



An Undertaking of Bhaktapur Municipality

Khwopa Engineering College

Affiliated to Purbanchal University

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NEWSLETTER

Inauguration of 2nd International Conference on Role of Energy for Sustainable Social Development



Member of Federal Parliament Prem Suwal inaugurating the conference

Member of Federal Parliament Prem Suwal, Secretary of Nepal Workers and Peasant's Party inaugurated the 2nd International Conference on Role of Energy for Sustainable Social Development organized by IEEE PES Nepal Chapter, Khwopa College of Engineering and Khwopa Engineering College on 8 August 2022. MP Suwal shed light on the current political happening of Nepal regarding MCC, SPP and energy trade. He stated that though Nepal is rich in potential electricity generation capacity of about 83,000 MW, it is still a dismay that we have not been able to be independent in electricity all due to ruling political parties. Also, he said that about 80 million Nepalese have gone out of the country for job opportunities. He emphasized that our country can only develop economically if we can produce electricity to its maximum potential and use it in domestic utilization rather than trade it with India. In addition, he called upon the youth to be actively involved in the politics and be politically aware and contribute to the development of country. Until and unless a county becomes economically independent, a foreign country will always have opportunity to colonize it economically and culturally.

Special guest of the opening ceremony program, Mr. Sunil Prajapati, Mayor of Bhaktapur Municipality and Chairman of College Management Committee, welcomed all the participants and distinguished dignitaries on behalf of the college. He opined that that the trade deficit of the country can be reduced by generating electricity within the country and using it for EV vehicles. Also, he drew attention of the government to make necessary policies to encourage people to use EV vehicles and reduce the import of petroleum product from India. He raised the serious issue of National River being captured by India.



-Mr. Sunil Prajapati, Mayor, Bhaktapur Municipality

Nepal is sufficient in its own capital to generate the electricity needed, provided that proper plans and policies are implemented by the government, he added. Lastly, he wished the conference a grand success and expected findings of the conference to be useful for energy development of the country.

In the program, Dr. Dinesh Kumar Ghimire also gave welcome remark on the opening ceremony. He holds a prestigious post of secretary in Water and Energy Commission Secretariat, Nepal Government of Nepal. He elucidated the current situation of statistics and policies of Nepal Government regarding the energy and electricity.

Ar. Rajani Joshi, Deputy Mayor of Bhaktapur Municipality and Vice-Chairperson of the management Committee of Khwopa Circle, greeted the panel members of the conference with a warm welcome. She pointed out the active role of Bhaktapur Municipality in the field of knowledge, indicating Khwopa institutions. Intellectualizing the society and uplifting the economic standard of the citizen is what Bhaktapur Municipality has dreamed of she cited. She further explained that the municipality is making efforts to go hand in hand with the modern day requirement for a better future of the institutions and their direct role in improving the status of education of the country.



-Ar. Rajani Joshi, Deputy Mayor, Bhaktapur Municipality

Distinguished guest of the program, Prof. Dr. Rajesh Karki delivered a welcome speech stating that this kind of program is a good opportunity for all the participants to broaden vision and explore potentials to benefit a country and world at large. He further requested policy makers to have an updated knowledge on policies and an understanding of new emerging technologies as he believed they can shape development of a country. Prof. Karki expressed his pleasure to have a Member of federal Parliament in the program and appreciated the cultural

performance during inauguration of the program by the Chief Guest, by lighting the “Panas”, in which a band of students played a tune of the “Dhime”. Such performance has a lasting impression of local heritage in this kind of conference, which is rare to see in others, he admired. He also expressed his admiration for the pleasant environment of college premise. Prof. Karki is the Director in Power System Research Lab of University of Sakatchewa, Canada.

Similarly, Distinguished Guest, Prof. Dr. Ajit Kumar Verma mentioned that the conference is a platform of synergy and symbiotic relation and cross pollination of different ideas that enrich young minds. He conveyed his gratitude for having him in Khwopa premises for the first time and found the amazement of strong cultural impact of this institute in the backdrop of beautiful Himalayas. Prof. Verma came far from Western University of Applied Science, Hagesund, Norway, to attend the program.

Er. Sunil Duwal, Principal of Khwopa College of Engineering, Co-chair of the conference, started speech welcoming the respected guests, presenters, and the audience to the conference. He extended his thanks to President, IEEE PES Nepal Chapter, for providing the opportunity to co-organize the conference. He further stated that the topic provides a common platform for academicians, researchers, and practitioners from different sectors to disseminate their knowledge and findings for energy sector. He closed his speech with an expectation of gaining insights in the topic which will be fruitful for societal changes.

