

# NUSTian

Quarterly Magazine

## Spearheading medical device industry of Pakistan

A conversation with  
Dr Murtaza Najabat Ali

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Warm  
Reception  
for Stanford  
Champions

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To develop NUST as a comprehensive, research-led university with a focus on Technology, Innovation, Entrepreneurship and Community Service.



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## News in *Focus*

# Grand Finale of Finding Innovative & Creative Solutions for Society- 2017 (FICS'17)

Grand Finale and Prize Distribution Ceremony of Finding Innovative & Creative Solutions for Society (FICS '17), was held at National University of Sciences & Technology (NUST) on Thursday, May 25, 2017. FICS is an intra-NUST competition aimed at fostering social entrepreneurship in Pakistan and is closely aligned with the United Nations Sustainable Development Goals (SDGs).

The winner of this year's FICS was Team Avatum from School of Electrical Engineering & Computer Science (SEECs). Avatum aims to develop a non-invasive stroke rehabilitation system involving brain activation through motor imagery training, by controlling locomotion of a dynamic assembly using a brain computer interface. This device consists of a wearable headset and a mobile assembly and can conveniently be used by stroke patients anywhere. The team stood tall amongst over 200 teams from across NUST and was awarded a cash prize of Rs 150,000. Wi-Vis, a wrist-worn device which captures vital signs of human body

Products Ltd. (CSAPL). TAME, a team of NUST students from SEECs, who have recently won Stanford Center on Longevity Design Challenge in California, won this award.

Mr. Monis Rahman, Founder & CEO Rozee.pk, was the chief guest at the occasion. Protracting his compliments to the winning teams and finalists of FICS'17, he emphasized on the role of science & technology universities in improving the lives of communities through technological intervention. He was all-praise for the FICS initiative of NUST and expressed his belief that the platform would augur well for the socio-economic development of Pakistan.

Earlier in his address at the occasion, Rector NUST Lt Gen Naweed Zaman HI(M) (Retd), welcomed guests and judges from the industry and recognized the efforts of talented and brilliant students who came forth with pioneering and inventive ideas and worked diligently through the course of this demanding



such as Cuff less Blood Pressure, Heart Rate, Respiratory Rate and Contact less Body Temperature using non-invasive contact and via sensors, from Pakistan Navy Engineering College (PNEC), Karachi was the first runner-up in the competition and was presented a cash prize of Rs 100,000. Henna Printer won the 2nd runner-up prize of Rs. 75,000/-. This printer would use 3D printing technology to apply Henna on hands. The team was representing College of Electrical & Mechanical Engineering (College of EME), Rawalpindi. The top two prizes were sponsored by National Radio Telecommunication Corporation (NRTC), while the prize money for second runner-up was co-sponsored by Alfoze Technologies, Architeck and i-Intellect.

FICS also announced a new special prize this year for the best project in the category of Biotechnology, which was sponsored by Sybrid Pvt Ltd. Team Nano Medicine from Atta-ur-Rahman School of Applied Biosciences (ASAB), won the prize. Moreover, the latest edition of FICS also introduced Award for the Best Aspiring Start-up of FICS, sponsored by Crescent Steel & Allied

competition to reach the final stage. He also appreciated the efforts of faculty supervisors and school management for their continuous guidance and supervision.

The special feature of FICS '17 was collaboration between NUST and the Falling Walls Foundation, Berlin. The Falling Walls Lab provides a challenging, inspiring and interdisciplinary format for outstanding talent to present innovative ideas, research projects and social initiatives at international level. Soon after the closing and prize distribution ceremony of FICS'17, The Falling Walls Lab Islamabad was also held at NUST Main Campus Islamabad. Top 10 projects shortlisted at FICS'17 Stage 3 / Grand Finale were evaluated by a panel of 8 members of the interdisciplinary jury at the Falling Walls Lab Islamabad. Rushda Bashir from the team Avatum qualified for the Falling Walls Lab Finale scheduled to be held in Berlin (Germany) from November 8 to 9, 2017. Her trip has been jointly sponsored by the Interactive Group of Companies (IAG) and i-intellect.

# NUST at Belt and Road Forum, China

## Signs MoU to establish BeiDou Belt and Road School at NUST



Lt Gen Naweed Zaman HI (M), (Retd), Rector NUST (Left) shaking hands with Prof XU Huibin, President Beihang University after signing MoU.

The Belt and Road Forum for International Cooperation (BRF) was held from May 14 to 15, 2017 in Beijing, and was attended by as many as 29 heads of state and representatives from over 130 countries including Pakistan. NUST was the only university from Pakistan represented at the BRF. Marking the event, an MoU was signed between NUST and Beihang University, China, to establish BeiDou Belt and Road School at NUST. Lt Gen Naweed Zaman HI(M) (Retd) Rector NUST and Prof Xu Huibin, President Beihang University signed the MoU. The school will provide a first class BeiDou education and research platform in collaboration with leading universities in the Belt and Road countries to create experts by developing cutting edge skills in Global Navigation Satellite System. NUST is the first university which was invited out of 108 partners of Beihang University to sign this MoU, indeed a landmark achievement for NUST.

## SEECs launches CYKIQ

The launch ceremony of project CYKIQ was held at School of Electrical Engineering and Computer Science on May 10, 2017. The project is a brainchild of two students from SEECs namely Ans Shahzad and Hamza Afridi, and two from SADA namely Ammara Tariq and Sanam Khan.

CYKIQ is modeled after cycle sharing companies commonly found in European and North American cities. This start-up is rooted heavily in its technologically savvy approach to the problem of covering short distances within campus. There are

cycle renting/parking stations strategically placed across the campus. These stations allow users to unlock a cycle by swiping a "Cycard" allotted to them and park at the nearest station after reaching the destination.

The chief guest of ceremony was Pro-Rector Research, Innovation & Commercialization, Rear Admiral Dr. Nassar Ikram SI (M). He congratulated the school and students for this idea that will benefit the entire NUST community.



