



His Majesty The King Jigme Khesar Namgyel Wangchuck with Jigme Namgyel Engineering College graduates during the 14th Convocation Ceremony, held on 24th May, 2019 at Royal Institute of Management, Thimphu.

Picture courtesy : Royal Office For Media

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ETIC2019 - An International Conference

Academic Development

The 1st International Conference on Emerging Technologies of Information and Communications (ETIC) was held at Jigme Namgyel Engineering College (JNEC) on 8th-10th March, 2019. The conference was organized by JNEC in collaboration with Tomsk Polytechnic University (TPU), Russia under the flagship of knowledge transfer project, themed “East-West: Connected World”.

The conference coincided with the commemoration of 39th Birth Anniversary of His Majesty the King and the 45th Foundation Day of the College. The event created a moment to rejoice the journey taken by JNEC, the then, Royal Bhutan Polytechnic and Jigme Namgyel Polytechnic in producing skilled and responsible workforce for socio-economic development of country since 1974.

His Excellency Minister, Karma Donnen Wangdi, Ministry of Information and Communication, graced the conference. In his address, he mentioned that, information and communication technology is a priority area of the government and plays a major role in realizing the development goals of the Nation. Further, he emphasized the importance of industry-academia relationship.

Dr. Andu Dukpa, the President of JNEC in his welcome address, thanked Hon’ble Lyonpo for his gracious presence in the event and welcomed all the participants to the conference.



ETIC2019 participants with the Guest of Honor.

He acknowledged TPU and other stakeholders for their trust and faith in JNEC and expressed good wishes that the event would pave way for future collaboration among the representatives from various academic institutions and industries across the globe.

General Co-Chair of ETIC2019, Prof. Dushantha Nalin K. Jayakody, TPU shared that the conference was a result of successful completion of knowledge transfer conference initiated two years ago. In his talk he shared the significance of such events in promotion of research-based learning and teaching in higher education.

Keynote Speaker Prof. Alister Graham Burr from the University of York, United Kingdom addressed the conference on “Where Next for Wireless? Reflections on the future of the

physical layer in wireless networks”. On the second day, Prof. Walid Saad from Virginia Tech, USA presented on “Ultra reliable low latency communication for beyond 5G networks: model-free deep learning and autonomous vehicle control” followed by keynote address on “Managing IT for GNH” by Mr. Jigme Tenzing, Director, Department of Information Technology and Telecom, MoIC through Skype.

A tutorial on “5G and IoT Wireless Technologies: Key drivers for the development of smart cities and communities in the new industry 4.0 Era” was conducted by Prof. Sofiene Affes of Institut National de la Recherche Scientifique Centre Énergie Matériaux et Télécommunications, Canada and Steering Committee of ETIC 2019 and also

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Development & Campus Stories

CLEES - A Research Center of Excellence

Jigme Namgyel Engineering College (JNEC), Dewathang had received an European Union Grant (Erasmus+) for a project titled 'Promoting Energy Efficient Lighting Education in Nepal and Bhutan (ELNAB)' along with partner universities from Europe and Nepal in 2016. Some of the visible outcomes of the project are: establishment of Lighting Laboratory in the Department of Electrical Engineering (with Goniophotometer, Integrating Sphere, Illuminance meter and Spot Luminance meter), development of modules on Illumination Engineering and incorporating the same in Diploma in Electrical Engineering and B E in Power Engineering programmes. It also includes capacity development of faculty in Energy Efficient lighting and establishment of the Lighting Laboratory at the college, in the research center: 'Centre for Lighting and Energy Efficiency Studies (CLEES)'. The Lighting Laboratory is one of the state of art Lighting Laboratory in the country. A series of academic and scholarly activities can be conducted with this laboratory in the field of lighting and illumination engineering. The CLEES is working closely with academics and stakeholders to promote energy efficient lighting.

On 26th March 2019, a team of three engineers from Research and Development Division, Department of Renewable Energy (DRE), MoEA visited the laboratory to study the conditions of the LED lamps available in the local market to assess their reliability. The DRE has been making series of attempts to promote and support the energy efficient lighting in the country. The team along with the members of CLEES carried out a series of test, to compare the efficiency of different lamps available in the campus and the local market.

The team also discussed on the range of projects related to energy efficient studies that were carried out by the students of Department of Electrical Engineering and the possibility to carry out joint studies in the related areas.

The officials shared that the OJT and Internship students from JNEC had left an impressive impact while undergoing their OJT/Internship with DRE and committed to support such initiatives in future.

The college has signed a Memorandum of Understanding with the DRE in 2018 and JNEC is committed to provide the necessary support to DRE in energy efficient studies through CLEES.

Since the establishment of the CLEES in August 2018, it has initiated to conduct studies related to efficient utilization of energy as a part of students' project. Some of the project works carried out by students in this area are:

- Energy Auditing and Management



Lighting Laboratory.

