



Capital University of Science and Technology Islamabad

# NEWSLETTER



C.U.S.T.

NEWSLETTER

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## C.U.S.T. Holds 12th Convocation

The 12th Convocation of Capital University of Science and Technology, Islamabad was held on December 06, 2016 in Convention Centre, Islamabad wherein over 700 graduates including BBA, MBA, BS, MS and PhD in the fields of Management & Social Sciences, Electrical Engineering, Mechanical Engineering, Computer Science, and Bioinformatics & Biosciences were awarded degrees. Engr. Muhammad Baligh-ur-Rehman, Minister of State for Education and Professional Training graced the occasion as the Chief Guest while renowned nuclear scientist Dr. Samar Mubarakmand was the Guest of Honour.

Prof. Dr. M. Mansoor Ahmed, Vice Chancellor,

contribution of the University in the field of higher education. He also said that in the present day scenario, education does not end with acquiring a degree; it is a lifelong affair exploring new horizons, and broadening of the vision, marching on a never-ending journey towards new frontiers of knowledge. The role of higher education becomes more prominent and wide ranging. Currently, we do not only need the conventional types of education. We are now faced with modern challenges of different types and it is the higher education which plays a key role in determining the position of a nation in today's knowledge driven economy. It guarantees sustainable progress and



Capital University of Science and Technology, Islamabad welcomed the guests, students and their parents in the memorable occasion and declared this event as a significant milestone in the lives of graduates. He congratulated the graduated students their parents and highlighted the contribution made by the University in the field of higher education. He hoped that the graduates will contribute towards scientific and technological development of the country through their ability, dignity, determination and commitment. He informed that the University has earned a prominent position amongst its competitors by putting high emphasis on R&D activities and its graduate programs.

While addressing the Convocation, Engr. Muhammad Baligh-ur-Rehman, congratulated the students on their academic achievements. He expressed his appreciation for the efforts and

assures a place of respect to both individuals and nation.

The renowned scientist Dr. Samar Mubarakmand said in his address that education plays a vital role in economic development of country. It raises the productivity and efficiency of individuals and thus produces skilled manpower that is capable of leading the economy towards the path of sustainable economic development.

Altogether 20 PhD graduates received their PhD degrees in different fields. The Chief Guest also awarded 50 medals including 19 Gold, 19 Silver and 12 Bronze medals to the graduates who stood 1st, 2nd and 3rd in their respective degree programs. The Jinnah Gold Medal was also awarded to an overall best graduate, Ms. Arooj Khalid Butt, a student of BBA, on her overall distinguished performance in curricular and extracurricular activities.



## ExclTe Cup 2016

Department of Computer Science, Capital University of Science and Technology, Islamabad, organized ExclTe Cup on November 26, 2016. The event offered 7 competitions, including: On-Spot Programming, Software Project Exhibition, E-Gaming Competition, Mushaira Competition, Photography Competition, Quiz and Poster Design Competition. Around 87 teams and more than 203 participants from different universities of all over the country registered themselves for different competitions. Cash prizes, shields, and certificates were awarded to the winning

and dedicated efforts of the faculty members of Computer Science Department who made this event a success. The compendious words of HoD were followed by the speech of the Chief Guest Mr. Anwar Amjad, DG (IT), HEC Islamabad. Then Mr. Anwar Amjad and Dr. Nayyar Masood presented the shield to all the judges of different competitions; to JSpark team, and to the sponsors of the event. Afterwards, the distribution of cash prizes, shields and certificates to all the participants turned up. First position holders were awarded not only with the shield, but



teams. Cash prizes of over Rs. 25000 and IT Cup to the winning team was awarded. The event started with the recitation of verses from the Holy Quran. It pursued the address of Dr. Tanvir Afzal, the Convener of the Event. The inaugural session encapsulated by serving the tea and refreshment to all attendees.

The first half of the event consisted of On-Spot Programming, Software Exhibition, E-Gaming, Photography Idea Discussion and Quiz Competition. The selection of Finalist transpired in the first half for further precedence. The lunch was served to the participants and faculty afterward. All competitions perpetuated after lunch break. In the second half of ExclTe Cup 2016, Mushaira Competition, Quiz Competition and Poster Design Competition started, while the other Competitions moved to their decisive round.

The closing ceremony once again proceeded with the recitation of verses of the Holy Quran. Dr. Nayyar Masood, Head of Computer Science Department presented the succinct of the event. He acknowledged the ardor and enthusiasm of all participant teams and appreciated their cooperation in smooth demeanor of all competitions. He also valued the enthusiastic

also with attractive cash prize of Rs. 6,000 to 10,000, while second and third position holders were given shields only. Certificates were distributed to the all participants. The event ended with a High Tea to all participants and guests.

## Welcome Party, CS & SE Students

A welcome party was arranged for the first semester students of Computer Science Department on November 22, 2016 at C.U.S.T., Islamabad. This party was arranged by the students of CS 2nd Semester students. The students of 2nd semester performed different plays and other skits to entertain their juniors. The Chief Guest of this event was Prof. Dr. Nayyar Masood, Head of Computer Science Department. He appreciated the efforts of all the organizers and the participants for organizing such a colorful event. He took the promise from the 1st semester students that they will continue this tradition in the next semester as well. The event was supervised by Ms. Raabia Asif. At the end, event convener distributed the certificates among the organizers and the dinner was served to all the guests, organizers and faculty members.



## 4th International Conference on Biological and Computer Sciences

The Department of Computer Science and Department of Bioinformatics and Biosciences, Capital University of Science and Technology, Islamabad organized the “4th International Conference on Biological and Computer Sciences (C-BICS)” on December 17, 2016. Prof. Dr. Hermann Maurer, School of Computer Science, Graz University of Technology, Austria was the Chief Guest and Dr. Abdul Hameed (SI),

delivered a very informative talk about pros and cons of current technologies on worldwide level. Dr. Abdul Hameed, as a keynote speaker discussed about the current issues associated with our leather industry. After opening ceremony, the regular sessions of conference started. The conference was divided in two main areas, i.e., Computer Science and Biosciences.



International Islamic University, Islamabad was the guest of honor. C-BICS 2016 provided an ideal platform to the academicians, researchers and to the young and emerging scientists to share their ideas and work with eminent scientists and experts.

The conference included 129 participants and 80 authors for oral and poster presentations from almost 35 different institutes all over the Pakistan. The inaugural session was chaired by Prof. Dr. Hermann. Inaugural address was delivered by Prof. Dr. Muhammad Mansoor, V.C., Capital University of Science and Technology, Islamabad. In his address, he cordially welcomed the Chief Guest and the participants, and wished that this conference will provide a fruitful outcome in bringing scholars and scientists and bridging the gap between research and industry. Dr. Hermann as a keynote speaker

There were four parallel sessions in the morning and also in the evening where six papers were presented in each session. The poster session also started in parallel, where more than thirty posters from two main areas were displayed. All the oral and poster presentations were evaluated for the positions. Participants showed full interest in presentations and gave valuable feedback to the presenters. The concluding ceremony was chaired by Prof. Dr. Muhammad Abdul Qadir, Dean, Faculty of Computing (C.U.S.T.). He offered the vote of thanks to all the participants including authors, whole C-BICS organizing team and university administration for organizing successful C-BICS 2016. To appreciate contribution of authors in poster and oral presentations shields were awarded by Prof. Dr. Muhammad Abdul Qadir to the 1st and 2nd positions declared by the session chairs.

## Seminar on ASP. NET MVC 5

A seminar entitled, “ASP.NET MVC 5” was arranged on December 30, 2016. The Chief Guest of this event was Mr. Zafar Ullah who is serving as a CTO eSawari, Head OraNet Microsoft division, Islamabad. Mr. Zafar briefed the participant of the session about the framework for the development of web application. Basically it was an introductory session for the participants to get to know about working in this environment. At the end, Dr. M. Tanvir Afzal presented the university crest to the

honorable chief guest and the High Tea was served to all the organizers and to the guests.



