



acem

# Newsletter

2021 Fall Edition

## Advanced Engineering Signs MoU with Azrieli College of Engineering of Israel



On 3rd of November, 2021, Advanced College of Engineering and Management, acem, signed the Memorandum of Understanding (MoU) with Azrieli College of Engineering, a Jerusalem-based engineering college of Israel.

Ramesh Silwal, chairperson of acem and Professor Rosa Azhari, the president of Azrieli College signed the MoU on behalf of their respective institutions. The content of the MoU encompasses details of collaboration between the two colleges in terms of techno friendly programs and development and dissemination of techno-driven projects in the future.

Mr. Silwal expressed his gratitude to Professor Azhari for the partnership and also for contributing to strengthen the cordial bond between two colleges. He affirmed that the affiliation will benefit both education and technology advancement which furthermore foster the field of academia and the industries as well.

Highlighting the affiliation and the possibilities of expanding the cooperation between the two institutions, Mr. Kapil Dev Regmi, executive director of acem rendered his opinion that such an alliance will improve the opportunities for students and faculty. He also assured that such association encourages as well as promotes STEM education.

Furthermore, Mr. Regmi also stated that the collaborative agreement will provide a pivotal platform for both the parties to innovate and promote development in the field of technology and research as well as enhance the quality of education for the students. During the programme, Professor Rosa Azhari rejoiced over the partnership deal between the two groups.

Similarly, His Excellency Hanan Goder, Ambassador of Israel to Nepal, asserted that the signing of MoU is the expression of affinity that will further strengthen the bilateral relationship between the two nations.

According to the statement issued by acem, the signing of the MoU provides an important platform for students and faculties of both colleges to learn from one another, stimulate innovative ideas, and contribute to the development of engineering and technology fields.

Moreover, this is also a great opportunity for both partners for collaborative agreements on professional development in faculty exchange programs, study abroad exchange programs, overseas internships, conferences, seminars, webinars, symposia, workshops, interaction programs between faculties, students and the industries for sharing innovative ideas for software development, the statement further reads.

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inside

1ST JULY 2021  
TIME : 5:30 PM

## Exploring Space with Dr. Sandra Magnus



July 1, 2021, acem organized a virtual event with a vivacious Dr. Sandra Magnus as the key speaker. The central theme of the webinar was to explore 'Space Engineering in Developing Countries.' In an hour long webinar, Dr. Magnus primarily addressed the topics of space, engineering, and development among varieties of other topics. Dr. Sandra Hall Magnus is an American engineer and a former NASA astronaut who successfully spent 134 days in orbit.

"Personally, I regarded this webinar as a huge learning opportunity. Her dedication and work experience were quite noteworthy." Ms. Neema Tamang, a first year student of BCA shared her opinion enthusiastically.

Undoubtedly, as Ms. Tamang stated, it was a huge privilege of acem to have such a multitalented scholar even if it is in the virtual premise of acem. Dr. Magnus not just shared her motivational journey of 20 years to the ultimate journey to space; this magnificent lady also expressed her delight upon the rising interest of Nepalese towards Space Engineering.

"If it is your dream to be an astronaut or work in NASA then spare no effort towards this goal. Yes, it can come true, and it will come true, however, believe in yourself and the process of consistency." Dr. Magnus smiled at the curious, hopeful gazes of the future engineers and the technical experts.

## “WORD SEARCH”

Q	A	S	B	R	E	A	D	C	D
T	E	E	X	L	Z	O	P	N	R
H	I	E	W	H	S	B	A	P	K
I	E	A	B	C	O	T	D	E	N
N	F	A	D	G	S	P	I	J	O
K	K	L	R	R	M	N	E	T	W
O	G	U	E	S	S	P	Q	A	R
S	T	D	A	U	F	E	E	L	V
W	N	X	M	Y	Z	A	B	K	C
U	D	B	E	L	I	E	V	E	F

According to Mr. Ankit khanal, a second year student of BCT asserted that such webinars encourage students to lift their confidence level. "Actually, I myself am into astronomy. Space education fascinates me and oscillates the passion within up to its very core. I have even participated in various national and international Space Conferences." He added. Moreover, the webinar witnessed the attendance of the participants beyond acem as well. Several participants of the GoldenGate International College were present in the event.



Ms. Misha Shah  
BEL, 1st Year

*mishashah:*

## Legacy of Journals

Academic journals are an excellent means to convey research findings, latest discoveries, developments, and future research prospects. Likewise, engineering journals are specifically dedicated to publish information that is technologically sound and practically applied to solve the challenges in our real life conditions. Hence, the Advanced College of Engineering and Management, acem, has also been publishing its journal on a regular basis.

acem journal is like an intersection point for all disciplines of engineering and is considered as a huge platform for engineering students, experts, researchers, and scholars to publish their relevant research papers in its periodic publication.

Here is the recent online journal of acem, Vol-6, 2021.