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## NUST becomes founding member of “Belt & Road Aerospace Innovation Alliance”

Upon the invitation extended to NUST by President of Northwestern Polytechnical University (NPU), Xi'an, China, for becoming the founding member of “Belt and Road Aerospace Innovation Alliance,” a two-member NUST delegation comprising Dr Farid Gul from SECS and Dr Adnan Maqsood from RCMS attended the inception ceremony of the new alliance on April 23, 2017. Being a pioneering member of the newly formed alliance, NUST will play an active part for the development of global aerospace industry. Besides NUST, two other institutions from Pakistan, i.e., Institute of Space Technology (IST) and Air University (AU) also participated in the event hosting distinguished academicians

from North America, Africa, Europe and Asia.

“Belt and Road” is a development framework initiated by Chinese President Xi Jinping that hopes to expand economic integration within the Asian, European, and African continents and their adjacent seas. The eastern starting point of the Silk Road trading route, Xi'an, then known as Chang'an was a key crossroad between China, the Middle East and Europe and once China's capital. The ‘One Belt One Road’ aims to restore ancient trade routes and open new markets to Chinese goods. The land-based “belt” stretches from China to Europe, while the sea “road” links ports and maritime trading across Asia, Africa and the Pacific.



## Rector NUST visits South Korea

Lt Gen Naweed Zaman, HI (M), (Retd), Rector NUST, attended Times Higher Education (THE) Asia Summit in Ulsan South Korea from March 14 to 16, 2017. Besides Presidents and Vice Chancellors of over 17 universities from around the world, academicians, high-ranking government officials and industry CEOs participated in the event.

Rector NUST invited a team from THE to Pakistan and interact with the faculty of top Pakistani Universities so as to familiarize them with the ranking methodology of Times Higher Education and inspire more universities to apply for THE ranking. He proposed that such fora could be hosted by NUST or sponsored by HEC for a wider participation from Pakistan.

During the visit, the Office of Community Counselor at Embassy of Pakistan in Seoul also arranged Rector's meeting with Pakistani business community leaders at Seoul. While speaking to the assembly, the Rector made a passionate appeal for support-



ing NUST needy students.

Rector NUST also visited the Seoul National University and met with President SNU, Dr. Nak-In Sung. During the meeting, both sides desired to strengthen the bilateral relationship in the areas of mutual interest including faculty and student exchanges. NUST and SNU also signed a renewed MoU for furthering co-operation. The visit to SNU culminated with a tour of the SNU Semi-conductor Research Center and Department of Materials Engineering.



# Graduates termed “future architects of societal systems” at 3<sup>rd</sup> S<sup>3</sup>H Convocation



Former Finance Minister Dr Salman Shah has said that social sciences graduates must put fair efforts to establish equitable distribution of resources and better governance systems in Pakistan. He was speaking as the chief guest at the 3rd convocation of School of Social Sciences & Humanities (S3H) at NUST Islamabad campus on May 4, 2017.

A total of 169 undergraduate and postgraduate students were awarded degrees at the convocation. Of these, 121 received Bachelor's degrees in the disciplines of Economics, Mass Communication, and Public Administration, while the remaining 48 were conferred master's degrees in Economics, MS Mass Communication, and MS Clinical Psychology. The convocation ceremony was held in the Jinnah Auditorium at the university's H-12 campus.

Dr Salman Shah also said if natural and applied sciences provide the hardware for progress, then social sciences are the software of development. He said the social sciences graduates are the future architects of societal systems and they must work as nation builders for a progressive and enlightened society. Advising the graduates, he said, “I hope you will consider it your bounded duty to work for the welfare of society, help reduce inequality

and income disparity, and empower the disenfranchised.” He said the problems such as poverty and malnutrition that currently plague Pakistan are due to corruption, incompetence, and mis-governance. The social sciences graduates can adopt ethical behavior and work to establish just and equitable distribution of resources and better governance systems in the country.

Lt Gen Naweed Zaman, HI (M), (Retd) encouraged the graduates to be just in their dealings, especially when they find themselves in leadership roles. He said good leaders motivate and inspire their fellows and subordinates by displaying a strong character, moral courage, setting personal examples, and imparting justice. The Rector said the NUST graduates are responsible citizens but they have a bigger role to play in the progress of Pakistani society. “You have the added responsibility of bringing a difference to the lives of your compatriots,” he added.

At the occasion, the chief guest, besides presenting degrees to the graduates, also awarded eight President's gold medals and three Chancellor's silver medals to students for outstanding academic achievement. The Best Teacher award was bestowed upon Dr Zafar Mahmood, who heads the department of research as well as the department of development studies at S3H.





## Stanford Center on Longevity Design Challenge 2017, California

### Victorious NUST team receives warm welcome upon arrival

National University of Sciences & Technology (NUST) Monday April 17, extended a very warm welcome to its winning team at the recently concluded Stanford Center on Longevity Design Challenge 2017 in California, USA. The team's project TAME, Tremor Acquisition and Minimization, was declared first in the challenge as it defeated teams from Massachusetts Institute of Technology MIT, Stanford, UC Berkeley, Cornell, Virginia Tech, University of Waterloo, to name a few. The team comprised students from School of Electrical Engineering and Computer Science (SEECs), including Engr Awais Shafique, Engr Hooria Anam and Engr Arsalan Javed and Sheraz Kamran.

A large number of university students and faculty were present at the occasion. Eulogizing the team for its meritorious achievement, Lt Gen Naweed Zaman, HI (M), (Retd), Rector NUST, said that this achievement veritably summarizes the mission of NUST, adding, "this is what we are all about – training bright and talented young people to expand and lead from the frontiers of science and technology for comprehensive national development." He maintained that there is great scope for innovation in



Pakistan and that the world is truly the oyster for the country's innovative minds. At the occasion, the Rector also awarded gold medals and certificates to the winners and the supervisors, respectively.

The Stanford Center on Longevity Design Challenge is a world-wide competition that offers cash prizes and free entrepreneurial-related guidance to the winners. This year, the competition was focused on such design projects and products which are modeled to optimize human life.