(a case study at S D Ferro Silicon Factory, Motanga, SJ)

- Design and Installation of Street Lighting using LED lamps around students hostel and mess.
- Study of Energy Efficient and Energy Star Rated Power Appliances at JNEC Campus
- Designing of Proper Illumination and Energy Efficient Street Lighting
- Energy performance evaluation of new academic building, JNEC.
- Efficient illumination design - a case study of JNEC.
- Analysis on quality assurance of lighting appliances.

The center has a plan to measure and verify the luminance of different types of lamps available in the local market with their nameplate specification or standard specifications. It also has a plan to create awareness on availability of the energy efficient lighting and other household appliances to the local community by sharing the outcome of the project works. The center will also conduct research and projects in the energy efficient applications, collaborative and joint research projects with other agencies and continue organizing workshops and seminars on the related field.

The ELNAB project which started from 2016 has been completed on January 2019 by hosting the final result dissemination seminar in Bhutan.



ELNAB closing ceremony.

JNEC on Air by Mid 2019

Jigme Namgyel Engineering College with the funding support from the Department of Information and Media (DoIM), Ministry of Information and Communication (MoIC), is in pursuit of establishing a community radio station in the college.

An agreement to this effect was signed between DoIM (MoIC) represented by Ms. Monira A.Y. Tsewang, Chief Information and Media Officer and Dr. Andu Dukpa, President of JNEC on March 15, 2019.

Two faculty and one technician from Department of Electronics and Communication Engineering have undergone training on 'Capacity development and hands-on training



Signing of the Agreement between DoIM and JNEC.

on Radio equipment of Community Radio.' This training was organized by MoIC and resourced by faculty of College of Science and Technology (CST). Upon completion of the training, these personnel will be handling the JNEC Radio Station.

A community FM radio serves to cater local communities, even in a scattered settlement, with services of audio for education and entertainment. Further the community radio will provide a platform for interaction and information exchange,

reviving the culture of information exchange and entertainment.

By 2019, the JNEC FM station will be operational and maintained by students and staff. The radio station would be an epicenter for hobbyists, singers, *cont. page 3*

JNEC in Air by Mid 2019

comedians and entertainers to broadcast their talents to fellow students and community of Dewathang. The college envisions to converge local communities over informational talks on health advocacy, entertainment, hold discussion forum on social aspects and entrepreneurship.

In addition the station also aims to unearth historical aspects and present it to the generation of today by inviting veterans and locals to share significant oral folklores, music and songs; precious and opulent to the locality.

The college is working towards the establishment of the station in close consultation with BICMA (Bhutan Infocomm and Media Authority). The

college wishes to engage students in meaningful learning with hands-on practice of handling FM station and preparing programs to keep its community connected, informed and educated, through its structured programme and social initiatives.

Consecration of College Lhakhang and Talk on Mindfulness

The College was graced with the visit of His Eminence Dzongsar Jamyang Khyentse Rinpoche on 5th, April, 2019. It was a great honor for the college to receive His Eminence to consecrate the newly built College Lhakhang, which is housed in one section of the Lecture Theatre. It is also a privilege to mention here that the statues in the Lhakhang were sponsored by the college staff, students, alumina and the well wishers. On the occasion, His Eminence offered his prayers for the College and all sentient beings. The consecration ceremony was followed by a teaching on 'mindfulness' to the entire JNEC family and attendees from the community, including teachers from the nearby schools, in the multipurpose hall of the College.

Rinpoche highlighted that Buddhist do not

Rinpoche made the audience to retrospect the past and made everyone realize that the sufferings that people experienced centuries ago, such as war, plague and famine have drastically gone down. The technological development has provided comfort and people lead a comfortable life, yet sufferings in the world still exist. Despite the availability of advanced medical facilities, abundance of food, yet people are found to be suffering. People have excess of everything including the sufferings. In the current era the sufferings are not due to lack of facilities but it is all due to 'identity'. "The significant challenge that youth faces today in the 21st century is identity crisis" said Rinpoche. He said that young people do not know who they are and that is why the 2500 years old Buddhist

searching for their own identity. The session filled with humor on a serious note made attendees realize their purpose in life, especially youths.

With clear instructions to practice mindfulness, a 2 minutes practice of mindfulness was guided by His Eminence

The College is grateful to His Eminence for the blessings and teachings. This was an unforgettable opportunity for everyone present for His audience. The College would like thank His Eminence for providing his precious time to JNEC and also for the alumni and all well wishers for their generous contributions and support which made it possible for consecration on the day.



Consecration of newly established College Lhakhang by His Eminence.

do mindfulness to be happy, successful or to be healthy. None of these are our ultimate aim, he said. So why do we do mindfulness? The ultimate aim for Buddhist to practice mindfulness is to 'understand the truth' said Rinpoche.