## Graduate Seminar, Faculty of Computing

14th Graduate Seminar, Faculty of Computing was held on April 5, 2016. 26 graduate students attended the seminar along with several faculty members. Two PhD students presented their research progress during the 2 hour session. First presenter, Mr. Qamar Zaman from Department of Computer Science presented, "Formalization of Use Case Model". Second presenter, Mr. Mohib Ullah was also from the Department of Computer Science who presented, "Poshida, A Multi Group Distributed peer to peer Protocol for Private Web Search".

15th Graduate Seminar was held on December 8, 2016. 25 graduate students attended the seminar along with several faculty members of faculty of computing. Two PhD students presented their research progress during the 2 hour session. Mr. Najmul Ikram from the Department of Computer Science presented, "Investigating Protein Semantic Similarity Measurement and its Correlation with Sequence Similarity." Second presenter, Mr. Yasir Mehmood from the Department of Mathematics presented, "MHD Oblique Stagnation Point Flow of Nanofluid over a Convective Stretching Surface."

## Qirrat & Naat Competition

Following the tradition, in the holy month of Rabi-ul-Awwal, Department of Computer Science, Capital University of Science and Technology, Islamabad organized a Qirrat & Naat Competition. It was organized by the students of Communication Skills, Section 3 students. Under the umbrella of JSpark, the event was supervised by Mrs. Humera Aftab, There were altogether 22 students who participated in the competition. Each and every student was well prepared and they made the task of judgment difficult for the judges. Judgment was done in a thorough fashion and first, second and third position holders were awarded certificates by the Head of the Department, Prof. Dr. Nayyer Masood. Moreover, all participants were also given certificates. In the end High Tea was served to the judges, faculty members and the winners of competition.



## Seminar on Personal Grooming

Under the umbrella of JSPark, students of TRW, Section-4, Department of Computer Science, Capital University of Science and Technology, Islamabad organized a seminar on October 24, 2016. The Guest Speaker, Mr. Suhaib Saleem, delivered a talk on a very interesting topic, "Personal Grooming" to the students. Apart from studies, the university pays

special attention to personal grooming and confidence enhancement of the students. This seminar was a part of that effort. A large number of students attended the seminar and learnt a lot from interactive talk. Seminar took place in a friendly and interactive environment and the speaker was able to hold the attention of audience till the last minute. It was a fruitful session for the students. The guest speaker was offered souvenir and High Tea was served to Guest Speaker and other guests.

## Seminar on Keys to Success in Life

Under the umbrella of JSPark, students of TRW, Section-2, Department of Computer Science, Capital University of Science and Technology, Islamabad organized a seminar on October 27, 2016. The Guest Speaker, Mr. Abu Bakar Siddique delivered a very effective lecture on "Keys to Success in Life". He

guided students that how they can be successful in life by following Quraan and Sunnah as this is the only way to be successful in this world and the world here after. Last session proved to be very fruitful and interactive. Students asked different questions from the speaker and he satisfied the queries of the students. High Tea was served to guest speaker and other guests.

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## Seminar on Is Universe Moral?

Under the umbrella of JSPark, students of TRW, Section-1, Department of Computer Science, Capital University of Science and Technology, Islamabad organized a seminar on October 25, 2016. This initiative served as an ice breaker and start of social interaction between the students and the guest speaker. A warm welcome was extended to the guest speaker, Mr. Khurram Ellahi, by the students. He delivered his lecture on the topic "Is Universe Moral?" The guest speaker explained beautifully the relation between Quran and Science which encouraged the students to strengthen their faith on Allah. Students were introduced to the guest speaker and they exchanged their views in an interactive way by discussing the seminar notion. Souvenir was presented to the Guest Speaker and High Tea was served to guest speaker and other guests.



## Unity Game Development Workshop

Department of Computer Science at C.U.S.T., Islamabad organized a one-day, "Unity Game Development" workshop on December 3, 2016. Dr. Muhammad Aleem and Mr. Salman Ahmed supervised the workshop which was conducted under C.U.S.T. ACM Chapter. UNITY is a widely used game-development platform. The major objective of the workshop was to enhance the skills of students in the domain of game development using the UNITY platform. The department invited a professional UNITY

game developer, Mr. Ektishaf Ahwaz from Techno Keet Pvt. Ltd., Islamabad along with his team of developers. Forty students from different semesters of BS Computer Science participated in the workshop.

The workshop was held in university lab which was fully equipped with latest hardware and software environment to support the smooth conduct of the workshop. Students got the hands-on experience of the UNITY game development platform under the guidance of the industry experienced game developers. In the end, after question answers session, souvenirs were presented to the resource person, Mr. Ektishaf Ahwaz and his team.





## Workshop on Presentation and Interview Skills

Department of Computer Science, Capital University of Science and Technology, Islamabad organized a workshop on Presentation and Interview Skills for the students on November 01, 2016. The CS Department puts emphasis on enhancing such skills of the students that help them to enter and excel in professional life. This workshop was a part

of this endeavor which was conducted under C.U.S.T. ACM Chapter. The trainers of the workshop were Mrs. Humera Aftab and Dr. Arshad Islam of CS Department. It was an interactive round where students kept on satisfying their queries. The workshop proved to be very fruitful. In the end High Tea was served to the trainers.

### Bioinformatics Awareness Session

Department of Bioinformatics has taken an initiative to create awareness among college students about emerging domains and fields in Biological sciences. Under umbrella of Bioinformatics Awareness Program, Dr. Marriam Bakhtiar organized a workshop for College Students. About 30 students and Faculty members from Government Degree College Zafar-ul-Haq Road, Rawalpindi visited Capital University of Science and Technology, Islamabad on November 10, 2016. Students were welcomed by Mr. Zia ud Din. Lecture session comprised of: Introduction to University and Department, Introduction to Biotechnology, Introduction to Bioinformatics and Introduction to Biomolecular Computers was arranged. Students

showed keen interest in the activity and were highly motivated to continue their studies and explore new avenues for carrier selection. Tea was served to all participants.



### Seminar on Bioterrorism

A seminar was arranged on Bioterrorism, on October 25, 2016 under the supervision of Dr. Erum Dilshad, Department of Bioinformatics and Biosciences, Capital University of Science and Technology, Islamabad.

The Speaker, Dr. Hammad Ismail from Department of Biochemistry and Molecular Biology, University of Gujrat, delivered a very informative lecture on Bioterrorism. In his lecture, he introduced Bioterrorism, its history and the preventive measures against it. At the end, speaker was presented shield by Dr. Shaukat Iqbal Malik, and entertained with the tea.





## Diabetes Walk

Currently, 415 million people in the world have diabetes and there were over 7 million cases of diabetes in Pakistan in 2015. People are unaware of the causes of the onset of the disease. In this regard a walk was arranged on November 8, 2016 by Dr. Erum Dilshad, Department of Bioinformatics and Biosciences to create awareness of diabetes. A large number of students joined this walk. It was a walk of 20 minutes,

from University gate to the fountain. Students were very enthusiastic and showed keen interest in the activity. Charts and banners were prepared and displayed by the students about the cause of walk and awareness regarding the disorder. Finally, there was a talk of 10 minutes by a senior student of BI, Nadia Ramzan who enlightened the participants about the symptoms and causes of the disease and treatments available for it.



## BI & BS Students' Visit to IBGE Islamabad

On November 7, 2016 a group of 4th and 5th semester students of BI and BS, Department of Bioinformatics and Biosciences visited Institute of Biomedical and Genetic Engineering (IBGE) Islamabad. This Institute majorly works In Genetic Diseases, DNA Finger printing, Cancer Genetics, Microbial Genetics and Bio-nanotechnology on both research and commercial level. Mr. Shahid Hussain supervised this trip.