### Stanford winners call on Army Chief

The winners of "Stanford Center on Longevity Design Challenge, USA" met with Chief of the Army Staff Gen Qamar Javed Bajwa in GHQ, Rawalpindi on April 19, 2017. Rector NUST Lt Gen Naweed Zaman, HI (M) (Retd) was also present in the meeting. The COAS applauded the students for their meritorious achievement at the international competition. He presented the winning team with COAS coin and also announced Rs 1 lac prize money for each student.



## Team PNEC NUST raises green flag amongst 120 Asian teams

Shell Eco Marathon Asia (SEMA) is a unique competition that challenges students around the world to design, build and drive the most energy efficient cars. This unique platform not only endows the student to garner their engineering skills but also develops understanding for present and future fuel efficiency solutions for the automobiles. Team NUST-PNEC has regularly been participating in this event since 2009 and have received accolades for their engineering acumen and skills. It is worth highlighting that this year Team NUST-PNEC manufactured the 1st ever vehicle from Pakistan in CNG category.

This year NUST-PNEC team participated in Shell Eco Marathon Asia-2017 (SEMA-2017) held in Singapore w.e.f 15 to 20 March 2017 with 02x cars in 'URBAN (Fuel) and PROTO Type (CNG)' categories. A total 120 cars from different countries of Asia participated in the event, NUST-PNEC



team won Communication Award amongst 120 cars in the competition carrying prize money of USD 3000.00. It is worth highlighting that this was the only award won by any participating Pakistani team in the competition.

## NUST at GSEA finals in Frankfurt

The Global Student Entrepreneur Awards (GSEA) is a global competition for undergraduate students who own and operate a business while attending college or university. Nominees compete against their peers from around the world in a series of local and/or national qualifying competitions in hopes to qualify for the global finals. Undergraduate students who own and operate a business for at least six months are eligible to compete. Qualifying competitions are held in cities and countries worldwide throughout the year, with the Global Finals held from April 27 to 29, 2017. The 2017 Global Finals competition was held in Frankfurt, Germany.

Muhammad Asad Raza, a graduate of NUST College of E&ME, who has also been mentored by the LUMS Center for Entrepreneurship, won the Pakistan final of the Global Student Entrepreneurs Award (GSEA) in January 2017 and hence qualified to represent NUST and Pakistan in the global finals at Frankfurt.

At the finals, Asad competed against "studentpreneurs" from 57 countries including India, Turkey, Canada, South Africa, UK and Indonesia. Asad made it to the top 10, and then the Top 5, which also included students from Mexico, Guatemala, El Salvador and Malaysia. He won the 3rd place at the Global Finals and brought immense pride to his institution and his country.

Asad's start-up is NEUROSTIC-a biomedical enterprise dealing with a variety of medical equipment from Decision Support Systems to Prosthesis. Asad began Neurostic as a final year project keeping a focus on Parkinson's disease. Asad and his team were focusing on developing a data-driven management system that

would essentially delay the onset of Parkinson's. In existing patients, it would prolong the effect of drugs which tend to wear off as the disease takes a severe turn. Apart from their management system for Parkinson's, the startup is also aiming to provide rehab for these patients by developing a physio-therapeutic system that can control the symptoms and delay the brain stimulation surgery.



## College of E&ME holds COMPPEC 2017

COMPPEC – Computer Project Exhibition and Competition – is a national level project exhibition organized annually by Department of Computer & Software Engineering of the NUST College of E&ME. COMPPEC provides a platform for display of computer-related projects, programming skills, software applications and hardware implementation. It is one of the few head-to-head competitions of the brilliant brains from all over the country.

COMPPEC 2017 was held from April 28 to 29, 2017. Teams from all over the country participated in the competition. There were more than 100 projects displayed in various categories. Students exhibited their projects and inspired the judges and other

visitors with their innovative and creative ideas. The event also comprised a social event “COMPPEC Cultural Mania.”

Each project got a shield of participation and all students were given a certificate of participation in order to appreciate their efforts. Top 5 projects from each category were awarded winner certificates and shields along with a handsome amount of money. CEME got two positions, one overall best project in software category and second in electromechanical system. The chief guest of ceremony was Dr Tariq Fazal Chaudary, Minister of State for Capital Administration and Development Division. A SEecs team (2K13) took part in the event with the project “Labyrinth” and secured the position of being overall winner.

## NBS students excel at RCCI Start-up Competition

Rawalpindi Chamber of Commerce & Industry (RCCI) organized its “6th Start-up Competition” on April 19, 2017. The objective was to promote the activities of young entrepreneurs. The event had national outreach for maximum participation and received 34 submissions in total.

Students from NUST Business School not only participated in the competition but also stood first in it. The final year students of BBA, Muhammad Fahad Iqbal, Saim bin Sajjad, Rimsha Faheem Kayani and Yumna Shahid Khan, came up with the idea of “Easy Insurance” in their course of “Entrepreneurship,” and submitted a business plan based on that idea under the supervision of Assistant Professor Madiha

Parvez and Saad Al Marwat. The students were awarded a cash prize of Rs 100,000 apart from an incubation space in one of the nation’s leading incubation centers.

The idea of Easy Insurance is first-of-its-kind. It is an online insurance platform which aims to introduce an online marketing channel for Insurance Companies and its consumers. It’s a user friendly website which helps visitors look for insurance plans in five categories namely: Life, Health, Travel, Auto, Personal Accidental. The results are generated within seconds after user inputs data. Easy Insurance delivers the most personalized insurance plan across a variety of products.



## Establishment of Pak’s first IEEE joint MTT-AP chapter at RIMMS

An IEEE Joint Microwave Theory & Techniques and Antenna & Propagation Chapter (MTT-AP Chapter) has been established at RIMMS to cater for MTT and AP society activities. Dr. Noshewan Shoaib and Dr. Hammad M. Cheema are the chair and the co-chair for the joint chapter, respectively. This is the first technical chapter in the Islamabad section to cater for MTT and AP society activities. Under the newly established chapter, it will strive to enhance and expand the visibility and membership of societies to other institutions of the section and region.