Scan or Link to our journal:  
<https://www.nepjol.info/index.php/JACEM/index>

# Advanced Engineering in TUM SEED Center, Germany

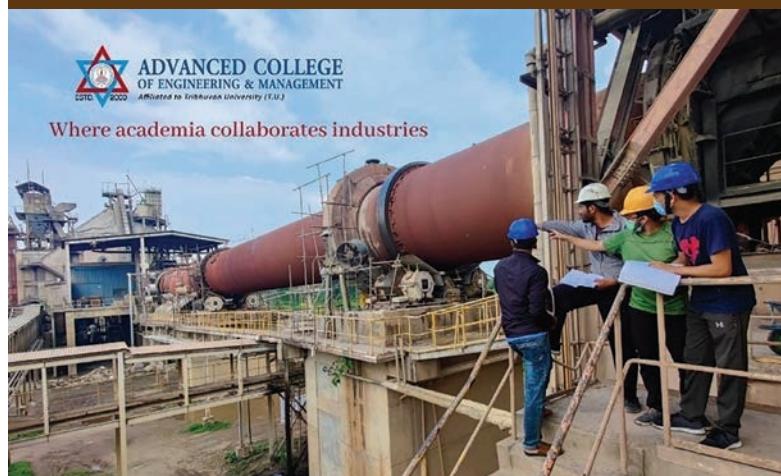


In October, 2021, Mr. Kapil Dev Regmi, Executive Director and Er. Sojan Prajapati, Head of Centre for Entrepreneurship of acem, were invited to the TUM (Technical University of Munich) SEED Center Kick-Off Event in Munich, Germany as researchers in the fields of Sustainable Energies, Entrepreneurship and Development to contribute to the success of the project. The event dedicated its initial phase as a 'networking and idea sharing session' where the Directors of attended universities shared their propositions and ideas. On the other hand, the second session highlighted on Project Coordinators to discuss about 'status quo' of living labs and future working modality. Representatives from various colleges of different universities of Peru, Ethiopia, India, Indonesia, Kenya, Ghana, Uganda, Namibia, and TUM also attended the program. Moreover, acem's participation in this Kick-Off event has unlocked prodigious opportunities for acem students to perform joint projects with these academic institutions.

## In Memoriam of Prof. Dr. Balkrishna Sapkota



# Initiatives of RIU



RIU, Research and Innovation Unit is an inhouse research unit of acem. It largely focuses on minimizing the gap between industry and academia. Its way to overcome industry problems is by utilizing acem's faculties, students and global experts.

Recently, RIU visited Udayapur Cement Industry (UCIL) for the plant assessment of the production performance along with faculty, students and researchers.

The team carried out an assessment on Reinforced Suspension Preheater (RSP) to improve the overall thermal efficiency of the plant. The detailed research gave the best suited solution for the cement factory based on the current status of the plant. Along with the technical assessment, the team also proposed an optimum strategy to roll out the plan.

## 3D printing in RIU

RIU has begun 3d printing from April, 2021 to create a student empowering learning environment. Visualizing the object in 3d form while learning would be the best way for the students to capture the concept as well as to enhance their learning capacity.

It is with profound sadness, we deeply mourn the loss of our beloved Prof. Dr. Balkrishna Sapkota, former Principal of acem who passed away on Mangsir 25, 2078. It is not easy to narrate, in just a few sentences, the extraordinary and scientific personality of Dr. Sapkota. He was an unattainable model to imitate, a mentor and a colleague not only for us, but also for many other reputed institutions of Nepal. His corporeal absence has created a deep sense of emptiness and has left an ineradicable mark on the professional and personal lives of all of us.

Prof. Dr. Sapkota's strong persona reflected not only in his teaching activity but also in his research work. His lessons and supervision were rarely ordinary, and which often ended with full of abundant interpretations for thought. He joined acem since its inception as a lecturer, later contributing his service as a shareholder of this institution. Prof. Dr. Sapkota carried out the roles and responsibilities of acem's Principal from Asar, 2073 to Chaitra, 2078.

Prof. Dr. Sapkota will forever remain in our memories.

# Advanced Engineering Signs MoU with KASHMIR WORLD FOUNDATION



Advanced College of Engineering and Management (acem) has signed a MoU with Kashmir World Foundation (KWF) in the virtual signing ceremony on March 18, 2021. Mr. Kapil Dev Regmi, Executive Director, signed the agreement on behalf of acem alongside Executive Director of KWF, Princess Aliyah Pandolfi. The MoU emphasizes collaboration between acem and KWF to promote joint educational association via technology, programs, and projects.

Mr. Ramesh Silwal, Chairman of acem expressed his gratitude to Princess Aliyah Pandolfi and the entire KWF team for this affiliation. He asserted that this collaboration will contribute towards both educational and technological advancement, eventually fostering the field of academia and the industries as well.

