everyone very friendly.
3. What was the best part of Rope in programme?
A. The best part of Rope in programme was the talent hunt.
4. What rules do you like in CCCT?
A. The way assembly is conducted and the morning exercise and yes how could I forget the 5s.
5. What are the hard things you find in CCCT?
A. There is no chance for bunking classes.
6. What difference you find between school and CCCT?
A. Firstly in school there were no such laboratory where we could perform and see things practically while in CCCT there are so many labs of different fields.
7. If you get chance to change the one rule in CCCT what would be that?
A. Maintaining labtalk copy.

INTERVIEWED BY
Sumi Hangma Limboo

A hearty congratulation on achievement of Master Degree.

- **Mrs. Prerna Rai (Sr. Lecturer, DCST)**
- **Mr Shirshak Gurung (Sr. Lecturer, DCST)**
- **Mrs, Shristi Shrestha (Lecturer, DEE)**
- **Mrs Nima Donka Tamang (Lecturer, DEE)**
- **Mr. Tenzing Sherpa (Lecturer, DEE)**
- **Mr. Tshering Bhutia (Lab Instructor, DCST)**
- **Ms. Joyce Dayal Rai (Lab Instructor, DEE)**



CCCT CHISOPANI
SOUTH SIKKIM

Phone: +913595210145
E-mail: ccct.skmpoly@gmail.com

**ELECTRO SYNERGY
VOLUME 4 ISSUE 1**

SEPTEMBER
EDITION

**QUIZ COMPETITION BASED ON 75 YEARS OF QUIT INDIA
AND 75 YEARS OF INDEPENDENCE**

It was held on 11/8/17

And the winners are

1st-Debash Sharma Joyant Kumar
(DEE 5th) (DEE 3rd)

2nd-Tanam Limbu Prazwal chettri
(DCIE 3RD) (DCIE 5TH)

3RD-Chitrakala Pradhan (DCST 5th)

The quiz was conducted by Mr. Arun Pradhan.

HikingArtist.com

MAJOR UPCOMING EVENTS

- ⇒ Biswakarma Puja
- ⇒ Annual day celebration
- ⇒ Parents teacher meeting.
- ⇒ Cultural events
- ⇒ Annual fete
- ⇒ Alumni meet
- ⇒ 2nd arm



THEMES

- ◆ ROCK & ROLL
- ◆ BEAUTY & THE BEAST
- ◆ FIRE & ICE
- ◆ HOLLYWOOD
- ◆ DISCO

A Hearty congratulation to

- Mr Freshers 2k17
- Mr Molen Pradhan
- Miss Freshers 2k17
- Miss Binita limboo

EDITORIAL TEAM

TEACHERS BODY

- Mrs. Shristhi Shrestha
- Mrs. Nima Donka Tamang
- Mr Mukesh Sharma(CIC DEE)

STUDENT BODY

- Prem Prakash
- Yawan Basnet
- Summi Hangma Limboo
- Shidanth Pokhrel
- Abishek Subba

MESSAGE FROM ALUMNI

Dear Sir,

As required, below is my experience at CCCT:

I, the alumni of CCCT am among the fortunate few who had the opportunity to blossom in a cosmopolitan ambience amidst a rewarding academic environment, the comfortable life in the hostel, the warmth and care of teachers and the competitive environment at CCCT. It nurtured me to shine as leader in my chosen field.

I will remain thankful throughout my life towards unique culture like Lab Talk, PPT Presentation, File preparation and Execution of useful Projects at CCCT, which has made me much stronger, that I could establish myself as a Lead Member in corporate world.

Suman Kumar Karn
2005 Batch (EEE)
State I/C- Bihar (PowerGrid Projects)
RS Group

I am thankful for providing such great opportunity.

"DO THE BEST UNTIL YOU KNOW BETTER. THEN WHEN YOU KNOW BETTER, DO BETTER."