The opening program was presided over by Prof. Dr. Navaraj Karki, who is the current president of



-Er. Sunil Duwal, Principal KhCE

IEEE PES Nepal Chapter. He delivered his welcome speech expressing his pleasure to have an IEEE PES Nepal

Chapters 2nd conference in Khwopa premises. He shed light on the history of IEEE PES Chapter Nepal. He remarked this kind of conference provides a platform to students, graduates, academics, young researchers and participants to enrich the knowledge and have network opportunities for future collaboration. He wished the program a grand success and the participants a joyful stay in the program. Mr. Shailendra Kumar Jha, Associate Professor of Kathmandu University and Member of IEEE PES Chapter Nepal, took the responsibility of Master of Ceremony of the opening ceremony.

The program was scheduled into two sessions, namely plenary session and technical session. In the first plenary session, Mr. Dinesh Kumar Ghimire,



-Prof. Dr. Nava Raj Karki, President IEEE, PES Nepal Chapter

Secretary of Water and Energy Commission Secretariat, Nepal Government gave a keynote speech on the topic, “Dissecting Markets for Nepal’s Surplus Electricity”.

In the same session, Prof. Dr. Ajit Kumar Verma, Western Norway University of Applied Sciences, Haugesund, Norway, delivered a keynote speech on, “A Computational Intelligence Framework for Optimal Maintenance of Power Plants”.

The first plenary session was chaired by Prof. Dr. Bhupendra Bimal Chhetri, Kathmandu University.

The technical session was divided into six parts based on the theme of papers. The first technical session was entitled Distribution Generation for Sustainable Social Development in which five papers were presented. The session was chaired by Mr. Shailendra Kumar Jha, Associate Professor of Kathmandu University. The five papers in the second technical session, which was chaired by Prof. Dr. Raju Bhai Tyata, Khwopa College of Engineering, were related to power system stability and components. Associate Professor of Pokhara University, Lalit Bikram Rana, presided the third technical session. A total of four presentations were demonstrated on topic related to sustainability power and energy system in this session. Four papers were related to electricity forecasting

and power trade where incorporated in the fourth technical session, chaired by Mr. Jitendra Chaudhary, Associate Professor in IOE, Tribhuvan University. Similarly fifth technical session was conducted under power system quality and protection, chaired by Associate Professor Dr. Sujana Adhikari, Pokhara University. Four presenters shared their research findings in this session. Four papers are presented in the sixth technical session that was relevant to Power System Optimization. Mr. Mahammad Badrudoza moderated the session. He is an Associate Professor in IOE, Tribhuvan University.

The second plenary session was conducted in the second half of the day. Prof. Dr. Rajesh Karki, Director of Power System Research Lab, University of Saskatchewan, Canada, was the keynote speaker of the session, that was about the Investment for Reliability Value of Sustainable Energy System. Prof. Dr. Bhupendra Bikram Chhetri chaired the session.

A Computational Intelligence Framework for Optimal Maintenance of Power Plants

The presentation given by keynote speaker Prof. Dr. Ajit Kumar Verma focused on the need of Optimal Maintenance of the Power Plants for the Factor of Safety and Reliability. The presentation proposes the fuzzy logic model for the prediction of the plant maintenance practice. In order to avoid the unnecessary maintenance and under maintenance of



-Prof. Dr. Ajit Kumar Verma

power plants, scheduled or planned or predictive maintenance is necessary. He emphasized on minimizing catastrophic failure to increase the RoI (Return of Investment). Machinery Health Monitoring was required to know about the condition of machines in power plant and predict their maintenance. The presenter took the reference of physical plant hierarchy where the framework design comprises the system, assembly, sub-assembly and so on. The aim of the presenter the combination of data that is statistical data, experts advice together is necessary.

Detective and prognostic diagnosis is required for effectiveness, detectability and predictability of maintenance for power plant. All the available data, receiver, operating characteristics, experts opinion and alternatives are taken combinely in order to create fuzzy logic for optimal maintenance. Similarly, for Condition Based Predicted Maintenance (CBPM), genetic algorithm is used. Minimum cost and maximum availability is to be achieved through the different maintenance practice. The presenter concluded with the suggestion to find and predict the impending fault and avoid unnecessary maintenance of the power plant.