Mr. Kapil Dev Regmi, Executive Director, assured that such thriving association promotes STEM education, girls' empowerment. "I strongly believe that the ambitious drone flight by KWF in association with acem is definitely going to be a remarkable step in the field of technology." He stated.

Princess Aliyah Pandolfi, Executive Director of KWF shared her vision to empower and engage students in design and development of drone applications which ultimately aims to conserve endangered species. "We all are thrilled to explore Nepal to execute our drone flight soon," Pandolfi added.

The ambitious 'International AI Enabled Drone Conference and Expo' will be conducted on October, 2022.



Mr. Max Engelhardt from Germany has recently joined acem as a visiting faculty and also as a researcher. In fact, he was already a part of the Research and Innovation Unit (RIU), a research wing of acem, even before he landed in Nepal. Since then, he has been also supporting the RIU as a special advisor for an industry project that has been undergoing at the moment.

## Background:

Mr. Max Engelhardt has completed his Bachelor of Science in Mathematics at the Friedrich-Alexander- University in Erlangen. He specialized in Mathematical Optimization; to be precise in Operations Research, Scheduling/Routing Problems, and Decision Problems. He began his work life as a teaching assistant and researcher even before his

## Visiting Faculty from Germany

graduation. Then after, he immediately joined Master of Science degree in "Mathematics in Data Science" in Technical University Munich to extend his knowledge in Machine Learning.

### About RIU Projects of acem

"During the initial projects of RIU, it became quite evident that there are huge opportunities in filling the gap between academia and industry in Nepal and I now work on bridging that very space."

In order to achieve this objective, Mr. Engelhardt is giving a lecture series on Machine Learning at acem. The sessions aim to provide pivotal machine learning techniques to enable students to tackle small projects on their own.

# A Virtual Job Mela: an Online Fair for Job Placement and Skill Development



Advanced College of Engineering and Management (acem) organized a Virtual Job Mela in collaboration on August 11, 2021 in association with Merojob. Mr. Vishnu Kumar Agrawal, President of Confederation of Nepalese Industries, CNI, was the chief guest of this virtual event alongside a remarkable presence of prominent personalities such as Prof. Dr. Uttam Gaulee, President of Star Scholars Network, Mr. Shailendra Raj Giri, Founder and Managing Director of Merojob, and Ms. Abhigya Malla, Executive Committee Member of IPPAN. The event was successful with enthusiastic participation of acem's team and the students.

The chief guest of the Virtual Job Mela, Mr. Vishnu Kumar Agrawal, President of Confederation of Nepalese Industries, CNI as well as Managing Director of MAW Company expressed his gratitude to acem and

also appreciated the efforts of the entire team of Advanced College and of Merojob as well. "In spite of COVID-19 and any other obstacles, the outlook of business appears to be bright. I regard this is indeed a great time to conduct such job fair events as many industries and organizations are in need of suitable candidates at present," he stated.

Prof. Dr. Uttam Gaulee, President of Star Scholars Network, began his brief speech by sharing his delight that acem is the only member of Star Scholars Network, an international forum of scholars advancing global social mobility through innovative research and progressive advocacy efforts. Mr. Shailendra Raj Giri, Founder and Managing Director of Merojob shared his enthusiasm to be associated with acem. He largely focused upon the value of effective CV/resume writing, interview and group discussion.

Ms. Abhigya Malla, Executive Committee Member of IPPAN opined that an individual student should be aware of current industries' demands that are of the nature of effective, productive, and result-oriented. According to Ms. Malla, an impactful career begins with effective communication skills.

Mr. Kapil Dev Regmi, Executive Director of acem, welcomed the chief guest, special guests, associate partner and entire acem family with warm regards for their contribution in this event. He expressed his delight as well as cherished the flourishing ties of acem and CNI. Mr. Regmi shared that the purpose of Job Mela is to build an everlasting connection between industries and acem.

Principal of acem, Er. Lochan Lal Amatya concluded the event with his remarkable vote of thanks. On behalf of acem, he expressed his sincere gratitude for the astounding presence of distinguished figures. He expected their valuable support will be continued in the coming days as well.

20 graduates have been selected by the reputed companies with the help of this Job Mela.

## Holistic Healing and the Power of Self-discipline in Lockdown

*Mindfulness is sensing the senses. An ancient technique to still the world around, and feel the universe within. It indeed is a basic human ability; yet only a focused mind is aware of vibrations of life.*

COVID-19, an epidemic that spread around our planet more than a year ago, compelled the entire world within the barricade of its house. The result led to minimizing its harm, nevertheless, the isolated lives had its very own repercussions. Hence, as soon as the second wave of pandemic hit, acem decided to cultivate happiness through a holistic healing session named 'Mindfulness, Techniques and Better Immunity'

Organized on 16th of May, 2021, this meditative session was run by expert Mrs. Neeva Pradhan, Director of Corporate Programs and Events, Art of Living Foundation in Nepal. The five days long session included a series of exercises and practices to be followed to erase the negative ideas and stress of the mind.