**Microwave Theory and  
Techniques Society**



**Antennas and  
Propagation Society**



# NUST honors high-achievers at Excellence Awards

In recognition of their extraordinary achievements at various national and international competitions and events, as many as 238 students and faculty members of the university were conferred prizes and merit certificates at NUST Excellence Awards on April 27, 2017. Held at the university's main campus, the ceremony was graced by Lt Gen Naweed Zaman, HI (M), (Retd), Rector NUST, as chief guest.

In his address after distributing prizes and certificates, the chief guest appreciated the high-achievers for their meritorious accomplishments. He said these triumphs were a proof that Pakistani youth has no dearth of talent and that they are second-to-none. He also urged the young generation to step forward and explore for themselves opportunities to tell the world what they are worth.

At the occasion, the students and faculty were honored for winning positions in a multitude of top-tier curricular and co-curricular competitions, and participation in various international events.



## SEecs student selected for summer student program 2017 in Geneva

Muhammad Abdullah, an electrical engineering student at SEecs, is among the 37 students selected for the "CERN Openlab Summer Student Programme 2017" from all over the world. CERN is a prestigious nuclear research institute located at Geneva, Switzerland. It operates the largest particle physics laboratory in the world.

Abdullah will be working under the supervision of CERN engineers to develop a cutting-edge network automation system using Software Defined Networks (SDNs). SDN is an emerging technology considered to be the future of networking and is currently a hot topic among researchers throughout the world.

## Industrial reps visit RCMS for curriculum review

Curriculum Review Session for the courses being offered at the NUST Research Center for Modeling and Simulation (RCMS) was held on 13th of June, 2017 at the RCMS Conference Room, H-12, NUST, Islamabad. Corporate Advisory Council (CAC) NUST, has assisted in bringing on-board prestigious doctorate level industry experts having extensive R&D experience from research organizations and academia including Caltec USA, NESCOM, Universal System Engineering Network (USEN), Cygnett, AWC, SAARC Energy Centre, Sir Syed University of Engineering & Technology and Interactive Group etc. NUST being the leading Educational Institute of Pakistan holds such events to get Industry input and feedback for the review of current curriculum so as to bring about changes to meet industrial requirements. Such exercises help revise and enrich NUST curricula in an effort to train students according to the requirements of the industry.



## Students from Islamabad, Lahore hosted at Balochistan under Youth Mobilization Program

Voice of Balochistan (VoB) hosted students of different universities of Islamabad and Lahore upon their visit to Balochistan under the Youth Mobilization Program with the administrative support of Southern Command and Government of Balochistan. As many as 34 NUST students and faculty members were part of the delegation comprising a total of 202 students and faculty members of nine different universities.

The delegates visited some of Balochistan universities and interacted with their faculty and students. The aim of Youth Mobilization Program is to create harmony among students of different provinces and to provide opportunities to the students of less developed areas of Balochistan to interact and learn from students of other universities of Pakistan.



### Mid-Jury of SADA graduating batch held

The mid-Jury of "Industrial Design Projects" of the graduating batch was held on April 26, 2017. With a view to widening the opportunities for its pioneer batch of Industrial Design Program, the school administration sought assistance from Corporate Advisory Council in bringing industrial experts for the evaluation of the students' projects. This initiative was aimed at educating the industry about the new program at NUST and aligning the curriculum of this program with the needs of industry. Moreover, the step was taken with an aspiration to break the silos by cooperative and collaborative endeavors. The overall exercise was not limited to the showcasing of projects. But, it helped broaden the industry-academia collaborative base for all such novel programs. The session turned out to be a great success and is believed to have paved the way for long-term engagements in the unexplored new knowledge areas.



### DCRC meeting with industry at College of EME



Quality education has always remained the prime focus of NUST and its constituent schools and colleges. In order to stay abreast with the evolving times and technologies, the curriculum review committees of respective departments frequently hold meetings with the relevant Industry to fine tune their curriculum. One such session was held by Mechatronics Department of College of Electrical & Mechanical Engineering (CEME) on April 27, 2017. The meeting was attended by Mechatronics faculty and representatives from the industry brought on board by Corporate Advisory Council (CAC). Renowned personnel from the industry took part in the session and provided their valuable input to reflect on the changing needs of society, industry and consequently the curriculum.



## RIMMS faculty members elevated to IEEE Senior Member Grade

Two RIMMS faculty members, Dr. Hammad M. Cheema and Dr. Farooq A. Tahir have been elevated to the grade of IEEE senior member on May 3, 2017. Senior member is the highest grade for which an IEEE member can apply. This membership grade recognizes the significant professional and technical accomplishments in the relevant field of expertise.



**Dr. Hammad Mehmoood Cheema**  
Assistant Professor  
HoD RIMMS



**Dr. Farooq Ahmad Tahir**  
Assistant Professor

## VISITS



▲ A three-member delegation from Shijiazhuang Teidao University visited NUST on February 22, 2017. The delegation comprised Dr Rong Fei – Vice President STDU, Prof Bai Zili – Dean of International Education, Dr. Zhang Hong – Director of Enrolment Office.



▲ A five-member delegation comprising senior faculty and management from Xian Jiao Tong University China visited NUST from January 9 to 11, 2017





▲ A four-member delegation from US Embassy in Pakistan visited NUST on Feb 1, 2017.



▲ An eight-member delegation led by Mr Ge Pu, Deputy Director CSTEC, from China Science and Technology Exchange Centre visited NUST on April 20, 2017.



▲ A 25-member delegation of French educationists led by Mr. Sébastien Cartier, Higher Education Attaché French Embassy in Pakistan, visited NUST on March 15, 2017.





▲ Headed by Brigadier General T J Munongwa, Senior Directing staff, a 25-member delegation of National Defence University Zimbabwe, visited Peacekeeping Training Department at CIPS on June 4, 2017.



▲ A 14-member Kenya National Defence Course delegation led by Maj General A K Iken, Deputy Commandant (Military), visited Peacekeeping Training Department at CIPS on April 12, 2017.



▲ A delegation comprising 17 officers of Mid Career Course-3 from HRDC GHQ visited NUST on April 20, 2017.