Rinpoche shared, "If you do not understand the truth, no matter how relaxed you are, how not-stressed you are, how balanced you are, it does not matter. You are an ignorant being. You are a delusion(ed) being. What we need is to understand the truth. The moment you know the truth, then you are liberated, nirvana".

teaching is becoming more relevant now.

Rinpoche expressed that young minds are struggling to find their own identity, instead of chasing their dream they are forced to live up to their parents' dream and expectations. In fact, "you should do what you would like to do, but you should be critical" he advised. He shared that being mindful has become vital since most people today are struggling and



Hon'ble Consul General of India visits JNEC

Mr. Ashish Middha, The Hon'ble Consul General of India based in Phuentsholing (Bhutan) visited the college on 14th June, 2019.

The Hon'ble Consul General met with Dr. Andu Dukpa, the President of JNEC and discussed on various subjects. Dr. Andu Dukpa thanked the Hon'ble Consul General for the support JNEC has been receiving from the Government of India through the Royal Government of Bhutan. Discussions also included the possibility of enrolling students from India in the college and visiting faculty members for teaching assignments. The Hon'ble Consul General gifted few important books on the theme 'Bharat Ek Parichay' to the college.



Hon'ble Consul General with President of the College.

Bhutanese Etiquette and its Perception in Modern Time across diverse communities.

Lopen Kencho Wangmo, with her subject specialization in Driglam Namzha and Lopen Jurney Tshering conducted practical sessions on Bhutanese etiquette to the students and staff of Jigme Namgyel Engineering College (JNEC) on 6th May 2019.

Lopen Kencho writes:

Let me describe Bhutanese Etiquette in the level of my understanding; in fact, it is a very simple code of conduct done in most appropriate way in everyday life, respecting all existing lives on the earth. According to Phuntsho (2015), "Driglam Namzha: Bhutan's Code of Etiquette. Driglam namzha is often described as Bhutan's code of etiquette. Drig (འདྲིག་) denotes order, norm and conformity. Thus, driglam literally means the way (ལམ་) of having order and conformity while namzha (འདྲིག་ལམ་) refers to a concept or system". It is the integrity of all grades, taking one path in building happiness within and to others. Following these etiquette rooted in the valued tradition of the country, it will ensure in creating the sense of one nation and one people

The session emphasized on general awareness of Bhutanese etiquette followed by practical session for all the students of JNEC. The need for such programme was felt in the wake of rapid modernization in the country. Now, it is visible that culture of varied nature are found encroaching within societies in the country, undermining the practices of existing tradition and culture especially among the younger generation. Although the practices of Bhutanese etiquette is evident, it is often overlooked in realizing the essence of values it entail.

JNEC, like in any other academic institution grooms and prepares student coming from across the country in various aspects aside their regular study. The College is therefore found appropriate institution to educate students at large on the valuable Bhutanese tradition that is a driving force towards preserving and promoting Driglam Namzha as a part of Bhutanese culture. For instance, in an academic institution like JNEC, there are many events

and functions that are carried out to the national level where the practices of Bhutanese etiquette is very much applicable from making necessary preparation for grand events to welcoming dignitaries and entertaining guests. Even within the norms of carrying out daily works, staff and student balance their rapport based on the integrity, respect and moral values as an ethical priority.

During the session, students and staff were introduced to the root meaning and importance of Bhutanese etiquette, Driglam Namzha, Tha Damtshig, Zha Cha Dro Sum, and Cha Wa Choed Lug. In the entire session, training covered various practical demonstration and practices from the very basic level of eating meals, offering scarf (Kha Dhar), wearing Kabney & Rachu, manners of conversing, walking and sitting to the level of handling various items during the occasion of grand events. The session also observed that students are knowledgeable and informed on background on the Bhutanese etiquette, however they seriously lack in the practical aspects that are to do with conduct. The student participants also showed

their interest while learning practically. Through the observation and experience from the session, such program is found instrumental in further strengthening the conducts of Bhutanese etiquette as a part of national culture and identity. Therefore, the team of two Dzongkha language professionals will seek additional support in future to continue such invaluable program for students as well as staff.



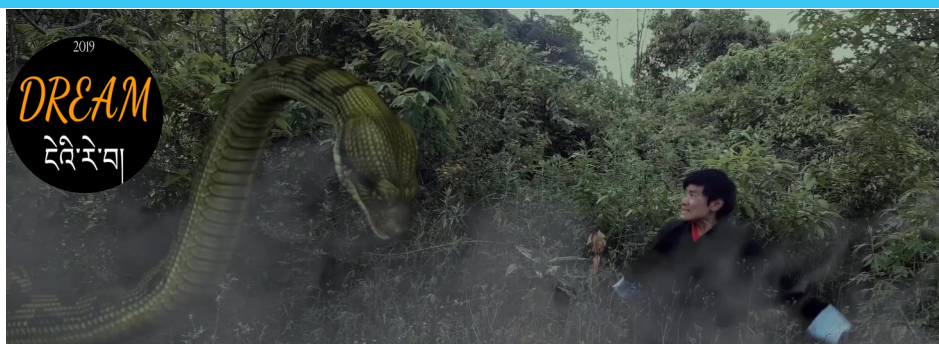
Practical session on Bhutanese etiquette.