On visit day all the scientific and technical staff met the students and a welcome speech was delivered by Director General, Dr. Muhammad Ismail, and the Scientist working there explained the students their

ongoing projects and latest technology they use. All the 7 labs working in different areas of Biosciences were visited. Each lab in-charge gave a detailed introduction and functionality to all apparatuses and machines present over there. Students very confidently participated in all discussions. Students were appreciated and encouraged by the Director General of IBGE to join IBGE as internee and inform them that they can also avail final year projects facilities through proper channel and students were also advised for future research domains in biosciences and Bioinformatics.





## Seminar on Polycystic Ovary Syndrome

GENIX Society of Capital University of Science and Technology, Islamabad organized a seminar on PCO Syndrome related to female health disorder under the supervision of Dr. Sahar Fazal on November 22, 2016. The guest speaker was Prof. Dr. Mehreen Mahmood, Head of Gynecology Department, Islamabad Medical & Dental College, Islamabad. She is a renowned gynecologist working on PCO syndrome. This seminar was basically meant to highlight the very important female health issue that is being ignored particularly in Pakistani society. PCOS has been known as the "Silent Killer". Early diagnosis of PCOS is important as it has been linked to an increased risk for developing several medical risks. It was a very interactive session as female students actively participated. A souvenir was presented to the guest speaker and tea for guest speaker and faculty was also served.



## Welcome Party of BI & BS

GENIX is a society serving for the extracurricular activities for the students of Department of Bioinformatics and Biosciences. A welcome party was organized on September 27, 2016 for the 1st semester students by the 2nd semester students. Students actively participated and welcomed their juniors. Venue was the university workshop room. All the faculty members

were invited and students from 1st semester were the special guests of the event. They were entertained by their seniors and also have an informative interaction with the faculty as well. They were guided for the future academic life and how to be a good student and what is the future perspectives related to their field. Overall environment was interactive and in the end lunch was served which was enjoyed and new students seemed to be motivated and happy for such a warm welcome from the department.





## Seminar on CPEC

Engineer's Forum, society of Civil Engineering Department, Capital University of Science and Technology, Islamabad arranged a seminar on the topic "Role of CPEC in the Economic Development of Pakistan". Lt. Gen. (R) Mr. Shahid Niaz was invited as guest speaker to shed light on the topic. Honorable guest has a great experience of civil engineering projects and currently working with NHA as Team Leader of PMU for Highways projects of CPEC. Faculty members and students from all departments attended the seminar. This event was highly appreciated. Overall a comprehensive knowledge about CPEC was gained and undergraduate students got to know how to play effective role in the development of Pakistan after graduation.

## Energy and Environment

Society of Energy and Environment, Department of Civil Engineering conducted an event which was held at Capital University of Science and Technology, Islamabad. Students were given free chocolates and their wrappers were collected in recycle bin. The aim of this event was to create awareness of the use of recycle bin. There was a cash prize given to student at the end of event through a lucky draw, drawn by the Vice Chancellor of C.U.S.T., Prof. Dr. Muhammad Mansoor Ahmed who specially appreciated the initiative taken by Civil Engineering Department and members of Society of Energy and Environment.

## Science Society – Hidden Secrets

Science Society-Civil Chapter, Department of Civil Engineering, C.U.S.T. arranged an event by the title of "Hidden Secrets" on January 06, 2017. The theme of the event was to test the students of the new batch of Fall 2016 that how much they have known the university campus during the first semester. The scavenger hunt included team of 3 members each from different departments of the university. A total of five teams were registered for competing in the event. Every team was provided with a set of clues. Following the clues they had to find different objects hidden at various places in the university. The first team to find all the objects was declared the winner. At the end of the event, Registrar, Mr. Malik Arshad Mehmood and Manager HR, Mr. Tariq Mehmood distributed the cash prize among the two winning teams.



## Seminar on Sustainability of Development Projects in Pakistan

Science Society-Civil Chapter, Department of Civil Engineering, Capital University of Science and Technology, Islamabad arranged a lecture on October 14, 2016. The topic of lecture was "Sustainability of Development Projects in Pakistan" and the target audience were the students of first, third and fifth semesters. The invited guest speaker was Dr. Hassan Abbas, Water Program Head at LEAD House,

Islamabad. His lecture focused on the importance of sustainability as a key factor for success of any development project. His presentation particularly targeted the Indus Basin and its underutilized potential for navigation. At the end of the lecture, Engr. Sheheryar Shafique thanked the guest speaker. University souvenir was presented to the guest speaker by Dr. Munir Ahmad.



## Energy Conservation and Environmental Protection

IEEE Islamabad Section held a Twin SB Project Competition to promote inter-branch interaction. IEEE PIEAS Student Branch and IEEE Capital University of Science and Technology, Islamabad Student Branch worked together to present a proposal that won the competition and as a result, they launched a campaign to promote the Energy Conservation within the society. On October 20, 2016 students went to different schools where they had discussions with students in regard to how they can perform their role in diminishing the current ecological circumstances. Two groups went to the Roots IVY Millennium and Indus College of Science & Commerce. The event continued on October 21 in Capital university of Science and Technology, Islamabad. 110 participants from different universities attended the event. At first, a video was shown about the first day events conducted a day earlier and previous accomplishments of IEEE C.U.S.T. and IEEE PIEAS. Then respected guest speaker, Mr. Usman Ghani was invited to share his thoughts about energy conservation through smart devices. Then the other guest speaker Dr. Naseer came to talk about nuclear energy as green energy. He talked about nuclear radiations that are emitting from nuclear power plants and also human

body is transmitting radiations so it's a misconception that nuclear radiations can kill a person as in Ramsan



(Iran) there is maximum of 260mSv/year radiations due to uranium. The speakers were given shields and certificates were given to the organizers. The event ended with high-tea for all the participants and guest speakers.

## First Under Graduate Research Group Workshop

A workshop was held on October 27, 2016 for under graduate students of Electrical Engineering Department, Capital University of Science and Technology, Islamabad. Dr. Amir Iqbal Bhatti delivered the presentation to the students interested in Under Graduate Research program. The workshop started with an introduction which was given by Mr. Moiz. It was about how IEEE helps students with learning and providing resources about any topic they want. The first part of discussion was regarding the introduction of

IEEE. After that introduction, Dr. Amir Iqbal Bhatti told students what research actually means and also gave introduction to CASPR society which is headed by Dr. Amir himself. It was advised to the students that they need to come up with the area of interest so that in the up coming sessions students may get a direction of the area of research, and it would later be identified which field would be better for them and they would be assigned some topics to learn about them. Suggestions about the fields were also welcomed.

## Go Orange Say No to Violence to Women

IEEE WIE C.U.S.T. SB ISLAMABAD hosted an event "GO ORANGE: Say No to Violence to Women" in SOS Village, Islamabad on December 10, 2016. There were a total of 50 students who participated in this activity. The aim of hosting the event was to bring awareness among the kids that treating women badly is not something to be appreciated by anyone and to celebrate International Human Rights Day in orphanage. It also was the last day of the 16 days of Activism to End Gender-Based Violence. This event was to keep advocating for a culture of equality and respect for women's rights.





## Industrial Visit at Pakistan Locomotive Factory Risalpur, KPK

An industrial tour was arranged for students of semester III and VII, Department of Electrical Engineering, Capital University of Science and Technology, Islamabad on October 08, 2016. As the students reached the Locomotive factory they were received by Engineer Muhammad Latifullah (Incharge Mechanical Department, PLF Risalpur) who delivered an introductory lecture which motivated the students and they visited each section with more interest. It was a very complex and huge setup and dividing the students into three groups made the visit more informative. The workers of each section were trained and explained their sections by showing different inputs and outputs of their section. It was a professionally managed tour and the students benefited a lot. Students learnt many

things about different types of welding and cutting of iron sheets used in locomotives. They observed different models of locomotives manufactured and repaired by PLF. They also visited the electrical section of PLF in which factory personals design the interior circuitry of locomotives and repairs different types of motors specially windings of heavy duty motors. Students also got knowledge of CNC machines and they observed them carefully. After this they also visited testing laboratory of the factory in which different types of tests are performed. Besides this students also visited the substation of Pakistan Locomotive factory in which they learnt about power distribution of the industry. Overall it was a highly productive visit and students were very appreciative of the opportunity they were given.