Dissecting Markets for Nepal's Surplus Energy

The keynote speaker of the international conference Dr. Dinesh Kumar Ghimire on his presentation, "Dissecting Markets fro Ne pal's Surplus Electricity", delivered a remarkable speech on policy,



-Dr. Dinesh Kumar Ghimire, Secretary, Nepal Government
perspective and issues regarding energy in context of our country Nepal. He stated that Nepal has around 2200 MW installed capacity of electricity out of which 658 MW is from NEA, 478 MW from subsidiary companies and around 1054 MW from independent power production. He further revealed that 14,000 MW electricity is in pipeline through different projects. As per him, generation licenses are issued to 220 number of projects which would generate 800MW of electricity and 3200 MW is in current stage of operation which will be soon be connected to the transmission line in near future. Dr. Ghimire disclosed that with in 4 years, Nepal will be bringing around 4000 MW to system and electricity demand will be rising from 1600 to 3600 MW with 2500 MW surplus energy. He stressed on the utilization of surplus energy in domestic demands through the use of induction cooker, electric vehicles, water heating loads and fertilizer industries. He talked

about the serious issues regarding the cross border trade with India. He surprisingly revealed that selling of electricity to India is a compulsion to protect the business investment rather than a want. About 24 billion per year is spend to import petroleum from India. He suggested a need of proper legal frame work, better policies for cross border guidelines of energy trade, reliable and adequate establishment of infrastructures to make energy management more efficient and reliable in Nepal.

Investment fot Reliability Value for Sustainable Energy System

Prof. Rajesh Karki, Director, Power System Research Lab, University of Saskatchewan, Canada, while talking on the topic, Investment for Reliability value of Sustainable Energy System, began his keynote speech by elucidating the importance of energy in our society. In the subsequent years, the role of



-Prof. Dr. Rajesh Karki

renewable energy is valuable, mainly focusing on the environmental value to the society (offsetting carbon emissions). According to his speech, there has been a growth in energy demand in the recent years and the rate of growth will increase with the need of electricity replacing the other forms of energy. Topic also depicted that, Electricity Systems should provide electricity to consumers as economically as possible, with acceptable reliability and with environmental compliance. In his concluding remarks, he spoke about the investment in electricity system/resources must be justified by its worth to the society being served and the value based reliability investment. Hereafter, investment in renewable in the present have limited value in meeting system reliability standards due to societal worth and affordability. But, in the future, renewable will have huge demand in the energy market.

A Program on Sharing Study Findings of Book

6th Srawan

Library Sections of Khwopa Engineering College and Khwopa College of Engineering jointly organized "A Program on Sharing Study Findings of Book" on 5th Srawan 2079. Faculties and staffs gathered at Library hall to share the knowledge acquired after studying different books.

Er. Sujan Maka, Principal (KhEC), expressed his vote of thanks to the library section for organizing the program where one could share his views on the book and hundreds could gain knowledge listening through.

Er. Rabindra Phoju, Vice Principal

(KhEC), extended his best wishes for the continuation of such program and shared his valuable experiences while reading the book entitled "of/ (Yaar)" by Nayan Raj Pandey.

Jastara Koju, Head, Library Section, shared her study findings on book "hLjg lhpg] sfObf (Jeewan Jiune Kaaidaa)" by Jeewan Kumar Prasai. Similarly, Sabina Lakha, Librarian, did same on "of/ (Yaar)". Bishnu Prasad Karmacharya, Librarian shed light on the purpose of organizing such program.

FACULTY TRAINING ON PYTHON PROGRAMMING

6th Srawan

Training on Python programming was organized at Khwopa Engineering College, Department of Civil Engineering. The theme of the training was "Statistical Modeling and Data Analysis using Python" and arranged for faculty of the Civil Engineering Department faculties. The objective of the 15 hours' training was to learn the Python programming fundamentals and data analysis using Python.

The contents of the training were focused on Python basics to features of Python such as Numpy, Pandas, Matplotlib

and Scipy for data preprocessing to data analysis and modeling. After this training, attendees are expected to use python to generate a great deal of information like mean, variance, covariance, standard deviation, correlation between elements from simple tables, along with plotting and having better visualization of data. The training was instructed by Er. Siddhant Sharma and the total of twelve faculties have participated. The training was conducted from 26th of Ashar to 5th of Srawan, 2079.

Meeting with Antarikshya Pratisthan for antenna lab

8th Srawan

A meeting was held between Khwopa Engineering College and Antarikshya Pratisthan on 2079 Srawan 8, Sunday. Principal Sujan Maka, Vice-Principal Rabindra Phoju and HODs from the Electronics and Communication Engineering Department, Yogesh Bajracharya and Computer Engineering Department, Bikash Chawal were present in the meeting with Dr. Abhas Maskey from Antarikshya Pratisthan regarding establishing an "Antenna Research Lab" in Khwopa Engineering College. Sirash Sayanju, (Antarikshya Satellite Research Fellow and College Alumni) presented his field of research on satellite communications, antenna designs and potential fields of collaboration. The meeting concluded with the note that the

Antenna Research Lab in Khwopa Engineering College should be upgraded to the current state-



of-the-art design so that the college can provide service for antenna-related research laboratories activities.