## In Conversation



# Spearheading medical device industry of Pakistan

## Dr Murtaza Najabat Ali

Dr Murtaza Najabat Ali is a Biomedical Engineer by profession. He earned his doctorate from Sheffield University UK, and has been the brains behind the development of medical device industry in Pakistan. In recognition of his pioneering role in the indigenous production of cardiac stents, Dr Najabat has been awarded the prestigious “National Development Award-2016.” Currently, he is on the faculty of NUST School of Mechanical and Manufacturing Engineering (SMME) and heads Medical Devices Development Center (MDDC).



**Nustian: Tell us something about yourself?**

**Dr Najabat:** Let me first express my gratitude for affording me an opportunity to share my thoughts through the platform of Nustian. I would, however, be more precise in talking about myself than highlighting my work.

As I returned to Pakistan after completing my Master's from the Brunel University London in 2006, I wrote an email to then President of Pakistan Gen Pervez Musharraf drawing his attention to Medical Device Industry in Pakistan. I informed him that the medical devices or implants were imported and that too for 10 to 15 percent of the whole population having the means to afford the expensive imported devices or implants.

I was lucky, the President forwarded my concern to various public sector organizations (like Pakistan Science Foundation, Ministry of Science & Technology and NESCOM/NDC etc.).

To my surprise, Dr. Samar Mubarakmand contacted me, and inducted me in NESCOM where I managed an R&D project and established an industry related to the production of cardiac stents. After about two years Dr. Samar Mubarak retired, and I decided to go back to the United Kingdom for my PhD, since I had the satisfaction that I could fulfill the responsibility of setting up a fully functional cardiac stent indigenous manufacturing facility certified by MHRA UK with the cardiac stents Savior had secured promising results from Animal Trials conducted at Rotterdam (Netherlands).

**Nustian: When did you join NUST?**

**Dr Najabat:** After completing my PhD from Sheffield University UK in 2012, I returned to Pakistan and joined National University of Sciences & Technology (NUST), where I established the Biomedical Engineering & Sciences Department at SMME.

I have managed to secure sizeable funding from Ministry of Science and Technology for the establishment of industry (facility) at NUST related to the manufacturing of Angioplasty Balloon Catheters (for highly frequent Angioplasty procedures and delivery systems for Cardiac Stents).

So, this project in fact is a continuation of the Cardiac Stent development in NESCOM. Since NESCOM had been using imported balloon catheters along with its Savior stents as a delivery system, so this next funded project was aimed at reducing the overall cost of the stent system through indigenization of both stents and catheters.

NESCOM being a defence organization had been struggling in the commercialization of cardiac stents since I had left for PhD, it transferred the entire cardiac stent manufacturing facility Medical Devices Development Center (MDDC) to NUST. MDDC is being funded by MoST for the production of both cardiac stents (both bare-metal and drug-eluted stents) and angioplasty balloon catheters. Now both the products will be produced under one roof and it gives me immense pleasure to see the project bearing fruit. In addition, we have also been endeavoring to create industry-academic linkage in the field which unfortunately has been non-existent in Pakistan.

**Nustian: How far do you think your research will be helpful in the treatment of cardio-vascular diseases worldwide?**

**Dr Najabat:** Well, we intend doing a lot more things at MDDC. With the serial production and commercialization of both products, we could meet requirement of cost effective and affordable Angioplasty Kits for the general public and the poor in our country.

Though we are not in serial and commercial production of stents at MDDC, you would be pleased to know that approximately 450 units of the indigenously developed Savior (bare-metal) stents have been successfully implanted in 450 patients till date at Armed Forces Institute of Cardiology (AFIC) and Rawalpindi Institute of Cardiology (RIC), at almost one-sixth the price of imported stents available in the market.

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**Nustian: How do you see the spirit of research and innovation prevalent at NUST and what measures will you recommend for its invigoration?**

**Dr Najabat:** One of the factors that convinced me into joining NUST is its vibrant Research, Innovation and Commercialization (RIC) ecosystem. On the one hand, the state-of-the-art research facilities support research at the cutting-edge, the entrepreneurial spirit fostered through various initiatives, on the other hand, helps transform new knowledge into businesses subsequently reducing unemployment.

In Biomedical Engineering & Sciences Department of SMME alone, we have elaborate labs and a pool of striving researchers.

We need to harness this resource to develop new devices, medical implants and most importantly the industrial systems, which we have to import at exorbitant cost.

**Nustian: What is your philosophy towards your work?**

**Dr Najabat:** I firmly believe that the word innovation must not be abused churning out copied products merely because you have demand in the market. This is not the job of researchers or R&D facilities. This is being done by the small scale manufacturers and even by the traditional industry in Pakistan. Their products are abundant in Pakistan, but do not qualify for the export market.

My philosophy is that, one may or perhaps should take lead from the new technological concepts elsewhere wherever necessary, but we must innovate and introduce our potential in the national and international market. (??)

**Nustian: What are your hobbies do you enjoy outside of work?**

**Dr Najabat:** Quite a few things socially, but, a researcher is a researcher. In parallel to what I am doing in my official capacity, I have also started my own Company (Kounter-intuitive Technologies (KIT) in 2014, that is, at the Technology Incubation Center of NUST, where I have set up a production house for products like Infant Resuscitation Unit, Infant Phototherapy light, X-ray Illuminator, Electrosurgical Instruments, etc.

I feel proud to share with you that, in the past couple of years we sold our products to the Pediatric Section of Military Hospitals in several cities of Pakistan at about 70% of the imported product price.

I have also managed to secure at KIT seed grant from the US Department of State, USAID and National Academy of Sciences, US, and have won a couple of business competitions at the national level.

**Nustian: What is your message to the young scholars?**

**Dr Najabat:** I have a strong conviction that there is no scarcity of ability in Pakistan. Our youth has many a time stunned the world with their creativity and belligerence.

My message to them is always stay put to your ambitions and embrace failure wholeheartedly as it in return blesses with the strength and stamina to come out strong and defeat the odds.