■ acem Job Mela also ensures to enhance the soft skills of the participants. ■

**Mindfulness Techniques & Better Immunity**  
A Webinar on Improving Your Awareness

Join our International, Motivational & Well-Being Coach Ms. Neeva M. Pradhan as she talks about the importance of mindfulness especially in today's day & age.

MAY 16 • 4:00 PM TO 5:30 PM  
ZOOM LINK: [BIT.LY/MINDFULNESSMAY16](https://bit.ly/mindfulnessmay16)  
MEETING ID: 865 8508 3217  
PASSCODE: 123  
SCAN ME

ORGANIZED BY  
**ADVANCED COLLEGE OF ENGINEERING & MANAGEMENT**  
affiliated to Tribhuvan University (T.U.)

SESSION IS COMPLIMENTARY FOR ALL

# Webinar with UNV: Inspiring Tomorrow's Engineers

*Volunteering is at the core of being a human. No one has made it through life without someone else's help.*

Considering the similar enthusiasm and inclination of a changemaker, Advanced College of Engineering & Management (acem) in partnership with United Nations Volunteering (UNV), Nepal organized a webinar on 'Career Prospects through Volunteering' on April 30, 2021. This virtual event went live for an hour and fifteen minutes where thousands of live audiences were connected via Zoom and Facebook.

The primary aim of the program was to encourage youth in volunteering and at the same time to upgrade their career as well. Experts like Mr. Dmitry Frischin,

UNV Regional Portfolio Manager of Thailand, Mr. Matt Tully, Acting Country Director of Peace Corps Nepal provided guidelines on entrepreneurship as well as volunteering. The entire session was moderated by Dr. Prativa Pandey, a young scientist of Nepal. Dr. Pandey is also a member of Research & Innovation Unit (RIU) of acem.

Both of the intellectuals dealt with a varied range of questions regarding pandemic, education and age barrier in volunteering alongside many others. Mr. Ramesh Silwal, Chairperson of acem expressed his gratitude towards the international guests for their effort



and also shared his concern for the youth interested in volunteering.

"When empathy meets engineering, most of the difficulties on the way can be overcome quite easily," Mr. Silwal stated.

In the webinar, Executive Director of acem, Mr. Kapil Dev Regmi not just described the expanding horizon of research projects in acem but also promised that such career-focused humanitarian programs will be organized by acem in future as well.

## Advanced Engineering Signs MoU with Independent Power Producers' Association, Nepal



Advanced College of Engineering and Management (acem) has signed MoU with Independent Power Producers' Association, Nepal (IPPN) in the premises of Hotel Marriot, Naxal on March 17, 2021. Mr. Ramesh Kumar Silwal, Chairman, signed the agreement on behalf of acem alongside Chairman of IPPAN, Mr. Krishna Prasad Acharya. The MoU highlights how both parties from two different sectors work together for the amelioration of the academia as well as the industry.

"By striking up corporate partnerships, any academic institutions like acem who are eager to work with industries can take a lead in producing competitive human resources in Nepal itself", IPPAN Chairman, Mr. Krishna Acharya stated as he addressed the audiences. Mr. Ramesh Kr. Silwal, Chairman of acem also stressed the worth of such association alongside how acem is producing potential manpower for the industries. Similarly, Mr. Kapil Dev Regmi, the executive director,

appreciated the keen interest of IPPAN to work together with the academia and also expressed his huge delight on the fruitful journey they are about to embark upon together.

Vice president of IPPAN, Mr. Ashish Garg stated the various advantages of industry-academia collaboration and appreciated the initiatives of the college to work with the industry closely. Ms. Abhigya Malla, Executive Committee Member of IPPAN, however, shared her concern over the low engagement of girls' students in the Power sector. She hoped this collaboration would promote more female experts to the field.

"Why should academia associate with industries?" Er. Uddav Chalaugain, Director, acem, and ERMC elaborated how industry-educational institutions' alliance provides students and faculty with additional opportunity for research and experiments with the help of funding given by trade.

# CTF (CAPTURE THE FLAG)

Ayush Dangol  
BCT-II  
Batch-2076



CTF is an information security contest in which participants are assigned a certain number of tasks to get into the servers and steal an encoded string from a hidden file. This string resembles sensitive information and is known as a flag. Participants capture these flags using their ethical hacking skills and put these flags into the CTF server.

Points are allotted for each flag as per the difficulty level of the tasks—the higher the difficulty level of the task, the more points you will score. The participant or the team scoring the highest points will be the winner of the CTF event. Many information security communities organize these CTF events.

## CATEGORY OF CAPTURE THE FLAG (CTF)

### ATTACK-DEFENSE

This style of competition is much closer to the backyard capture the flag game than the Jeopardy style. In these types of events, teams defend a host PC while still trying to attack opposing teams' target PCs. Each team starts off with an allotted time for patching and securing the PC, trying to discover as many vulnerabilities as possible before the opponent attacking teams can strike. The team with the most points wins.