Student Activities for Digital and Media Learning

The JNEC Media Club is actively involved in creative and innovative work in digital literacy and media publication. The objectives of the clubs are in line with the concern shared by His Majesty The King in his address to the graduates during the 14th Convocation of the Royal University of Bhutan (RUB):

“...We also hear about dramatic changes brought about by technological advancements, growth of e-commerce, expansion of social media and the immense power of search engines. It is estimated that in 2018 alone consumers spent more than US \$2.8 Trillion in online sales and a single social media platform like Facebook has 2.5 billion active users. The question I have is how are we able to leverage technology for education; job creation; good governance; effective, timely and efficient delivery of services to our people; private sector development and growth; for accountability and transparency? In addition, there are emerging new developments such as Artificial Intelligence, Quantum Computing, Blockchain, Machine Learning, Big Data, IOT (the Internet of Things), Virtual Reality and Augmented Reality, etc. These technologies excite me as they present immense opportunities for the future. Among the many countries in the world, those which prepare for this change and build the foundations to take advantage of such technological advancements will prosper and develop. Those which are not able to do so will invariably be left behind. As a small country, unencumbered by the complexities faced by much larger countries, we can do things faster and better than others. Our institutions can be smart, flexible, responsive, dynamic and efficient.”

JNEC Media Club prepares students to be well equipped for digital world through various activities organized every semester to develop creativity and innovation in the field of digital media and entertainment. With



The short film 'Dream - The Rewa' won Best Movie Award, 2019.

the technological advancements, human lives shall be dominated by digital media and entertainment for which efforts has to be made to equip ourselves to overcome the challenges.

For the first time, the Club organized 'JNEC Talent show' on 1st April, 2019 with the objective to let young minds showcase their talents and build up their confidence in public entertainment activities. Mr. Yonten Jamtsho, a solo flute player, who blended various musical tunes breathlessly, capped the title "The Winner of the Talent show". A group of colorful dancers with unique western dance in Bhutanese song bagged second position followed by Ms. Kinley Wangmo, in third position, with her soothing voice melting the hearts of audience.

The Club also conducted their third film making competition with the theme 'Resilience'. The main objective of the Short film making competition was to enhance students' creativity and innovation in digital media and tap the opportunity of the emerging technology and freely available social media apps to explore one's talent and find gainful engagement.

A making of short film is one platform for students to explore diverse video making applications that they can use not only to make film but also spread ideas. In fact technology in the form of art portrays the world we live in and change that is required.

Through this theme, it portrays the ability of youth to withstand the challenges they face and proactive measures to overcome it. Many a times, we have seen that youth experiences substance abuse, social violence, domestic violence and unemployment issues making

them conditioned to such issues at their age. Through this short film, themed 'Resilience', youth will actually realize their own potential to withstand the problems they face and ultimately make them a proactive citizen of the nation. Most of the time, the short films are made based on the issues related to youth imparting valuable message to the audience.



The short film 'Nordhen' was awarded with Audience Choice Award 2019.

Thus, such activities are organized in order to familiarize young learners in the field of emerging technology. Most of the youths these days are found using various gadgets which may lead to several challenges without such program in the college.

In the short film contest, film titled 'Nordhen' won the heart of audience as it portrays the lives of a young boy and dumb brother who belongs to farming background and despite all challenges they face, both of them have the power to withstand and fulfil their dream to be promising 'Somebody'.

The Club recognize participants and awarded winning trophies and certificates. The Club aspires to organize such events with the financial support from the relevant stakeholders in future.



Talent Hunt Contestants.

Community Services

Helping Hand for Community

Jigme Namgyel Engineering College (JNEC) is the only tertiary institute in the south-east region of the country. The college aims to provide holistic education, embedded with technical skills and GNH values. With the composition of technical, management and Information & technology expertise, the College helps the communities in the vicinity to live an easier life and aspire to implement GNH into practice.

John Holt in his magazine article: Growing without Schooling (1984), rightly stated, “learning is not the product of teaching; learning is the activity of learners.” Similarly, JNEC believes in producing students not only with education but with values; values which will serve the true purpose of being good human being. With this vision, JNEC had officially established the Helping Hand Club



Beneficiaries of Helping Hand - Rikhey Community School.

eight years ago.

The objective of the Club is to help financially or physically disadvantaged individuals in and around the community with financial aid, school accessories such as uniforms and stationery. To fulfill the objective of the Club, members visited two schools namely Dewathang Primary school and Rekhey Community School on 6th and 8th May, 2019 to provide stationaries to school going children who are financially deprived. In consultation with the Principals from two schools, 18 students were identified as recipients of support from The Helping Hand Club.