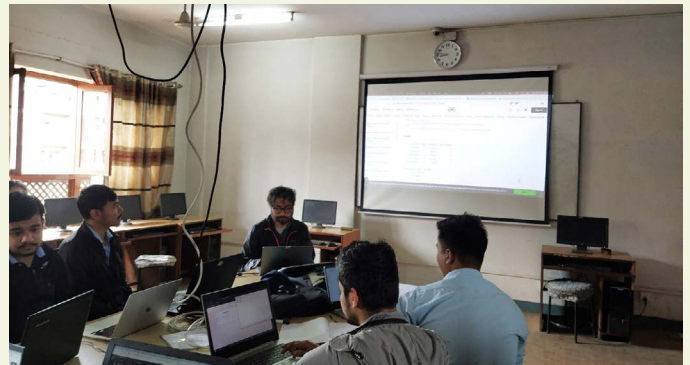
AWS Training conducted

8th Srawan

In collaboration of Khwopa Engineering College and Genese Academy, the 30 hours AWS training was conducted from 24th April 2022 and completed on 24 July, 2022 for the 2018 batch of Bachelor in Electronics and Communication Engineering students. Thirty students actively participated in the training. The primary objective of the training is to make the participants understand the data science, data analysis and data engineering in



brief. Python, Jupiter Note- Book were some softwares used in the training. Khwopa Engineering College (KhEC) and Genese Academy Pvt. Ltd. (GA) have signed Memorandum of Understanding (MOU) on 9 Falgun 2078 seeking to promote mutually beneficial cooperation, to assist the students of KhEC in their training and skill development programs and supporting students for their internship and placement as per their skills and interests.



ORIENTATION PROGRAM ON ELECTIVE SUBJECTS

9th Srawon

An orientation program on elective subjects of final year for students of 2075 Batch was organized at Khwopa Engineering College, Hall 1. The program was focused on the introduction of various streams of subjects which the Department of Civil Engineering has offered to the final year students. The objective of the program was to provide background information of the subjects and procedures of selection of the streams. The Department has offered four streams of elective subjects this year, namely Transportation

Engineering, Structural Engineering, Geotechnical Engineering and Water/Environmental Engineering. The streams were introduced by Associate Professor Er. Sujan Maka (Geotechnical Engineering), Dr. Pradip Kumar Shrestha (Transportation Engineering), Senior Lecturer Er. Razim Ganesh (Water and Environment) and Senior Lecturer Er. Shyam Sundar Basukala (Structural Engineering). Head of the Department Er. Amit Shankar Ranjit shared the background information and procedures to select the streams.

FINAL YEAR PROJECT DEFENSE COMPLETED

28th Srawon

Final Year Project presentation of eighth semester students of 2074 Batch BE Civil Engineering was completed on 26th and 27th of Srawan 2079. The projects were examined by the externals nominated by the University. Altogether

22 groups have presented their project work in front of external examiners and students of seventh semester (2075 Batch). The topics of the projects were represented by streams of Structural Engineering, Transportation Engineering, Bridge Engineering and Wastewater Engineering.

Guest Lecture on “Electronics and Computer for Development”

11th Srawon

On Wednesday, 27th July 2022, Khwopa Engineering College organized an orientation program for the odd semester students of Bachelor in Electronics and Communication Engineering and Bachelor in Computer Engineering. Prof. Dr. Jagan Nath Shrestha presented on the topic “Electronics and Computer for Development” in the program. Prof. Shrestha illustrated the importance of Electronics and Computer Engineering in present context. Electronics and Computer are rapidly growing field in engineering with wide applications including internet of things (IOT), Robotics, Embedded system, Software development, and

space communications. Prof. Shrestha introduced the students to emerging projects briefly and provided concepts on BE level projects to faculty and students.

In total of 133 students from third semester, fifth semester, seventh semester of Electronics and Communication Engineering and seventh semester of Computer Engineering participated in the program. The guest lecture concluded with a huge success where every participant widened their ken of knowledge in their respective field and experienced highly motivated at the end.



Prof. Dr. Jagan Nath Shrestha.



College faculties and students listening to Guest Lecturer.