## IEEE C.U.S.T. Basketball League Held on December 22, 2016 to January 4, 2017

IEEE C.U.S.T. Student Branch organized C.U.S.T. Basketball League for the first time in the university. The tournament was of 2 weeks from Thursday, December 22 to Wednesday, January 4, 2017, in basketball court. The purpose of this initiative was to get the students excel in extracurricular activities and promote basketball on a large scale. Keeping this purpose in view, the registration was free so that maximum students participate in it. The inauguration ceremony was held on December 22, 2016 at 9:30 a.m. The ribbon cutting was done by Prof. Dr. Imtiaz Taj, the Dean Faculty of Engineering. 5 teams (total 40 participants) from different departments participated in the tournament. C.U.S.T. Warriors and C.U.S.T. Gladiators made it to the finals. C.U.S.T. Warriors won the game. Trophy was given to the winning team which was presented by Mr. Saqib Naveed. Cash prize of Rs.2000/- was also given

to the winning team and Rs.1000/- were given to the Runner-up team. Shield for most valuable player was given to Ammad Amir. Certificates were given to the all the participants and organizers.





## Students of C.U.S.T. Excel in Pakistan's Largest Robotics

A team of students of Electrical Engineering Department, Capital University of Science and Technology, Islamabad performed brilliantly in National Engineering Robotics Contest 2016 conducted by the EME College of NUST. The theme of the Contest was "Search and Rescue". Teams from all well renowned Engineering Universities of Pakistan participated in the contest. Four teams from C.U.S.T. participated in this contest. Teams worked hard to compete in this

contest and to represent their institute at national level. Engr. Muhammad Aatif, under the supervision and guidance of Prof. Dr. Amir Iqbal Bhatti helped these participants. The outcome was exceptional because in limited time these teams made a phenomenal progress. By the Grace of Allah Almighty C.U.S.T. was crowned 3rd in Pakistan's largest Robotics event. They were also awarded with Rs. 100,000/- for this accomplishment.



## Health and Safety Awareness Training

Health and safety awareness training was held in Department of Electrical Engineering on September 9, 2016. It was arranged by Health and Safety Committee of Electrical Engineering Department, C.U.S.T. Health and safety Incharge Mr. Muhammad Rizwan Javed gave training to lab engineers and lab technicians. All the lab staff was briefed about safety precautions for different labs, operation of fire extinguishers and use of First Aid Box.

## IEEE C.U.S.T. Student Branch Table Tennis Tournament

A table tennis tournament was organized by IEEE C.U.S.T. student branch on December 01, 2016. The event was organized for students to bring students' interest towards extra-curricular activities. It improves reflexes and co-ordination and develops mental acuity. The other goal was to find and develop our talent for future competitions. The event was conducted in a very conducive environment. There were a total of 17 participants from Electrical Engineering, Computer Science, BBA/MBA, Mechanical Engineering Departments. Certificates for all the participants and shields were given to the runner up and winner.

## Influence of Bradari System on Electoral Process-Voting Behavior

A seminar on "Influence of Bradari System on Electoral Process-Voting Behavior" was conducted on November 28, 2016, supervised by Ms. Rabia Habib and the guest speaker was Ms. Zia Fatima, Lecturer, ARID Agriculture University, Rawalpindi. The guest speaker has publications related to voting behavior of individuals in Pakistan. The session started with an overview of the various factors behind voting behavior, followed by summary of research which determines the impact of Bradari System on voting behavior. Ms. Zia Fatima outlined the strategies used by politicians all around the world. Towards the end of the seminar, the Guest speaker shared the importance of social media on voting behavior of individuals.





## Seminar on Cyber World

A seminar on the topic of “Cyber World” was held on October 06, 2016 under the supervision of Dr. Shazia Akhtar of Management and Social Sciences, Capital University of Science and Technology, Islamabad. The Guest Speaker was Mr. Saqib Shabbir, MS Information Security, Lecturer CS Department, Certified Mobile App Penetration Tester, Trainer, and Speaker. The guest speaker started the seminar by giving the introduction about cyber security. He told about the consequences faced by the individual or the businesses as they connected to the cyber world by mobile phones, wifi or the smart devices. He also guided the students that how they can avoid the hacking and sharing of information to the people they don't know. He gave a demo on downloading an app from unknown resources can seriously affect your life. He briefed on the topic of how youth is affected by the cyber world and about the cyber crime law and how one can contact them to avoid any serious issues.



## Farewell Party

On December 14, 2016 a farewell party was organized for BBA students of Batch 131, by Batch Advisor Ms. Rabia Habib. The party was arranged at Central Marquee, G.T.

Road, opposite Bahria Phase 7. The function was hosted by Batch 132. Students were given titles, songs were dedicated and Lady of the evening was awarded gift. Faculty members of Management and Social Sciences Department attended the function. At the end of the function, Dinner was served.



## Seminar on Investment Options and Career Prospects

On December 27, 2016 a seminar on “Investment Options and Career Prospects” was held under the supervision of Ms. Maria Mashkoo & Ms. Rabia Habib. The guest speaker was Mr. M. Ali Khan, CEO of Institute of Financial Market of Pakistan (IFMP) a subsidiary

of security & exchange commission of Pakistan. He enlightened the students regarding the finance departments of different organizations and what is the job of a person in finance. This seminar was very meaningful and knowledgeable for finance student.



## Workshop on Cultivating a Research Culture

On December 31, 2016 under the title of Cultivating a Research Culture, the Department of Management and Social Sciences, Capital University of Science and Technology, Islamabad conducted two PhD workshops on 'How to write a PhD proposal'. This workshop was offered to both in house students and to students from other universities, without any cost. Dr. Sajid Bashir (HoD, FMS) conducted the workshop for PhD HR & Marketing and Dr. Jalil Ahmed (Faculty, FMS) conducted a workshop for PhD Finance Students. It was a 2 hour session each shedding light on the structure of proposal with emphasis on ensuring novelty in topic selection and methodology.

University of Science and Technology, Islamabad. The guest speaker was Saith Usama Chitrani, one of the best motivational speakers.



## Lighten up Mind

On October 18, 2016 a seminar on "Lighten up Mind" was held under the supervision of Ms. Maria Mashkoor of Management and Social Sciences, Capital

## Research Paper Presentation

Mrs. Ameena Zafar, Assistant Professor, Faculty of Management and Social Sciences, Capital University of Science and Technology, Islamabad presented her research paper 'It is Time to Embrace English as a Pakistani Language' at the conference on Policy Dialogue on Language at the Higher Education Commission of Pakistan in collaboration with Air University, Islamabad. The Policy Dialogue aimed to bring together linguists, educationists, and industry representatives to draft recommendations for Pakistan's first National Language Policy. The Policy will feature a section on mediums of instruction in education, and it contains guidelines to adopt the Supreme Court's decision. After the presentations,

the Policy Dialogue took the form of focus-group sessions which included talks on the role of English in Pakistan, translation concerns and the importance of regional languages. Some of the other reputed speakers at the conference were Mr. Javed Jabbar, Former Pakistani Senator & Federal Minister; Dr. Qasim Bughio, Pakistan Academy of Letters; Dr. Swathi Vanniarajan, San Jose State University, USA; Dr. Mohammad Irshiad Al-Khawalda, Mutah University Karak, Jordan; Dr. Turki Ahmad Ali Diab, University of Jordan; Dr. Maria Isabel M. Garcia, UNED, Spain; Dr. Basim M. Abubaker Faraj Alaish University of Benghazi, Libya; and Ms. Maria Snarski, English Language Expert, USA.