**Nustian:** Thank you!

## Conferences/ Workshops

4th International Convention of Federation of Engineering Institutions of Asia and the Pacific (FEIAP)

# Govt taking steps to strengthen engineering education in Pakistan: Minister

**Main Theme: Innovation and Engineering Education for Society Development and Sustainability**

Tuesday May 16, 2017

Organized By:



Science and Technology is the pinnacle of success in the modern era. For any nation to keep itself from falling behind in the race for attainment of economic excellence, it is imperative to invest in engineering and technology. Today, life has become much easier than ever before courtesy the engineering inventions that have positively impacted areas such as health, governance, communication, transport, information technology, etc. This was the crux of talk by Rana Tanveer Hussain, Federal Minister for Science & Technology, at the inaugural session of 4th International Convention of Federation of Engineering Institutions of Asia and the Pacific (FEIAP) on May 16, 2017. Jointly organized by Pakistan Engineering Council, Higher Education Commission and National University of Sciences & Technology, and held at the main campus of NUST, the convention was attended by representatives from the member economies of FEIAP.

The minister further said that the goals and agendas of Ministry of Science & Technology (MoST) are perfectly aligned with the vision and mission of Federation of Engineering Institutions of Asia and the Pacific (FEIAP) that is to promote sound engineering practices in support of the socio-economic development objectives in the region. He maintained that the government has its strong focus on strengthening of engineering and technology institutions across Pakistan. He also eulogized PEC for their untiring efforts in continuously improving the engineering

profession in Pakistan in line with recognized international engineering practices, and lauded NUST for their unceasing efforts towards grooming the brightest minds, especially in the engineering disciplines, into through professionals fully poised to lead and serve the nation.

Chairman PEC Engr Jawed Salim Qureshi, in his remarks, said that the council has always strived for the betterment of professional engineers and nourishment of budding engineers. He opined that the changing and challenging world demands a need for young, brilliant minds to innovate and create new ways to tackle the unprecedented challenges.

Earlier, Dr Asif Raza, Pro-Rector Academics NUST, highlighted the significance attached to the convention, saying that it would have far-reaching positive dividends. He also apprised the audience of achievements made by NUST in a short time span including its coveted global standing particularly in the field of engineering and technology.

Prominent among other speakers were Engr Zahid Arif, Vice Chairman PEC, Dr John Chien-Chung Li, President FEIAP and Engr Chuah Hean Teik, the keynote speaker whose talk was themed around Globalization and Challenges Faced by Engineering Profession. In the second session of convention, as many as 40 engineering scholars from a total of 14 countries presented papers on engineering education and standardization, disaster mitigation, sustainable environment, etc.



## Fixed Income Investment & Trading Certification Course at NBS

A two-day Fixed Income Investment & Trading Certification Course was recently arranged by NUST Business School (NBS) in collaboration with USAID (Financial Market Development Program) and the Institute of Financial Markets of Pakistan (IFMP).

This program is an effort to develop the professional capacity for fixed income market in Pakistan. The program intends to create a critical knowledge base and skillset amongst students and different institutional investors, such as mutual funds, insurance companies, pension fund managers, and other market participants. The training program is designed to cover a variety of fixed income securities from conventional and Islamic markets, including sovereign, corporate, structured credit/asset-backed bonds and related derivatives. The program intends to provide participants with a comprehensive understanding of bond markets and products, as well as pricing and portfolio management techniques. Participants will also be provided insights on fixed income analysis, instruments, investment, and trading.

The course was delivered on behalf of the USAID Financial Mar-



ket Development Activity (FMD) by Mr. John Crowley, Mr. Werner Riecke, Mr. Abdul Qayyum Khan, and Mr. Amir Khan. All of the distinguished presenters have significant local and international financial markets expertise.

The course sessions were conducted at the NUST Business School Seminar Hall and were well attended by over 200 students, faculty, and professional staff. The sessions concluded with a certificate awarding ceremony and the Dean and Principal, NUST Business School, Dr. Naukhez Sarwar presented NUST shields to the presenters.

## Seminar on Digital Marketing

Mr. Adnan Shahid, Chief Commercial Officer at PTCL, delivered a Talk on Digital Marketing – Pakistan's New Corporate Facelift, organized by the CIL office at NUST Business School on March 17, 2017. Participants of the seminar were students of MBA and BBA classes.

Being in the industry for more than a decade, Mr. Adnan delivered an informative session on how the Marketing industry has changed and how digitization has made an impact on the whole process of marketing, promotion, sales, customer services and Digital Product Development.

He discussed how the theory of 4ps, Product, Price Place and Promotion have been redesigned and products today are be-

coming digital and user-friendly. It has become difficult to attract and hold customers because of wide spread knowledge and grown competition. He said that the audiences are targeted today through digital media canvas which includes emails, social media, blogs, and SMS marketing. Targeting audience and product promotion is done through the association of the product with the entertainment content such as dramas, movies sports etc. After the talk there was a question answer session with the students. The session concluded as the HoD International Business and Marketing presented the shield as a token of appreciation to Mr. Adnan Shahid.



## Workshop on “Financial Modeling and Valuation Training”

Professional Development Centre (PDC) organized a three-day workshop on “Financial Modeling and Valuation Training” from April 10 to 12, 2017 at CIE Building, NUST. The training was designed for participants with moderate knowledge of excel with a view to enabling them to convert finance and valuation concepts in to financial models. The training helped the participants apply the new techniques rigorously and develop a structured approach for conducting business valuation. Mr Asif Rehman was the resource person of this training who is a Chartered Certified Accountant by profession and has over 10 years of working experience in the area of Data Analytics & Optimization, Accounting, Financial Management and Taxation. He is a Data Analytics and Financial Modeling Consultant. The participant were from NLC, ICI Pakistan, National Rural Support Programme (NRSP) and Pakistan Air Force (PAF).



## NEC holds workshop on “Environmental Good Case Practices from Finland”

NUST Environment Club (NEC) organized a workshop on “Environmental Good Case Practices from Finland” at the Institute of Environmental Sciences & Engineering (IESE). The workshop was conducted by Lisamaria Markula, a Climate activist, Motivational Speaker and CEO Train2Impact. The workshop focused on the Environmental & Climate experiences from Finland in the context of Good Case Practices and its potential application in Pakistan. Motivational experiences with regard to environmental activism were also discussed. The workshop was attended by undergraduate & postgraduate students of IESE-SCEE and other institutions of NUST.