Master's Level Entrance Exam – 2078/79 (2021)

14th Srawon

Entrance Examination for M.E/M.Sc programs of Faculty of Engineering (FOE) and Faculty of Science & Technology (FOST), Purbanchal University (PU) was held on Saturday, 14 Srawan 2079 at Khwopa Engineering College (KhEC) exam center.

A total of 351 out of 379 (92.6%) applicants appeared at the center for eight different Master's degree programs in two shifts.

Prof. Dr. Yadav Raj Koirala, Prof. Dr. Sanjesh Koirala, Prof. Devi Prasad Bhattarai along with other distinguished observers inspected the entrance

examination. Similarly, Dr. Bajra kishor Shah, Chairman, Nepal Veterinary Council, observed the entrance examination and extended his valuable suggestions to Purbanchal University for the betterment of entrance examination.

Principal of Khwopa Engineering College Er. Sujan Maka, Superintendent of exam center, reflected upon completion of the exam that it had been accomplished at a fair and peaceful environment without any hitches. Principal Maka also extended the vote of thanks to PU and its officials for providing KhEC opportunities again to conduct entrance examination this year at its premises.

Distribution of the Scholarship for F/Y 2078/79

14th Srawon

Khwopa Engineering College organized a meeting with the students of 078 Batch, who obtained scholarship from the college.

Principal Er. Sujan Maka, congratulated them for securing their scholarship and extended his best wishes for their success during and after the college. Vice-principal, Er. Rabindra Phoju, acknowledged the efforts made by students to secure scholarship, and enlisted different opportunities for the students.

KhEC provides scholarships in three categories: Entrance Examination Toppers, Semester Examination Toppers and Scholarship for Economically needy, diligent and disciplined students.

In Fiscal Year 2078/79, a total scholarship amount of Rs. 9,635,758.50 has been granted. Similarly, for Fiscal Year 2079/80, Rs. 14,500,000.00 is allotted for Scholarship Budget.



Principal And Vice Principal of KhEC handing over the Cheque to winners of the Scholarship.

An Exhibition on Design Studio Projects

19th Srawon

Design Studio Projects' Exhibition was successfully organized by Department of Architecture on 19th Srawon, 2079 in college premises from 8.00 am till 1.00 pm. The main objective of the event was to make students familiarize with upcoming studio projects and also to enhance interaction among students. Forty students studying of different semesters exhibited

their projects in various subjects, i.e., Interior, City Service Center, Bungalow, School Design, Resort Design, Housing and Conservation.

The students from senior semesters also took the opportunity to organize experience sharing and interaction among the students of different batches. Below are some glimpses from the event.



Designs made by students for the exhibition

Sharing Experiences by Almuni

24th Srawon

On 24th Srawon 2079, Tuesday, Department of Architecture held first alumni sharing program in Hall 1 at Khwopa Engineering College. Ar. Prabin Laghu of batch 2061 shared his experiences to all the students of Architecture. His presentation was quite motivating to all the students. His presentation was two hour long with question and answer session. He shared his experiences by showing his built projects. Through his presentation the students learnt about

the hardships and struggle he has to face during his journey towards professional life. He inspired the students by showing his prestigious projects which act as milestone in his career. Through strong determination and hard work he stands as a successful Architect. Lastly he told the students that his passion in the field of Architecture lead him to be a good architect of today. Department of Architecture found this program quite fruitful.



Presenter and Participants at the Program

Workshop on Distributed Version Control System

30th Srawon

On 15 August 2022, Monday the department of Computer Engineering and Electronics and Communication Engineering on the initiation of Facet Academy conducted a workshop on Distributed Version Control Systems to final year Computer/Electronics Engineering students at Khwopa Engineering College, Bhaktapur. The workshop started from 11:00 am in the morning and lasted about 4 hours. A total of 26 students from

Bachelor of Computer Engineering and Bachelor of Electronics & Communication Engineering participated in the workshop. The workshop was held by a team of three led by Dr. Suresh Pokharel, Himalaya Kakshapati and Sunil Manandhar of the Facet Academy. Vice principal Er. Rabindra Phoju thanked the team for the workshop and hoped that more of such workshops will be held that in the coming future with collaboration from the both sides.



Participants of the Workshop



Honorable Mr. Nima Lama, Health Minister of Bagmati Province at KhEC



Delegates from Letang Municipality, Morang District at KhEC



Mr. Gopal Hamal Mayor of Dhanagadi Sub-Metropolitan City and his team at KhEC



Member of Federal Parliament Honorable Mr. Ekbal Miya at KhEC