## HEC Travel Grant Awarded

HEC awarded a travel grant in Fall 2016, to Mrs. Ameena Zafar, Assistant Professor, Faculty of Management and Social Sciences, Capital University of Science and Technology, Islamabad. She presented her research paper in an Oral Presentation on 'Language Effectiveness in Print Media Advertisements of Multi-national Fast Food Chains' in the 7th ICEEPSY: The International Conference on Education and Educational Psychology,

Rhodes, Greece. This paper has been published in the European Proceedings of Social & Behavioural Sciences EpSBS e-ISSN: 2357-1330, indexed in Thomson Reuters Conference Proceedings Citation Index. Based on the success of her presentation and her research experience of thirty-two publications in the related area, she has also been invited by the conference organizing committee 'Future Academy', to arrange a two hours opening workshop session at the 8th ICEEPSY, to be organized in Portugal in 2017.

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## 4th International Social Science Conference Organized by HEC

On October 26 to 27, 2016, Faculty members of Department of Management & Social Sciences attended the 4th International Social Science Conference organized by HEC, Pakistan. The theme of this conference was 'Regional and International Cooperation Challenges and Prospects 2016'. Emerging trends, major challenges and prospects in regional and international cooperation, developing atmosphere for regional and international cooperation and education were the focal points. It was a brainstorming session to explore possibilities of collaboration in interdisciplinary research initiatives that could address regional and international cooperation issues of the Pakistan.



## Workshop on Chopstick Simulation

On December 23, 2016, Ms. Maria Mashkoor organized a Chopstick Simulation workshop for the students of "Personal Grooming and Development"; keeping in mind the era of globalization and the need to know international dining etiquettes, the students were taught how to eat with chopsticks.

## Saint Mary's Academy Education Expo 2016

An Education expo was held at Saint Mary's Academy Lalazar, Rawalpindi on December 8, 2016. A large number of educational institutions attended the expo. By this session the information regarding the university programs was shared via brochure, admission cards, prospectus and newsletters. The students were keenly interested in various degree programs offered by C.U.S.T. Islamabad. Information kit that included brochure, prospectus, admission card, branded pen and newsletters were distributed among students.

## Seminar on CPEC Choice and Challenges

A seminar was conducted on October 13, 2016. Guest Speaker was Mr. Muhammad Tauseef Zaman. Who is the 23rd Senior Vice President of Islamabad Chamber of Commerce and Industry and also CEO and Director of BIL Pakistan (Pvt) Ltd. He briefed about CPEC and Challenges. CPEC will create employment opportunity, economic Development and many other trade opportunities for Pakistan. It will bring changes in development of energy, trade, transport and industrial corridor. CPEC would turn Pakistan into a regional

manufacturing hub and lucrative market for foreign direct investment.

## Seminar on Quality Education

A seminar on the topic of "Quality Education = +VE Impact" was conducted by the Department of Management and Social Sciences, C.U.S.T. Islamabad. Seminar was held on October 06, 2016 under the supervision of Dr. Shazia Akhtar. The students who attended the seminar, they gained the knowledge



about Quality Education = +VE Impact. The Guest Speaker was Mr. Ali Bin Nadeem, MS Technology Management (NUST). The guest speaker started the seminar by giving the introduction about quality education. He told about the consequences faced by the students who are not capable for quality education and he told how they are provided educational facility through his NGO (Secure Mom & Child). Through this NGO they provide vocational training and academic trainings for poor students those who do not get quality education.



## Seminar on Entrepreneurship

There are many reasons to promote entrepreneurship among students since it has a number of potential benefits. An obvious and significant one is that it creates employment for the person owning the business. It is therefore important to underline that entrepreneurial skills can help adapt well to other non-entrepreneurial careers. The improving social attitudes towards entrepreneurship are evident among students. To identify resources and challenges needed to implement entrepreneurial initiatives and to offer space for exchanging experiences and good practices in the field of entrepreneurial learning, a seminar was conducted on “Entrepreneurship” on December 27, 2016 by the Department of Management and Social Sciences, C.U.S.T. Islamabad. The Guest Speaker was Mr. Rehan Muneer Malik (CEO) Intensive Growth. The majorities of the participants were motivated and took an active part in the seminar.



## Seminar on Youth Empowerment, Social Media and Cybercrime-Social Media Entrepreneurship



On October 31, 2016, a Seminar on “Youth Empowerment, Social Media and Cybercrime-Social Media Entrepreneurship” was conducted under the supervision of Ms. Maria Mashkoor. The guest speaker was the famous Pakistani Twitter celebrity Dr. Farhan Khan Virk. He informed the students regarding various mediums for Social Media Marketing, such as Facebook, Twitter and Instagram. He stressed on the need for the younger generation to use these media as income tools as well along with social networking. Additionally, he gave them tips on how to be a successful social media marketer and entrepreneur.

## Workshop on Universe, Man and Morals

On November 24, 2016, a workshop on “Universe, Man and Morals” was conducted under the supervision of Ms. Maria Mashkoor. The guest speaker was Mr. Khurram Ellahi, Lecturer at PIDE, Islamabad. The objective of the seminar was to discuss about some important perspectives of our lives that we neglect carelessly. Both scientific and spiritual aspects were brought under discussion. Light was shed on the value of matter, the importance of matter with the reference of books and in the Islamic point of view.



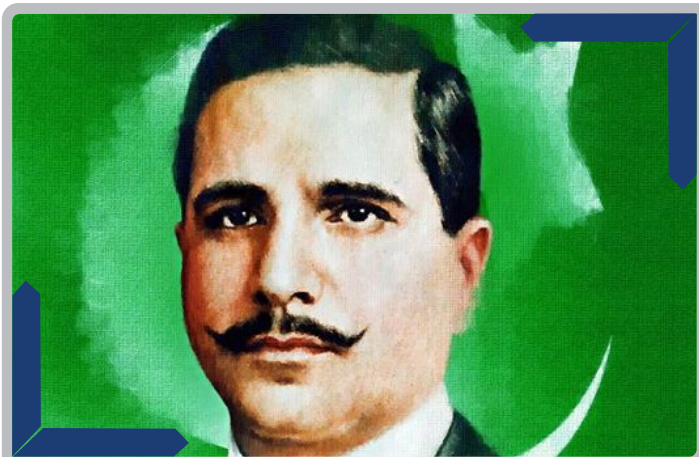
## Seminar on Alarming Situation of Depression, Drugs and Suicides amongst the Youth

On October 21, 2016 a seminar on “Alarming Situation of Depression, Drugs and Suicides amongst the Youth” under the supervision of Ms. Maria Mashkoor was organized. The guest speaker was Dr. Naveed Ghani, MBBS, Psychiatry; Assistant Professor YUSRA Medical Collage, Islamabad. He told the students about what causes stress among students and why they get addicted toward drugs. When they get stressed they start using drugs to make them feel comfortable. He gave students counseling and guidance about how to overcome these issues in a healthier manner.



## Seminar on Iqbal's Mard-e-Momin

On November 08, 2016 a Seminar on “Iqbal's Mard-e-Momin” was conducted under the supervision of Ms. Maria Mashkoor. The guest speaker was Mr. Khurram Elahi, Lecturer at PIDE, Islamabad. Philosophy of Allama Iqbal was discussed and emphasized mainly on how he imagined a Muslim to be. Allama Iqbal prompted Muslims by drawing references from history about their achievements and un-diminishable footprints on the soils of varied regions in the world. The Holy Quran and the code of the Holy Prophet Muhammad (PBUP) are the two facets of his faith.