### JEOPARDY CTF

Jeopardy-style CTFs present competitors with a set of questions that reveal clues that guide them in solving complex tasks in a specific order. By revealing clues, contestants learn the right direction regarding techniques and methodologies that are needed going forward. Teams receive points for each solved task. The more difficult the task, the more points you can earn upon its successful completion.

Ongoing, online CTF competitions are most likely to be Jeopardy style. It's easier to play solo and requires less coordination among players than an Attack and Defend competition.

## TYPES OF CHALLENGES

1. Web: This type of challenge focuses on finding and exploiting the vulnerabilities in web applications. This may test the participants' knowledge on SQL Injection, XSS (Cross-Site Scripting), and many more.
2. Forensics: In these types of challenges, you will be asked to retrieve the executable or flag hidden in different types of files. For example, a flag may be hidden inside manipulated jpg images, registries, memory, logs and many more.

3. Cryptography: These challenges involve converting strings from one format to another or encryption and decryption of ciphertexts to reach out to the flag.

4. Reverse Engineering: Reverse Engineering usually needs participants to explore a given binary file whether PE file, ELF file, APK, or some types of other executable binary. Participants need to find the key by decompilation, disassemble using static or dynamic analysis, or other reverse engineering tools.

5. OSINT: The OSINT idea is to see how much information is available to you and understand the underlying hint's hidden in the challenges it-self with the help of google and bit problem-solving skills. So more tools like sherlock, and no focus on domain enumeration, etc.

6. Miscellaneous: Everything not listed else that is still relevant to Information Security is in this category. This requires Google-Fu skill. In short, you can say it can have anything.

## BENEFITS OF PLAYING CTFS

1. CTFs are the best way to practice and enhance your information security skills, such as web exploitation, reverse engineering, binary exploitation, forensics, and many more.
2. When you take part in CTF events and compete in groups, it helps you develop a team spirit. Coordination among team members is essential to achieve the target. It also provides you an opportunity to meet like-minded people.
3. CTFs enable you to develop your problem solving and analytical skills to use in real-work scenarios. CTF tasks are usually based on real-world vulnerabilities and security incidents.
4. While playing CTF, you will learn how to handle pressure while honing your ethical hacking skills. You learn new creative ways to solve the problems.
5. CTFs events serve as an opportunity for the white hat hackers to evaluate their skills and get recognition.

CTFs are a great hobby that ultimately makes you a better hacker. In fact, many of the most skilled hackers came from CTF backgrounds. I hope you'll find the experience rewarding as well. Best of luck and have fun!

### Resources:

- <https://tryhackme.com/>
- <https://www.hackthebox.eu/>
- <https://ctflearn.com/>

*It is often said that art is an expression of one's imagination! Yet some works of art are so natural that they almost blend with reality; Mr. Karan Sunar's creativity is one of such realistic pieces.*

Sketch by: Mr. Karan Sunar  
Batch: 4th Year, BEX

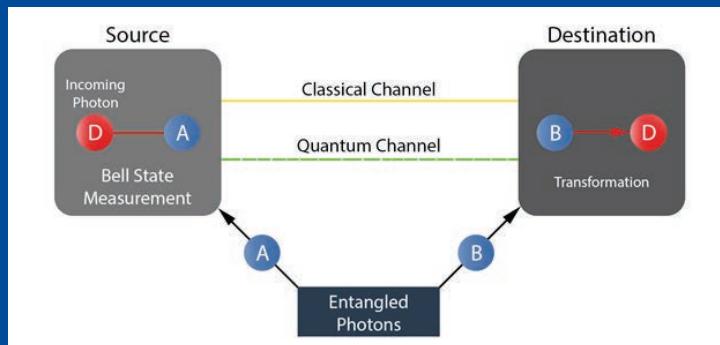
\*Mr. Karan Sunar is the artist of Eye Sketch of Page I.





# Quantum Teleportation Simplified

## HOW IS THE QUBIT PHASE TELEPORTED FROM ONE POINT TO ANOTHER?



### Quantum Teleportation Diagram

In Quantum System, the classical way of copying data or transferring data from source to destination is not possible since qubit can't retrieve complete information of state at the other end and due to short coherence times of quantum state. To transfer quantum information from one system to another, Quantum Teleportation is used.

Before we can understand how Quantum Teleportation works, we must know a few things. Let's look into those few things that cover up quantum teleportation.

### TRANSITING FROM CLASSICAL TO QUANTUM SYSTEM

#### From bits to qubits

- In Classical system, a state can be either "0" or "1" called a bit. This means a 64-bit data bus can transfer only 64 bits at a time.
- In Quantum system, a state can be in superposition, i.e. simultaneously in "0" and "1" known as qubit. This means a 64 qubit bus can transfer  $2^{64} = 18,446,744,073,709,551,616$  states at a time. In layman's terms, a 64 qubit bus acts as 18,446,744,073,709,551,616 classical bit bus.