These identified students were mostly brought up by single parent with limited annual income, some were orphan and few belongs to large family with financial disadvantage background. This year the club provided stationery umbrella, school slippers and school bags. This small initiative is expected

Beneficiaries of Helping Hand - Dewathang Primary School.



to motivate them in the endeavor of educating themselves.

One of the members of the club who went to distribute stationery shared that the cheerful faces of those children was self-awakening moment. The member opportunely shared saying, “I realized the importance of love, compassion, contribution and empathy”.

His Majesty The 5th King of Bhutan during his visit to Keio University, Japan said “As citizen of the world, our unifying force -our strength must also come from something that is not bound by nation, ethnicity or religion-but from fundamental human values. Values of Compassion, Integrity and Justice.” The club aspires to extend its support to wider communities to benefit the most needy students as well as the communities.

Using Expertise to Provide Community Services

A team comprising of three faculty and 24 students from Diploma in Computer System and Network, visited Dungsam Academy and Samdrup Jongkhar General Hospital to provide community services.

The team provided maintenance related services such as formatting the computer systems and installing new operating system, office packages and antivirus software. In addition few computers that required extended

maintenance were brought back to college due to lack of resources and tools.

Dungsam Academy and Samdrup Jongkhar General Hospital expressed their appreciation to the College and the team for carrying out such initiative. They shared that this was much needed help for them and such services had saved financial resources of their organization. They also shared that it's one of the pro-active measure an academic institute can do to the community. They would welcome to receive such services in future which will mutually



PC maintenance service by CSN students.

benefit students with hands-on learning experiences.

ETIC2019 - An International Conference

a tutorial on “Multiple Drone vision and communications for media production” was presented by Prof. Ioannis Pitas, University of Thessaloniki, Greece.

The Conference also provided workshops on “Simulation of wireless systems using MATLAB+Simulink” by Prof. Nikhil Sharma and his team from LNM Institute of Information Technology (LNMIIT), Jaipur, India and a session on “Reconnect to your network, reformat your mainframe” by Ms. Nancy Abraham from the Texas A&M University,

Qatar.

A total of 21 research papers were presented under the main track of ‘Emerging Technologies of Information and Communications’ and another 15 research papers were on the application of ICT and recent trends in Energy and Power systems. ETIC received international participants from USA, UK, Canada, Australia, Sri Lanka, India, Serbia, Pakistan and Greece while national participants were mostly academics and researchers from corporates and colleges. The highlights of interaction among the participants were particularly in emerging technologies such as 5G and IoT.

The organizers of ETIC remain committed in conducting such events in the near future. ETIC Board of Governance comprising of Dr. Andu Dukpa, President, JNEC, Professor Dushantha Nalin K. Jayakody and Professor Sofiene Affes discussed on organizing 2nd International Conference at JNEC in 2020. The conference will include all engineering fields to provide equal opportunities for researchers and academics.

Workshops & Seminars

Seminar on Bridge Engineering through CAMBRIDGE Project

As a platform to build knowledge and skills of faculty and students specifically for Civil Engineering and Surveying Department, a seminar on the Bridge Engineering was organized on 23rd March, 2019 in Jigme Namgyel Engineering College. The seminar was a part of CAMBRIDGE (Construction and maintenance of bridges) Project associated to construction and maintenance of bridges under the JICA Grant Aid Programs for capacity development of engineers under Department of Roads, Ministry of Work and Human Settlement [MoWHS].

The sessions were resourced by the project experts and engineers under Bridge Division from MoWHS. The session covered significant aspects of bridge infrastructure and development both in Bhutan and Japan. The seminar, emphasizing on the Bridge Engineering, was expected to provide productive learning platform for students

besides classroom learning.

This project also aimed to develop comprehensive Bridge Maintenance Manuals for bridge inspection and diagnosis, repair and maintenance. In addition, the session also looked into developing field check list for quality and safety of bridge construction and

development Bridge Management System (BMS) for systematic budgeting of bridge maintenance works.

Upon successful completion of the seminar, Department of Roads aspires to collaborate with JNEC and assured to organize similar programmes in the future to benefit the College.



Experts and participants of the seminar.

Road to Future Entrepreneurs

Entrepreneurship is seen as one of the scopes that will create platform for young graduates as well as students to showcase their business ideas and innovation that will contribute towards the socio-economic development of the country.