## Workshop on Social Genius

A workshop on “Social Genius” was conducted on December 19, 2016, under the supervision of Ms. Maria Mashkoor. Mr. Hasham Bin Amir, Corporate Training Executive, The iDeas club was the trainer. The objective was to inform students how to be multidimensional, have an enriched mind and how to make people remember you and become popular. He carried out practical activities with students to explain the impression management techniques and perceptual differences.



## Workshop on Data Analysis in AMOS

On December 17, 2016, nurturing the research culture at C.U.S.T. Islamabad, Dr. Sajid Bashir organized a workshop on “Data Analysis in AMOS” for MS & PhD students. The trainees were in-house PhD Scholars Mr. Gulfam Murtaza and Mr. Basharat Javed. Theoretical perspective was shared and then a hands-on training was carried out.





### Seminar on Focus on Graduate Recruitment

A seminar on 'Focus on Graduate Recruitment' was arranged by Mrs. Ameena Zafar in the Interpersonal Skills Training session for the Electronic Engineering bachelor students on December 16, 2016 at Capital University of Science and Technology, Islamabad. It provided information on self assessment and the demands of the corporate sector. Ms. Yasmeen Hussain, from University of the West Scotland was the resource person. She has a ten year career as an Engineer

within the technology and engineering sector. Ms. Yasmeen is an ardent supporter of opportunities being created to encourage girls and women to consider studying technology and engineering subjects and progressing into related professions. She shared the various job options and corporate options available to the students and the requirements of the corporate sector at hiring and the corporate expectations after hiring. The students appreciated her priceless input on self assessment and learnt valuable lessons regarding their career focus.

### Seminar on Faith, Modesty and Personal Grooming

On October 07, 2016 a seminar on "Faith, Modesty and Personal Grooming" was organized under the supervision of Ms. Maria Mashkoor. Guest speaker was Maulana Azad Jamil, Islamic Scholar, Jamia Banuria,

Karachi. He highlighted the concept of Modesty and its pivotal role in Islam. He emphasized on the point that basic ethics and manners are to be taken care of in professional life or personal life.



### Workshop on Corporate Interview Practices

A workshop on 'Corporate Interview Practices' was arranged by Mrs. Ameena Zafar in the Interpersonal Skills Training session for the Electronic Engineering bachelor students on December 23, 2016, at Capital University of Science and Technology, Islamabad. Resource person were Ms. Yasmeen Hussain, University of the West Scotland. Interviewer and interviewee scripts were shared with the students and they were given the hands on training through mock interviews. Mrs. Ameena Zafar, Ms. Yasmeen Hussain and some of the trainees were on the interviewing panel. The panel was rotated and all the trainees got a chance to conduct the interview as well as being interviewed. This simulation helped them to get a feel of the real life interviewing practices applied in the corporate sector.

### Seminar on Breaking Barriers

A seminar on 'Breaking Barriers' was arranged by Mrs. Ameena Zafar in the Interpersonal Skills Training session for the Electronic Engineering bachelor students December 23, 2016, at Capital University of Science and Technology, Islamabad. Ms. Durdana Habib was the resource person. Ms. Durdana Habib is one of the first female Electrical Engineers in Pakistan. She is teaching at National University of Computer and Emerging Sciences as an Assistant Professor. She shared her inspirational professional journey and how she coped with various hurdles in the way of her career as an engineer. She shared her various experiences and all the corporate options available to the students, especially the female engineers. The students appreciated her priceless input and learnt valuable lessons regarding her career focus.

## MEET THE FACULTY

**Prof. Dr. Imtiaz Ahmad Taj***Dean Faculty of Engineering*

Dr. Imtiaz has vast teaching, research and industrial development experience in the fields of Computer Vision, Image Processing, Pattern Recognition, Biometrics and Optics. He has expertise both in algorithm development and hardware system development.

**Q. Tell us about your qualifications and achievements in life.**

**Dr. Imtiaz.** I did my bachelors in Electrical Engineering from U.E.T. Peshawar in 1993 and after that I was awarded a scholarship from Ministry of Science and Technology (S & T Scholarship) in 1994 and I went to Japan to pursue my MS and then PhD studies there. In 1998 I got my MS degree and in 2001 I got my PhD degree from Hokkaido University, Sapporo, Japan. I was also awarded an outstanding young researcher award, out of 150 students of our batch, from Institute of Electrical and Communication Engineers (IEICE, Japan) which is the biggest institute of professional engineers in Japan. I came back to Pakistan and joined Communication Enabling Technologies which was an R&D company back in 2001. The same group of Engineers which worked together in Enabling Technologies then founded CASE (Center for Advanced Studies in Engineering) and CARE (Center for Advanced Research Engineering), which was a new idea, a model of academia and industry collaboration and I was one of the founding members of this setup. In 2007, I joined C.U.S.T. previously known as M.A.J.U., Islamabad and from then on I am working here as a Professor in Electrical Engineering Department. I served as Head of Electrical Department for 5 years and since July 2016, I am Dean Faculty of Engineering at C.U.S.T.

**Q. How do you think Electrical Engineering is serving Pakistan?**

**Dr. Imtiaz.** Engineering is the main catalyst for any country to be recognized as a developed or underdeveloped country and in engineering of course, the main fields are Electrical, Mechanical and Civil Engineering. Now Computer Engineering has also taken its own place because of the IT development all around the world. From the beginning of the world when the human beings were involved in development

of infrastructure, Civil and Mechanical engineering have been the main components for the development of a nation. However, since two centuries ago after the revolution of electricity, Electrical Engineering (EE) has come forward as one of the major contributor in the development of any country. You cannot imagine modern world without electricity, hence 'Electrical Power' is one of the main areas of EE. Moreover, you cannot imagine world without electronic devices so 'Electronics' is another main field of EE. Finally, nowadays, every person is communicating with another person and you cannot imagine a world



without communications, and 'Communications' is yet another area of EE. Therefore, I would say that Electrical Engineering is the main instrument for the development of any country in the modern world.

**Q. We would like you to share your experience in industry and now in academia.**

**Dr. Imtiaz.** As I told you, I was one of the founding members of CARE, one of the biggest private sector R&D Companies, which is doing research based projects and producing products for defense related organizations. I was the project manager of



its first major project, I successfully completed the project back in 2005 and Alhamdulillah it is now commissioned and deployed on field. Afterwards at C.U.S.T., I got funding for two industrial R&D projects, one of biometrics and one related to Real time video encoding. These projects were worth around Rs. 30 million and the projects were successfully completed. I have an aptitude to run these types of industrial projects and Alhamdulillah completed some very challenging tasks. In academia, I joined C.U.S.T. in 2007 and before that I had also been teaching at CASE. I am very much satisfied with my output as a teacher and as a researcher. Now what I see my highest achievement and contribution towards our country and this society is that I have successfully supervised 7 PhD's who have graduated under my supervision and they are now contributing in their respective organizations, especially 6 of them are professors in different universities and are spreading the same knowledge that I have tried to inculcate into them.

***Q. What edge do students get in field of engineering in C.U.S.T.?***

**Dr. Imtiaz.** When you are evaluating quality of any engineering program, you look for three major areas first. The first and foremost area is its faculty and its quality that how much learned the professors are. The second area is its facilities which include the labs and other facilities. The last area but not the least is the overall academic system in the university. So when we talk about C.U.S.T. we are Alhamdulillah ahead of all the universities in terms of all these three aspects. For all engineering labs we have purchased very expensive state of the art equipment to enable our students to enhance their hands-on

skills. For every BS program we have at least 20 to 22 different lab based courses running with full equipment available for the students which is also acknowledged by PEC (Pakistan Engineering Council) in their accreditation visits. Then about faculty, every engineering program has 7 to 8 PhD faculty members and they are all professional engineers with rich industry experience and acknowledged by HEC as approved PhD supervisors. The Faculty of Engineering has already produced 30 PhD's who graduated from here, therefore we have a very good research program and 11 different research groups are working here in different fields of engineering. Lastly about the academic system being followed at C.U.S.T., we have adopted Outcomes Based Education (OBE) system which is a paradigm shift from the traditional contents based academic system. PEC has also acknowledged that C.U.S.T. has one of the best working OBE systems in Pakistan.