#### Dirac Notation

In Quantum System, Dirac notation(or bra-ket notation) is used to describe quantum states. Let a, b are 2-dimensional vectors with complex entries.

So the general representation of Dirac notation is given as, We define quantum states "0" and "1" as:

#### Multipartite Quantum States

When multiple states are to be described, tensor product is used. If two states are used, it is known as a bipartite state. States of this form

are uncorrelated, but there are some bipartite states that cannot be written as the tensor product; these states are correlated and sometimes even entangled.

### QUANTUM ENTANGLEMENT

**Quantum entanglement** is a physical phenomenon that occurs when a pair or group of particles is generated, interact, or share spatial proximity in a way such that the quantum state of each particle of the pair or group cannot be described independently of the state of the others, including when the particles are separated by a large distance.

If a pure bipartite state on system A & B cannot be written as its tensor product, it is entangled.

#### Bell States

Those bipartite states having very strong correlation that are maximally entangled and build an orthonormal basis are called Bell States. The four so-called Bell states are as follows:

The reverse of Bell State circuit gives Bell Measurement, having classical outcome i, j corresponding to Bell State that is used during Quantum Teleportation.

#### Quantum Teleportation

Quantum teleportation is a process in which quantum information (e.g. the exact state of an atom or photon) can be transmitted (exactly, in principle) from one location to another, with the help of classical communication and previously shared quantum entanglement between the sending and receiving location.

Quantum Teleportation follows a no-cloning rule, this means that the data in source gets eliminated during the teleportation; where the source data is scanned and the extracted information is transmitted somewhere else and used to build the source data out of different materials. Teleportation is done from "A" to "B" by sending two classical bits (result of Bell Measurement) from A → B, such that both must initially share one entangled state.

#### Quantum Teleportation Workflow

1. Both system A and system B initially share a Bell State (highly entangled bipartite state) generated from EPR Source.
2. System A applies Bell State Measurement and sends the result of the measurement (2 classical bits) to System B through the classical channel.
3. System B applies a transformation upon its qubit, according to the two received bits.

Link to my medium:

<https://medium.com/quantumcomputingnepal/quantum-teleportation-simplified-98a470b636a4>



Delegates of acem with Ambassador and Deputy Ambassador of the State of Qatar



Hydropower Tour



Bishal Shrestha, Elbina Paudel, Ankit Khanal, Darshan Gautam



Trip to Kaligandaki Hydropower



Celebrating International Women's Day



Kathrin Koebel, Researcher at FHNW University of Applied Sciences and Arts giving lectures on AR & VR



Faculty Orientation- Gokarna Forest Resort



Visions on our booth at St. Xavier



Students visiting Upper Trishuli Construction Site

# SET CONFERENCE:

## Enhancing the Research Capacity of Engineering Students



December 4, 2021, In order to upgrade the research capacity of the students studying in various disciplines of engineering, the third SET conference was organized by the Science, Engineering and Technology (SET) team of Advanced College of Engineering and Management, acem. The slogan of this SET conference read as 'Innovation and Technology for Global Pandemic'. It was attended by engineering students, experts and professors from across the country.

At the conference, experts, professors, and lecturers in the field of industry presented their papers on new exploratory technologies introduced in the global market recently. Prof. Dr. Shashidhar Ram Joshi, Dean of Institute of Engineering Studies, stated that such conferences surely develop a culture of exploring and studying among the students. He also added that it is necessary for all the academic institutions offering science, technology and engineering studies to conduct such seminars. Prof. Dr. Joshi was invited as a chief guest for the conference.

The conference was attended by Mr. Ramesh

Silwal, the Chairman of acem, Prof. Dr. Shashidhar Ram Joshi, Dean of Institute of Engineering, Er. Lochan Lal Amatya, Principal of acem. In the conference, Prof. Dr. Harikrishna Shrestha carried out the roles and responsibilities of the keynote speaker. Moreover, Senior Engineer of Nepal Telecom, Er. Dinesh Chandra Panthi, Associate Professor Padma Sunder Joshi, and Associate Professor Er. Bikash Babu Shrestha presented the papers from the industry side.

The SET Conference is a great opportunity to increase the access of Nepali students at the national and international level," shared Prof. Dr. Shashidhar Ram Joshi. "Nepali students have also come a long way in research work in the field of science and technology." He also explained that all the research papers presented at the conference would be published on the online portal.

The conference is expected to help students to develop the culture of studying and research in their field and also to provide the opportunity to work in various international and multinational companies.