In an effort to encourage entrepreneurship culture, startup activities are the appropriate platform. Business Idea Pitching event was held in Jigme Namgyel Engineering College on 29th - 31st March 2019 by the Department of IT and Telecom, Ministry of Information and Communication (MoIC) in collaboration with Thimphu Techpark. The officials from MoIC resourced the student in pitching their business ideas. Series of activities in group were held to guide and support students' ideas, built creative aptitude and make prototype as an advance preparation under the guidance of mentors. There were fifty different ideas being pitched by student participants. The event started with brief one minute pitching of the same idea followed by voting of the pitched ideas. Team building task and idea development were mentored by selected faculty in preparation for the final event. Vice Chancellor of Royal University of Bhutan graced the final pitching programme in the campus. The prizes were awarded to top 5 ideas and a total of 25 business ideas that were selected, progressed to participate in the National Techstars Startup Weekend in Thimphu.

The National Techstars Startup Weekend which was held in Thimphu from 25th to 28th April 2019 covered the themes of Internet of Things (IoT), Augmented Reality/Virtual Reality, HealthTech,

FinTech and EduTech. The program was graced by Hon'ble Minister Jai Bir Rai; Ministry of Education as the Chief Guest. During the event, student participants were given a training on design thinking followed by inspirational talks from young and successful entrepreneurs of the country. Participants were also resourced by experienced mentors of Techstars team from Malaysia and India.

In progression of the event, students were divided into two groups and they pitched their ideas in the presence of other participants, facilitators and mentors. Out of 180 ideas proposed by participants from different colleges, 30 best ideas then were selected through voting. Among the thirty selected ideas, four ideas which includes Aquaponic Farming, Semi-Automatic Paddy Trans-planter, Automatic Cloth Collector and Online Vegetable Marketing App were from JNEC.

Student participants whose ideas were not selected had an opportunity to join winning teams to participate further in the competition. Two members from each team were then sent to study the market feasibility of the idea on the third day while the rest of the members were engaged in completing the prototype and other additional works. The program for the day came to an end with yet another selection process where 15 ideas were selected from 30 shortlisted ideas for final competition. Only two ideas, Semi-automatic paddy trans-planter and online vegetable marketing app from JNEC were shortlisted for final round of competition.

The final day of the event was graced by His Excellency Lyoentchen Dr. Lotey Tshering, where all 15 competing teams presented their ideas. Winners from the final presentation were awarded prizes and assured the support to transform their ideas into reality.



JNEC students during Start-up Weekend.

JNEC participates in National STEM Olympiad 2019

Seven students from Jigme Namgyel Engineering college participated in National STEM (Science, Technology, Engineering and Maths) Olympiad 2019. The Olympiad was held in Mongar Middle Secondary School from 29th to 31st May, 2019 with the theme 'Artificial Intelligence for Sustainable Farming'. The event was organized by Royal Education Council in collaboration with Fablab Bhutan



JNEC students at National STEM Olympiad.

His Excellency, Minister of Education graced the event. In his speech, he highlighted on the significant role of science and technology and reminded participants on the importance of taking part in such events. A total of 16 schools and one college took part in the competition where they exhibited their prototype. Participants from JNEC, presented Smart Solar Farming with the use of Artificial Intelligence Technique, Smart Greenhouse, Automated Aquaponics for Sustainable Farming and Online Vegetables Marketing App. The event saw presence of policy makers, educators, sector

Heads, parents and local communities.

A wide range of edutainment were also organized to inspire and create awareness on STEM. The main objective of the event was to provide a platform for teachers and



students to showcase their scholarly works and recognize the contributions made by STEM in solving contemporary issues. The event also provided opportunities for students to experience hands-on applications through collaboration and discussion to enhance innovative and creative ideas in solving real world problems.

The program concluded with award ceremony instilling positive outlook towards science and technology.

Workshop on Tax/Custom Awareness

Conducting tax/customs awareness workshop has been one of the prime responsibilities of the Department of Revenue and Custom, Regional Office, Samdrup Jongkhar. It is considered to be one of the most important mandate to promote awareness of tax/customs among general public and more importantly to potential tax payers, businessman and corporate houses.

Such awareness program takes different aspects considering the need of the client, time, situation and directives from department and government. As Bhutan intends to transit or graduate from least developing countries, the revenue from internal sources ought to improve. Revenue generation for past decade has not been productively high and its contribution to GDP has not been up to the mark though in general collection of revenue has improved significantly. Against such set back, there has been consistent directives from the Department and Ministry to improve revenue performances by reaching advocacy program which is why

the department has shifted to primordial method to improve compliance or institute tax paying culture through advocacy program.

Jigme Namgyel Engineering College being one of the tertiary educations whose thirst is to provide wholesome education along with awareness of National Policies, Rules and Regulation, so that students are content with the necessary knowledge to join the work force. With the support of the Regional Office of Revenue and Custom, Samdrup Jongkhar a workshop on; Tax/Custom Awareness, was held on 11th May 2019. The event was attended by final year students, faculty and staff. Such workshops are intended exclusively to educate youths in general and school and college students in particular. This workshop has been conducted for final year student considering the important roles they will play in the market of employment and entrepreneurship once they graduate from the college. With support of such relevant office, the college will always strive to educate students at regular intervals on such subjects so that their performance in job market



RRCO Officials conducting the awareness program.

will be more productive.