## C<sup>3</sup>A organizes “Counseling Camp”

C3A organizes different camps throughout the year to promote the concept of psychological well-being and mental health among university students. Along with offering various on campus activities, this Centre is also involved in providing community services through various informative activities.

Aforementioned in view, C3A organized another “Counseling Camp” for students, faculty and staff. One of the key objectives was to raise awareness about mental health and ways to re-

duce stressors from our lives. The Camp was inclusive of different activities such as signature analysis, on the spot counseling, group counseling, self-hypnosis and testing. Students from all the schools registered themselves for different stalls. NUST faculty members and officers also participated in this activity and appreciated the work of C3A for spreading awareness in NUST community.



## Orientation program for newly established ORIC personnel

On the recommendation of Higher Education Commission (HEC) of Pakistan, National University of Sciences and Technology launched a two-day capacity-building program on April 24, 2017 for the staff of the Offices of Research, Innovation and Commercialization (ORIC) of 27 universities. As many as 60 directors and managers from universities across the country participated in the training. The objective of training was to brief participants on HEC policy and showcase NUST ORIC managing activities related to entrepreneurship and commercialization as guide for best practices. The training was a humble effort to share progress NUST has made to develop its ORIC Eco-System. NUST candidly shared its vision, mission, systems and challenges with the ORIC staff of all the participant universities, with the sole objective of learning from each other. To make this training program more effective and interactive, it was divided into three batches. The training concluded on May 4, 2017.





## Resume Writing, Interviewing Techniques Workshops

NUST Career Development Centre (CDC) focuses on conducting “Resume Writing Workshops” for 3rd year students across all campuses wherein students are taught in detail through numerous exercises to create a perfect resume’. In the month of March, April, May & June 2017, a total of four workshops were held at CEME, PNEC, SMME, and S3H.

It is worth-mentioning here that CDC has also designed workshops on “Interviewing Techniques” for the 4th Year students in order to assist them in securing their desired job slots. In the last 4 months, the center arranged as many as 5 such workshops at PNEC, SADA, NICE, S3H and SNS.



## Customized Workshop on “Business Report Writing and Official Correspondence”

Professional Development Centre (PDC) organized a two-day customized workshop on “Business Report Writing and Official Correspondence” for Dr. A.Q. Khan Research Laboratory, Kahuta professionals from April 10 to 11, 2017 at KRL venue. PDC had designed the training to improve and enhance the skills of business report writing and official correspondence of KRL participant. The Resource Person for the training was Mr Talal Saiyer, who is a qualified Soft Skills and English as a Second Language (ESL) Trainer and has over 07 years of experience providing a range of training services that focus on communication skills and capacity building.

## Workshop on GAUSSIAN-09 at RCMS

Research Centre for Modeling and Simulation (RCMS) organized a two-day hands-on workshop on Gaussian-09 from April 18 to 19, 2017. The workshop was conducted by Asst Professor Dr Uzma Habib at RCMS Supercomputing Lab. The event was a success as 21 participants joined from Chemistry Department, Quaid-e-Azam University, PAEC, Institute of Chemical Sciences, University of Peshawar, Chemistry Department, Hazara University and different institutions (SNS, SCME, USPCAS-E) of NUST.



## Lecture on “Indus Water Treaty” by Dr Nasrullah Mirza

Dr. Nasrullah Mirza, Assistant Professor, Quaid-i-Azam University, Islamabad and an expert on Indus water issue, presented his well-researched thesis in a seminar titled “Indus Water Treaty” held on May 3, 2017 at SCEE Seminar hall for Civil engineering students.

In his edifying presentation, Dr Nasrullah Mirza said that the roots of the conflict over water could be traced back to Redcliff Award when control of the strategically important water heads and access to Kashmir were rendered to India in sheer negligence of the division formula.

Kashmir was not merely an ideological, emotional or political issue for Pakistan; it is undoubtedly ‘jugular vein of Pakistan’ in every sense of the world, he said adding that “The cause of military adventurism over Kashmir is rooted in its geo-strategic location and control of Indus rivers system and the claims of absolute territorial sovereignty over Kashmir is the real and major strategic issue.”

Citing various sources and explaining the genesis of water issues, Indus Water Basin Treaty was signed in 1960 after lengthy interventions of World Bank. “Pakistan had accepted the treaty





at the stake of its very survival and assurances from India that it will not interfere with other rivers; India never honored its promises," he argued.

Analyzing the formula of fulfilling the deficiency of the eastern rivers through canals drawn from the western rivers, he said that this was an unnatural arrangement and had caused severe problems of salinity and water logging. He suggested that if peace was desired in the area then water and Kashmir will have to be taken as inextricably inter linked issues and resolved as such.

In the end, NICE organizing committee thanked Dr. Nasrullah Mirza for his time and valuable information he shared with the students.

## United Nations Staff Observer Officer Course-13

A United Nations Integrated Training Service (UNITS) certified Staff Officers Course serial-13 was held at Peacekeeping Training Department, CIPS from April 17 to 28, 2017. The course had twenty six participants including sixteen from Pakistan Armed Forces and ten foreign participants. Foreign participants were from Thailand, Nigeria, United Kingdom, Egypt and Bangladesh. For the first time, three Lady Police Officers Peacekeepers from Thailand also attended the course.

At the closing ceremony, Lieutenant General Syed Tariq Nadeem Gilani (Retd) was the chief guest. Prominent among others were Acting High Commissioner of Nigeria, Senior Army officers, reps of UN organizations, and Defence Attaches. Towards the end, the chief guest awarded UN ITS certificates to the successful participants.