## आहा सहर!

गुज्जायमान रमझम छ देख्दा  
स्वर्गोसरि भो सकिंदैन लेख्दा  
बासी समोसा-पुरीको छ नास्ता  
अहा ! सहर कति हो सुविस्ता ॥१॥

रकम-रकमको नर-नारी जोडी  
फुकाई केशै टमकक मोडी  
बकम्फुसे भन् किरिमै त घस्ता  
अहा ! सहर कति हो सुविस्ता ॥२॥

ट्यॉट्यॉ र टुँटुँ कति रेलगाडी  
धूलो उडाऊ भिडमा पछाडि  
फोकसो कुहिन्छ मुखबाट पस्ता  
अहा ! सहर कति हो सुविस्ता ॥३॥

जिडिरिडड पर्ने तरकारी खान्छु  
कोट-टाई भिर्छु अफिसै म जान्छु  
ठगठाग् गरेका रूपियाँ छन् सस्ता  
अहा ! सहर कति हो सुविस्ता ॥४॥

प्रवेश सुवेदी  
बिसिए-दोश्रो वर्ष  
ब्याच-२०७७



भट्टी भनूँ या दिलचोर ठाउँ  
मुसुकक हाँसूँ भुम्का नचाउँ  
छ गन्ध हवास्सै सजिलो छ रस्ता  
अहा ! सहर कति हो सुविस्ता ॥५॥

यी अस्पताल छन् पहिल्यै बिरामी  
पैसो असुल्ने सजिलो छ बानी  
मान्छे मन्यो लौ ! कसलाई छ वास्ता  
अहा ! सहर कति हो सुविस्ता ॥६॥

## acem ACTIVITIES



The banner for the 'Know Germany' webinar. It features the German flag on the left and right sides. The title 'Know Germany' is at the top in large blue letters. Below it, it says 'Advanced Engineering in association with Goethe-Zentrum Institute & German Embassy, Nepal'. A yellow box on the right contains the text 'A VIRTUAL TRIP ON 17th of May, 2021, 4:00 pm' and icons for Zoom and Facebook LIVE. On the left, under 'To:', there's a list: 'Study an outstanding education', 'Live a dynamic culture', 'Learn a rich language', and 'Know a unique civilization'. Below this, under 'Warm welcome by:' is a portrait of His Excellency, Mr. Roland Schäfer. Under 'Greeting Words by:' is a portrait of Mr. Sebastian Woitsch. Under 'Presentation by:' is a portrait of Mr. Benjamin Matern. Logos for 'ADVANCED COLLEGE OF ENGINEERING & MANAGEMENT' (acem), 'GOETHE ZENTRUM KATHMANDU', and 'Embassy of the Federal Republic of Germany Kathmandu' are at the bottom.

Advanced College of Engineering and Management (acem) organized a webinar 'Know Germany' in partnership with the Embassy of Federal Republic of Germany and Goethe-Zentrum Kathmandu on May 17, 2021. This virtual tour to Germany went live from both Zoom and Facebook. The major attraction of the session was the Ambassador of Germany to Nepal, His Excellency Mr. Roland Schäfer. Experts Mr. Sebastian Woitsch, Director of the GZK, Mr. Benjamin Matern, Head of Language Department, and Mr. Binam Karmacharya, Head of Exam Department of GZK

## Digital Empowerment and Girls Workshop

acem, in collaboration with Robotics Association of Nepal (RAN) successfully completed 3 days' workshop on 28th of February, 2021. The major objective of the program was to increase girls' participation, engage them in technical learning in order to uplift and shape the future of young girls in the field of technology.

The 3 days long workshop conducted the practical learning through 'Node MCU and Arduino Programming', 'Internet of Things' and ended with 'Artificial Intelligence (AI)'. More than 40 girls from various institutions of the valley were actively involved throughout the training.

On the 3rd day of the workshop, Dr. Sunil Babu Shrestha, vice chancellor of Nepal Academy of Science and Technology (NAST) was invited as the Chief Guest of the program while the Guest of Honor was Mr. Kapil Dev Regmi, executive director of acem along with Er. Lochan Lal Amatya, principal of acem, as a guest.

During the closing ceremony, chief guest Dr. Shrestha stated the importance of AI & Robotics in the digital world of the 21st century. He expressed his concern over low participation of women in technology and shared that NAST expects a future led by technically sound women.

contributed largely to the program while Er. Sojan Prajapati moderated the panel discussion.

His Excellency, Mr. Roland Schäfer, the German Ambassador, expressed his gratitude to the acem family and also voiced the concern regarding the second wave of pandemic in Nepal. His excellency informed that Germany and the European Union itself will be supporting Nepal at such a crisis period. Moreover, he praised that Nepal is on the right track in providing academic training in the engineering sector.

Mr. Sebastian Woitsch, Director of the GZK, shared a short history behind the name Goethe and how it reflects the diverse culture and arts of the nation.

"Goethe is a leading language center and is a part of an incredible network of more than 200 institutes of the world." He stated.

Mr. Benjamin Matern, Head of Language Department at GZK in coordination with Mr. Binam Karmacharya, Head of Exam Department at the institute, explored Germany, its culture, turbulent past, historic places, wonderful festivals, unique civilization and obviously the rich language in a truly artistic manner.