***Q. What message would you like to give to the students?***

**Dr. Imtiaz.** The main message that I would like to give to our students is that there is no shortcut to success. You have to be very focused about your goals and targets. There is no shortcut towards achieving your target, so you have to work hard continuously. You cannot achieve anything only by dreaming and without working hard. There may be a few examples in the world about people who succeeded tremendously in a very short time due to their innovative ideas, but you should not just dream of that only. Everybody is not so lucky so you must aim to achieve your target through hard work and there is no free lunch in this world.

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## **Arooj Khalid Butt, Quaid-e-Azam Gold Medal 2016**

*Department of Management and Social Sciences, C.U.S.T.*

***Q1. We would like to know about your academic journey, schooling to your master's degree?***

**Ms. Arooj:** I completed my schooling from Roots College International, scoring good grades. Then I entered Muhammad Ali Jinnah University, Islamabad in 2012, currently known as Capital University of Science and Technology, Islamabad. From the very beginning my aim was to do well in each course I study, and to get involved in all types of class and university activities. Currently I am doing my MS finance from C.U.S.T. After completing my bachelor's degree in such an awesome

environment of learning, there was no other choice for me for masters, so I chose C.U.S.T.

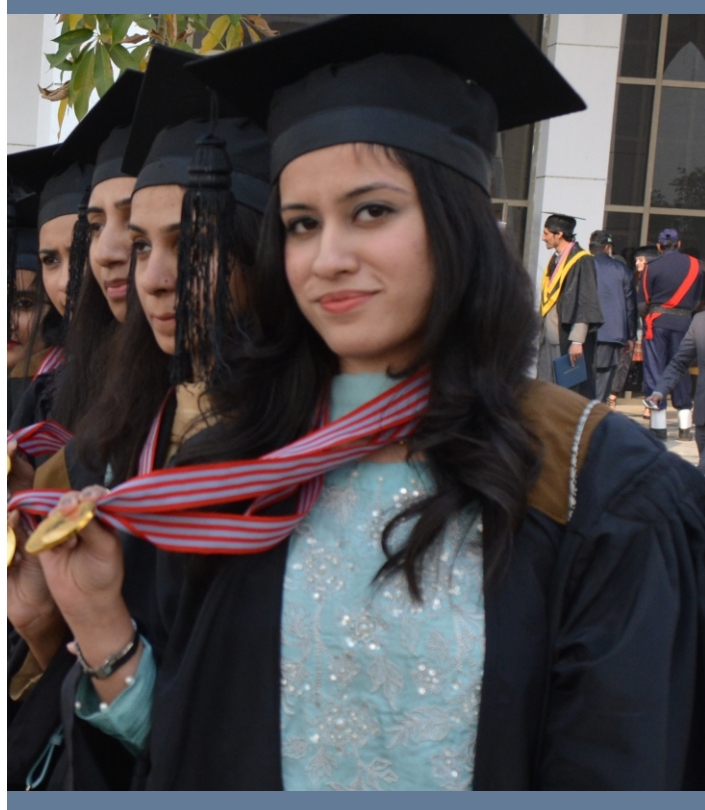
***Q2. What sort of student had you been at school and college level?***

**Ms. Arooj:** In early years of my education I was an average student. This continued till I was in seventh grade that was the inflection point for my educational career. I realized what my weaknesses were and how to overcome them such as giving more time to studies at home, reading a single topic from different sources.

My grades consistently improved, I scored well in my O' levels and A' levels.

**Q3. What do you suggest your fellow student to follow to excel in academics?**

**Ms. Arooj:** My suggestion to everyone would consist of only two words, Determination and Hard work.



These are the keys to success in all fields either it is education or professional career. The more a person is dedicated and determined to work hard, more focused the efforts will be. It is also essential to well identify the specific area of interest, a person should continue to develop themselves in that specific field, more will be the interest more will be the hard work. Just like me I loved studying business administration from the days of college so I chose BBA, and that's the biggest reason I was able to put the right effort at right time.

**Q4. You won Quaid-e-Azam Gold Medal, Was that a coincident or you put some effort to win that?**

**Ms. Arooj:** Undoubtedly it was a blessing to me from Allah. I think it was my third semester when I came to know about Quaid-e-Azam Gold Medal. At that time I was already doing well in my course work, but after knowing the important of extracurricular activities, I started to regularly participate in them. I was a senior

member at Crescendo Society at C.U.S.T. I participated in various events being the co-coordinator, host, in reception committee and organizer. So this was aim from the day I came to know about the Quaid-e-Azam Gold Medal. I also prepared for final interview with full determination and finally one of my biggest dream came true when I was awarded this medal along with BBA Gold Medal.

**Q5. What is the role of your university and faculty members in achieving this status?**

**Ms. Arooj:** This university provided me the platform to recognize my potential. My each and every teacher helped me to improve myself in all aspects. My teachers were always available for all the guidance I required. My teachers are my mentors. Briefly I am lucky and proud to be a part of Capital University of Science and Technology, Islamabad and under the supervision of my teachers.

**Q6. Did your family play a role in making what you are today?**

**Ms. Arooj:** I have not enough words to tell how my family has supported me. My parents are the greatest inspiration of my life. They have always encouraged me to achieve higher position in my educational career. Their way of explaining and the environment that my family provided me at home has allowed me to concentrate on my studies completely. My parents have given importance to what is my point of view about all matters, which has boosted my confidence greatly.

**Q7. What are your future plans?**

**Ms. Arooj:** Currently I am doing my MS Finance, I wish to do equally good in this position. I plan to proceed my career in the academia, but before that I would prefer to get some experience at corporate level to apply my learning and to be better at being an instructor. Most importantly my aim is to be a better human being and a better Muslim.

**Q8. Do you wish to leave any land mark in your field?**

**Ms. Arooj:** Surely, I wish to leave a landmark by being best at whatever I do. I will keep on working hard up to my full capacity. Being a student, an instructor and as a human being I want to be the best. I am sure with the blessings of Allah I would be able to achieve it.



## Controls and Signal Processing Research Group

Controls and Signal Processing Research Group (CASPR) is led by Prof. Dr. Aamer Iqbal Bhatti at Capital University of Science & Technology, Islamabad. It was incepted in 2003. CASPR has been working on various research areas related to Controls systems, Signal processing and System Biology. So far, 19 PhD and 27 MSc students have graduated from CASPR, whereas presently 11 PhD and 9 MSc students are enrolled. CASPR has published 40 journal papers with a cumulative Impact Factor of 70 (ISI) with H-index of 14.

The Automotive team at CASPR works on engine parameter estimation, fault diagnosis and model development of Automotive engine. The team has developed novel higher order sliding mode observers for SI engine fault diagnostics. Automotive team won funding from the Government of Pakistan. Presently one group of this team is working on First Principle based control oriented modeling of spark ignition engine and its application in cylinder to cylinder control, whereas another group is working on Fault tolerant control of EGR-VGT malfunctions in diesel engine.

Another group of CASPR Automotive team is working on HEVs. The focus of research work of this team includes control of Atkinson cycle engine with variable valve timing, control of field-oriented control of three phase induction machine and controller design for energy management for efficient operations of HEV.

Research work of UAV team at CASPR focuses on the development of the state of the art algorithms for

guidance and control of UAVs. The team has developed state of the art higher order sliding mode based UAV guidance algorithms. This team is equipped with flight testing Platform which consists of scaled YAK-54 and Trainer 80 UAV (Equipped with VN-100, high-performance Inertial Measurement Unit (IMU) and Attitude Heading Reference System (AHRS).