The workshop was detailed in customs module, Tax module and RAMIS (Revenue Administration Management Information System) module with four resource speakers from RRCO office. Mr. Dechen Wangdi (Deputy Collector of Customs) and Mr. Sonam Wangchuk (Assistant Collector of Customs) detailed in Customs module and Mr. Pema Jamtsho (Deputy Collector of Tax) and Mr. Rinchen Dorji (Sr. Tax Inspector) detailed in Tax module and RAMIS Module during the workshop.

“Let yourself be open and life will be easier. A spoon of salt in a glass of water makes the water undrinkable. A spoon of salt in a lake is almost unnoticed.” -The Buddha

“The Significant problems we face cannot be solved at the same level of thinking we were at when we create them” - Albert Einstein

“Education is for improving the lives of others and for leaving your community and world better than you found it.” -Marian Wright Edelman

“QUOTES”

Problem Based Learning- an insight from young academician

If we teach today's students as we taught yesterday's, we rob them of tomorrow.

- John Dewey



South Asia

The EU (European Union) project; Problem Based Learning (PBL), is first of its kind in Royal University of Bhutan, brought home by Jigme Namgyel Engineering College. The project is aimed to provide a framework to develop work-life skills for 21st century education, with the attitude towards community service, wrapped in sustainable innovative context.

The concept of PBL is one such teaching pedagogy which integrates classroom concepts and creativity to drive meaningful human-centric learning with the focus to encourage

work. Meanwhile in BPL concept, the problem is introduced by a guide, while the initiative and innovation to the solution comes from the students. The solution design is a brainchild of their creativity, combination and application of concepts, knowledge and experience. The PBL suits ideas to benefit learning and engagement of local communities, that can as well fit in the entrepreneurial canvas.

A progressive society runs on the wheel of



The First Kick off workshop for the PBL project, Aalto University, Finland.

multidisciplinary student engagement and local community for wholesome learning. The concepts of PBL applies to wide spectrum and discipline of teaching-learning, in the learners of all age groups. The motivation to PBL comes from identifying a problem and designing its solutions in divergent ways and engaging students of diverse disciplines to bring a culture of team work.

This concept differs entirely from the current practice of project-based learning. Where, in project-based learning, a teacher or guide gives alternate solutions and methodologies to accomplish a goal and checks the progress of the

scholars and teachers who are adaptive to new methodologies and tools of learning. The classroom setting and environment that is provided generally, caters to deliver fundamentals and theory associated, while the backbone of any concept stands from putting it to practice.

As an educator, it is essential to ignite passion and fire of innovation, creativity and motivation towards one's work. In a PBL concept, the solution possibility and design come from students, the team has accountability and ownership of the problem and its solution. This sense of belongingness drives intrinsic

motivation to design human centric solutions, which withstands the test of sustainability and innovation. Meaningful engagement of the community to provide public- student partnership is an element of PBL, that ensures the passage of this concept and manifestation of work.

The college has been encouraging students to lean towards PBL, than project-based learning. The students have also put forward their ideas in the form of exhibitions, working with local CSO; Samdrup Jongkhar Initiative (SJI) in building low cost housing, prototyping sand water filters and many innovative ideas. The college feels fortunate to have an avenue to practice problem-based tasks and put creativity, sustainability, innovation and impact in a single platter.

Innovation can come from creativity, and creativity comes from liberty to perform tasks on one's ideas. The introduction of PBL concept has been a boon to the college, and has been an eye-opening experience to find its place and location into the curriculum. This tool of teaching- learning enables a teacher to motivate and converge students towards the purpose of learning. Students can creatively frame solutions to given problems, engage themselves in design thinking in a team and make an impactful deliverable, with the application of PBL concepts. It's a process of transforming education system to suit the modern needs, with constant emphasis on independent and smart learning, with the principles and values of Gross National Happiness.

An inhouse workshop on introduction of PBL and its application in higher education institution was conducted by Dr. Andu Dukpa, Ms. Srijana Gajmer and Ms. Tandin Zangmo on 8th May, 2019, for faculty and technicians. A total of 60 participants took part and contributed suggestions of probable PBL ideas in their departments.



PBL faculty workshop in JNEC.

International
Linkages
&
Exchange
Programs

Seminar Presentation on Road Safety by Professor Robert Ziolkowski

A seminar on traffic safety was held in Jigme Namgyel Engineering College (JNEC) on 18th March, 2019 by Prof. Robert Ziolkowski from Bialystok University of Technology (BUT), Poland. The session included the traffic safety measures, the reasons to traffic hazards and comparison on how Bhutan is no different from Poland in terms of traffic safety issues. Many other traffic related issues, studies and solution were presented to the students of final year Diploma in Civil Engineering.