Mr. Ramesh Silwal, Chairman of acem, appreciated the valuable time of His Excellency, of the German scholars. He also shared his experience of Germany and opined that such events help to enlighten not just the interested students but also the overall participants.



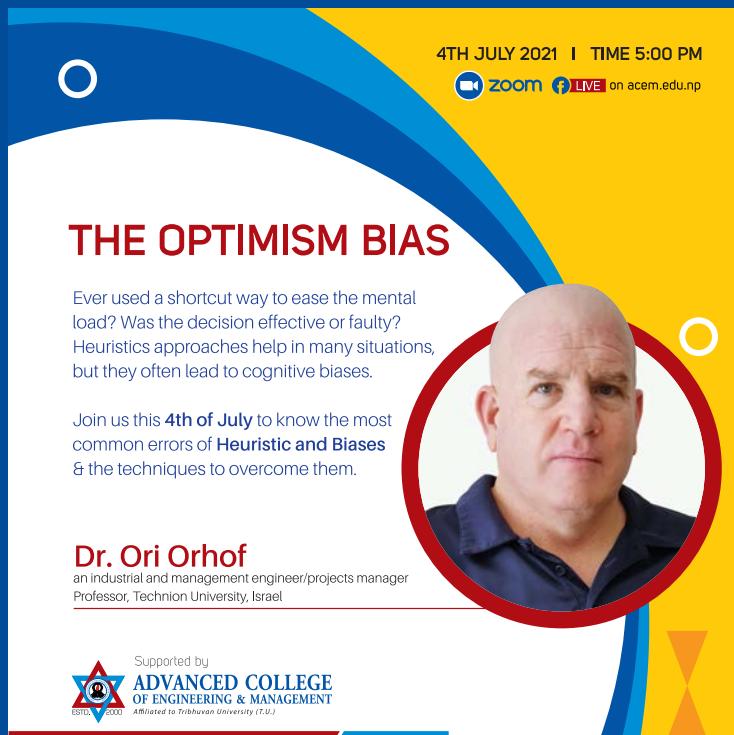
Hence, shared his gratitude to acem and RAN for providing this opportunity to the girls.

"Given the same opportunity and environment to both male and female, females can do better," Mr. Kapil Dev Regmi, the Guest of Honor, began his brief speech with this powerful statement. For the welfare of women, he shared how dedicated he is to build a better world for skilled ladies.

Borrowing the example of Finland's All Female Coalition government, Mr. Regmi envisioned a similar world. He hoped that it is indeed possible even in our country if we ensure the proper education, training and environment to the girls who have been marginalized since a long period of time.

Er. Bikash Gurung, president of RAN gladly announced that he was pleased to promote girls in technology and female partnership. Mr. Gurung also appreciated the positive response from acem and NAST for valuing their effort.

# Advanced Engineering Organized a Webinar on Heuristic and Biases



Advanced College of Engineering and Management, acem, organized a webinar on 'Cognitive Biases in Decision Making' in association with Professor Dr. Ori Orhof, Technion University, Israel on 4th of July, 2021. The webinar witnessed significant presence of prominent personalities like His Excellency Mr. Hanan Goder, Ambassador of Israel to Nepal,

Her Excellency Dr. Anjan Shakya, Ambassador of Nepal to Israel amid the enthusiastic participation of acem's faculties, staff, and students.

His Excellency, Mr. Honan Goder, the Israeli Ambassador, expressed his gratitude to the acem family stating that the topic of 'Heuristic and Biases' is indeed very useful for any individual to solve the errors of daily practice. Her Excellency, Dr. Anjan Shakya, the Nepali Ambassador congratulated the organizing team for such a productive session. She also highlighted the bilateral relationship between Israel and Nepal.

Professor Dr. Ori stated that the first step toward overcoming cognitive biases is to acknowledge that we have them. "Sometimes, the most sophisticated thinkers fall prey to their own cognitive biases, so we should be careful in this regard. I think we should also utilize the tools that can help balance out our own irrational tendencies." He explained with various references.

Mr. Kapil Dev Regmi, Executive Director of acem, welcomed the speaker, special guests, and acem family with warm regards for their contribution in this webinar. He expressed his delight as the topic is based upon the theme of faulty decisions to help students understand the results of human actions especially in engineering.

## Photography Competition

In the midst of a monotonous and tedious lockdown, acem conducted a photography contest to be acquainted with the talented photographers scattered around in acem. Several enthusiastic participants participated in the contest with outstanding skills of photography.

*The winner of the contest was Mr. Raj Byanjankar of BCA, 1st Semester. Similarly, 1st Runner-up and 2nd Runner-up were Mr. Saurav Bhatta of BCE, 073' Batch and Mr. Subin Bajracharya of BCA, 1st Semester respectively.*



Winner



1<sup>st</sup> Runner UP



2<sup>nd</sup> Runner UP



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