Systems biology is a rapidly advancing field that combines empirical, mathematical and computational techniques to gain understanding of complex biological and physiological phenomena. At CASPR, System Bio Team is working on Mathematical Modeling of crucial biological pathways and cell cycle.

Theoretical research at CASPR covers nonlinear and optimal control theory covering, but not limited to Robust smooth model-free control methodologies for industrial applications, theory of dynamic integral sliding mode and its applications, sub-Riemannian problem on group of motions of pseudo Euclidean plane and robust control System design for a class of uncertain nonlinear systems.

CASPR is also rigorously pursuing in-house Radar System Design and Development. After developing two field tested radar signal processors the Radar Team has successfully designed and developed a Phased Array Radar prototype for air surveillance. The energy team has been involved in the modeling and control of the underground coal gasification project at Thar, Pakistan; carrying out development of the mathematical model of the process model and validation and design of a robust nonlinear control system for the process.

## NEW FACULTY

S.#	Name	Department	Designation	Highest Degree	Terminal Degree Obtained from
1	Dr. Nadeem Ahmed Shiekh	Mechanical Engineering	Associate Professor	PhD	Loughborough University, UK
2	Dr. Abdul Rehman Kashif	Mathematics	Associate Professor	PhD	Quaid i Azam University, Islamabad
3	Dr. Jaleel Ahmed	Management Sciences	Assistant Professor	PhD	Harbin Institute of Technology, Harbin, China
4	Dr. Umer Amir Khan	Electrical Engineering	Assistant Professor	PhD	Hanyang University ERICA Campus, South Korea
5	Dr. Khawar Naveed Abbasi	Mechanical Engineering	Assistant Professor	PhD	Imperial College London University of London
6	Dr. Waqas Akbar Lughmani	Mechanical Engineering	Assistant Professor	PhD	Loughborough University, UK
7	Ms. Sana Aroos Khattak	Management Sciences	Assistant Professor	PhD	CUST, Islamabad
8	Mr. Qazi Abdul Moqueet	Electrical Engineering	Lecturer	MS	CASE, Taxila
9	Mr. Muhammad Talha Amir	Civil Engineering	Lecturer	MS	UET, Taxila
10	Mr. Sheheryar Shafique	Civil Engineering	Lecturer	MS	NUST, Islamabad
11	Mr. Ibrar Arshad	Computer Science	Lecturer	MS	Blekinge Tekniska Hogskola, Karlskrona Sweden
12	Mrs. Asma Naz	Computer Science	Lecturer	MS	Quaid i Azam University, Islamabad
13	Mr. Muhammad Atif Raja	Mathematics	Lecturer	M.Phil	Quaid i Azam University, Islamabad
14	Mr. Naveed Ahmed Gondal	Mathematics	Lecturer	M.Phil	Quaid i Azam University, Islamabad

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- **Ahmed, Salman, and Aamer Nadeem**, "A mobile agent based communication protocol to optimize message delivery cost." *Journal of Systems and Software* 121 (2016): 40-48.
- **S. Ahmed, A. Nadeem**, "A Mobile Agent Based Communication Protocol to Optimize Message Delivery Cost", *Journal of Systems and Software*, Vol. 121, pp. 40-48, November 2016, DOI: 10.1016/j.jss.2016.08.001. [IF 1.424]
- **S. A. Khan, A. Nadeem**, "An Empirical Investigation on Test Data Generation for Coupling Based Integration Testing", *Science International*, 28(1), 2016.
- **I. Khan, A. I. Bhatti**, Arshad, Qudrat, "Robustness and Performance Parameterization of Smooth Second Order Sliding Mode Control", *International Journal of Control, Automation and Systems*, Springer, pp.1-10, (2016)
- **G. Murtaza, A. I. Bhatti**, Q. Ahmed, "Control-Oriented Model of Atkinson Cycle Engine with Variable Intake Valve Actuation", *Journal of Dynamic Systems, Measurement, and Control*, American Society of Mechanical Engineers, Vol 138, No 6, pp. 061001 (2016)
- **S. Yasmin, A. Qayyum, R.N.B. Rais**, "Cooperation in Opportunistic Networks: An Overlay Approach For Destination-Dependent Utility-Based Schemes", in *Springer Arabian Journal of Science and Technology*, pages 17, 2016. (DOI: 10.1007/s13369-016-2253-9)
- **S. Yasmin, R.N.B. Rais, A. Qayyum**, "Resource Aware Routing in Heterogeneous Opportunistic Networks", *Hindawi International Journal of Distributed Sensor Networks*, vol. 2016, pages 18, 2016. (DOI: 10.1155/2016/2907980)
- **Syed M. Shah**, R. Samar, N. M. Khan, M. A. Z. Raja, "Fractional-order adaptive signal processing strategies for active noise control systems", *Nonlinear Dynamics (Springer ND)*, Vol. 85, No. 3, August 2016, pp. 1363-1376
- **M. Yaqub Wani, M. Riaz, Noor M. Khan**, "Modeling and Characterization of MIMO Mobile-to-Mobile Communication Channels Using Elliptical Scattering Geometry", In Press with *Wireless Personal Communications (Springer WPC)*, 2016 DOI: 10.1007/s11277-016-3473-8
- **M. Saud Khan and Noor M Khan**, "Low Complexity Signed Response Based Sybil Attack Detection Mechanism in Wireless Sensor Networks", In Press with *Journal of Sensors (JoS)*, 2016, Manuscript ID: 9783072
- **J. Nawaz Syed, Noor M. Khan**, and Rodica Ramer, "3-D Spatial Spread Quantifiers for Multipath Fading Wireless Channels", In Press with *IEEE Wireless Communications Letters (IEEE WCL)* DOI: 10.1109/LWC.2016.2590423, Manuscript ID: WCL2016-0372, 2016
- **T. Ahmed and N. M. Khan**, "Direct Radio Frequency Sampling Methodology for Multiple Signals in an Energy-Sparse Spectrum", *Turkish Journal of Electrical Engineering & Computer Sciences (TÜTAK)*, Year: 2016, Volume: 24 Number: 6, pp. 4637-4647, DOI: 10.3906/elk-1501-83
- **Y. A. Butt, Yuri L. Sachkov, A. I. Bhatti**, "Cut Locus and Optimal Synthesis in Sub-Riemannian Problem on the Lie Group SH(2)", *Journal of Dynamical and Control Systems*, published by Springer, doi:10.1007/s10883-016-9337-4
- **W. Kiani, E. Dilshad**, T. Ahmed, H. Ismail, B. Mirza, "Evaluation of *Ajuga bracteosa* for antioxidant, anti-inflammatory, analgesic, antidepressant and anticoagulant activities", *BMC Complementary and Alternative Medicine (Springer)*. 16:375, 2016 [IF 1.98].
- **H. Ismail, E. Dilshad**, M. T. Waheed, M. Sajid, W. K. Kayani, B. Mirza, "Transformation of *Lactuca sativa* L. with rol C gene results in increased antioxidant potential and enhanced analgesic, anti-inflammatory and antidepressant activities in vivo.", *Biotech (Springer)*. 6:215, 2016. [IF 0.992]
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- **Junaid Nawaz Syed, Moazzam I. Tiwana, Mohammad N. Patwary, Noor M. Khan**, Mohsin I. Tiwana, and Abdul Haseeb, "GA Based Sensing of Sparse Multipath Channels with Superimposed Training Sequence," *Journal of Elektronika ir Elektrotechnika*, Vol. 22, No. 1, February 2016, pp. 87-91
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## **Capital University of Science and Technology**

Off Kaak Pul, Sihala Road, Zone-V, Islamabad

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