The seminar shared significant aspects of traffic safety engineering and research techniques. To the astonishment, the Prof. Robert had reviewed the traffic conditions in Bhutan through the findings of Road Safety and Transport Authority (RSTA). Regarding the traffic condition in Bhutan, the Professor noticed a decline of road

accidents by 40% due to improved traffic safety as reflected in in report, 'Decade of Road Safety Improvement (2011-2020)'.

The presentation shared major factors influencing traffic safety, which includes weather condition, personal characteristics, topographic condition, traffic supervisor, traffic intensity, traffic infrastructure, parking space and rescue services. The Professor highlighted about how human factor is included in improving the traffic safety. In Poland, the traffic safety authority includes human factor for safety, such as sharpness of sight, area of observation, visual accuracy and visual adaptation. To further supplement on road safety Professor said, "Attention, is an ability to concentrate on what happens upon hearing, age and tiredness.", which clearly shares significance of attention for all the traffic users.

Students pursuing Diploma in Civil Engineering studies 'Highway Engineering' as one of the module in their course. Thus, the seminar assisted them to learn the responsibility for

an engineer to enforce the road safety. In the discussion between student and Professor, they could understand the practical influence of traffic characteristics such as traffic intensity, traffic structure, trips and speed on road safety.

Professor also shared the historical data on development of traffic and road safety in Poland. He narrated that there was a record of 7,901 death casualty due to lack of proper traffic safety in 1991. Then in 1994, a project called, GAMBIT was launched. The target of the project was to reduce the number of deaths by 50% in 10-year time period. For the development of GAMBIT project, various universities and researchers were involved to find solutions to road safety measures. The study was carried out by Transport Research Center AYV of the Dutch Ministry.

The seminar turned out to be enlightening for faculty and students. It highlighted on the basic traffic engineering and its safety measures, inspiring young engineers to conduct research on road safety.



International guest from Bialystok University of Technology (BUT), Poland.

1st Batch of BE Power Engineering to join the workforce

Jigme Namgyel Engineering College introduced its first Bachelors degree in Power Engineer in 2015. After four years of its inception, this June 2019, 23 BE Power Engineering graduates are expected to join job market with their technical expertise in power (mostly Hydro Power) and energy. The four years programme which is very specific have shaped enthusiastic individuals in theoretical, practical and design aspects of establishing and estimating, commissioning and operating, troubleshooting and enhancing the outcomes of a hydropower stations and explore other renewable opportunities in the country.

These aspiring engineers has the ability to lead complex multidisciplinary projects and also apply related software and IT tools in the field of Power Engineering and alternative

energy. The program is paramount and the only Engineering programme, dedicated to Power Engineering in the country and prepare ready to use graduates in area of power and energy sectors. With the reputation of Hydro Power sectors in the country and rapidly growing industrial sectors, the course will be a

pathway to shape individuals for national and international markets with promising career and future. It is expected that the power plants, power corporations and medium and large-scale industries will find the graduates most suited for their requirements.



First Batch BE in Power Engineering Students with Faculty Members.

Games & Sports

5th JNEC Open Football Tournament

The 5th JNEC Open Football Tournament was organized by Jigme Namgyel Engineering College from 6th March, 2019. The event was in commemoration of the 39th Birth Anniversary of His Majesty Jigme Khesar Namgyel Wangchuck and the 45th Foundation Day of the College, with the theme, "Empowering youth through sports: To become agents of change". The event was also expected to promote the importance of health and wellbeing through sports and physical activities.

The opening match was graced by Dasho Thrompon of Samdrup Jongkhar Dzongkhag

along with other guest and JNEC staff. The event had a grand opening ceremony with march-past and aerobic dance performed by first year students of Diploma in Civil Engineering followed by exhibition match between JNEC female staff and College girl's team. The opening match was played between the Royal Rounder FC and Team JNEC 11.

There were total of 16 teams from Mongar, Tashigang, and Samdrup Jongkhar participated in the tournament. Sherubtse College and Samdrup Jongkhar United made it to the final where Sherubtse College won the 5th JNEC Open Football tournament.

Both the teams' performance exceeded the expectation of the spectators and exhibited their skills and team spirit. Samdrup Jongkhar United

scored the first goal in 62nd minute leading the match. However, Samdrup Jongkhar United's celebration was short lived when Sherubtse College netted an equalizer in the 85th minute. In the last dying seconds, Sherubtse striked the winning goal and sealed the victory.

The final was graced by Mr. Gajel Lhendup, Registrar, Royal University of Bhutan. The winners were awarded with the cash prize of Nu. 70,000/- while the runners up took home a cash prize of Nu.30,000/- sponsored by, the State Mining Corporation Limited (SMCL), Samtse. Mr. Kezang Namgyel of team GCIT was awarded with the cash prize of Nu. 1500/- for being the top scorer of the tournament.



JNEC OPEN 2019 finalist with Guest of Honor.

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