## Research & Innovation *Roundup*



### ► New Research Center for Energy inaugurated at NUST

Federal Minister for Water & Power Khawaja Muhammad Asif and Mr John Groarke, the United States Agency for International Development (USAID) Mission Director, inaugurated a state-of-the-art research center for energy at National University of Sciences and Technology on May 8, 2017. Lt Gen Naweed Zaman, HI (M), (Retd), Rector NUST, was also present at the occasion. The research center has been constructed with the support of US Government. The new four-storey, 60,000-square-foot building includes five classrooms, eight high-tech energy laboratories, a seminar hall, conference rooms, a library, multiple office spaces, and elevator access for the handicapped. Speaking at the event, the federal minister, Khawaja Muhammad Asif, expressed his appreciation over the assistance of

American government and people, saying: "The provision of better-equipped research facilities with assistance from the US government is a testimony to our continued efforts and commitment to improving the quality of education in Pakistan and addressing the energy issues facing it."

Highlighting the United States' long-term commitment to strengthen Pakistan's education sector and help find practical solutions for the country's energy challenges, Mission Director Mr Groarke said, "These new buildings will house academic programs that will help shape the future of Pakistan and set new standards for the success of both women and disadvantaged youth, especially in the energy engineering profession."





**Research Projects this Quarter**

Pursuant to consistent policy of bringing significant and positive changes in the socio-economic sector of Pakistan while exploiting the abundant opportunities being offered by knowledge based applied research in collaboration with renowned institutions and industries, NUST fosters an environment conducive to specialized teaching and targeted research by facilitating faculty and students to strive hard to produce solutions matching to national needs. The summary of research projects submitted, approved and completed from April to June, 2017 is as follows:

Research Projects	Numbers	Cost (PKR Million)	Top research projects with the highest grants	Institute	Cost (PKR Million)
Projects submitted	21	177.996	SmartPath: A portable Smartphone Based Histopathological Framework for Diagnosis of Head & Neck Cancers and Pre-Cancers in Pakistan	SEECs	60.14
			Annual Program Statement for Cultural Affairs	TIC	61.42
Projects Approved	52	239.636	All Carbon Resistive Memory Devices Based on Laser-Induced Reduced Graphene Oxide/Graphene Oxide Hybrid Structure	SNS	15.18
			Laser-Assisted fabrication of Graphene and Mxene based novel energy storage devices	SNS	21.838
Projects Completed	8	30.45	Cloning and Characterization of Full Length Dengue Virus Genome of Pakistan Origin	ASAB	2.044
			Renewable Energy Resource Mapping: Biomass in Pakistan	US-PCAS-E	26.123

### ► NUST organizes IP Seminar on “Innovation Improving Lives”

In observance of World Intellectual Property Day on April 26, NUST Intellectual Property Office in collaboration with US Embassy organized a seminar on IP followed by a panel discussion. This year, the theme was “Innovation Improving Lives.” Mr. Haris Bajwa US Attorney at Law and Mr. John Dickerson (senior lawyer CLDP USDOC) deliberated the session.



### ► NUST RIC and Gujrat Chamber of Commerce and Industry (GtCCI) sign MoU

NUST signed an MoU with Gujrat Chamber of Commerce and Industry on March 27, 2017 to establish a formal mechanism for collaboration and cooperation with each other in the areas of joint research initiatives, student internships, social action programs, industrial visits, strengthening academia-industry linkages and any other initiative of mutual interest by pooling resources and working together.



### ► Project on “Renewable Energy Resource Mapping” completed

Pakistan is facing a large deficit in electricity supply. A report published by the Government of Pakistan (GoP) in 2013 showed that the electricity supply-demand gap has continuously grown over the past five years and has reached 4,500 to 5,500 MW in 2013. Such an enormous gap has led to load-shedding of 12-16 hours a day across the country. In this project completed

recently, several local stakeholders (NUST, SUPARCO, IST, REAP, PSMA) were contacted to obtain existing information on the biomass mapping exercises in Pakistan. Satellite images were acquired from landsat 8 and were analyzed to produce the raw biomass cluster images for field observation and inspection.

## ► SNS project “Laser-assisted Fabrication of Graphene and Mxene-based novel energy storage devices” gets approved

There has been an enormous effort to develop energy storage devices such as capacitors and batteries which can keep up the pace of device evolution as well as can increase their performance efficiencies. Unfortunately, in the present scenario, the evolution has reached its limit. This project worth PKR 21.838 M

will focus on successful fabrication of two different energy storage devices namely, the Lithium-ion batteries anode electrode and super capacitors using novel device architecture. Based on the results obtained, future research direction will be determined for efficient energy storage devices.

## ► Teaching Fluid Mechanics – A hands-on approach

The undergraduate students of SMME studying mechanical engineering take the second of two courses on Fluid Mechanics during their fourth semester, which involves the application of the knowledge that they obtain in the first course to real-world problems and scenarios.

One such scenario is the design of pipe networks of different scales to achieve a required distribution of some fluid. In order to give the students a more hands-on approach towards tackling this problem, the instructor, Dr. Muhammad Sajid, along with a group of his students developed a ‘bench’ that simulated this problem.

A problem statement was created that required the students, working in groups of two to three members, to design a network of pipes that would deliver required amounts of pressure heads to ‘stations’ (measuring cylinders as seen in the picture) arranged into four different configurations. Every one of the 28 groups had to work on one particular configuration.

The students worked on this problem throughout the semester, using their concepts to design the pipe networks and experimenting on the bench to test their solutions.



At the end of semester, a collective evaluation was conducted in which all groups were required to turn by turn install their pipe networks and simulate the flow of water.

This novel approach to teaching fluid mechanics helped the students in bridging the gap between theory and practice, not only strengthening their concepts of fluid mechanics, but also helping them to develop their project management skills.

## Faiz PLC Lab inaugurated at College of EME

The first-of-its-kind Programmable Logic Controller (PLC) Laboratory has been established in the Department of Mechatronics Engineering, NUST College of Electrical & Mechanical Engineering. Lt Gen Naweed Zaman, HI (M), (Retd) Rector NUST inaugurated the lab on May 2, 2017. The infrastructure, lab equipment, and HR all have been sponsored by the industrial partner EESINT International.

## RCMS faculty member wins Research Productivity Award

Pakistan council for science and technology conducts regular research evaluation for research productivity award (RPA), which provides information about the productive scientists of Pakistan based on research related parameters including authorship of book, PhD research supervision, cumulative impact factor and citations for papers published in impact factor journals, patents granted, awards won and winning of competitive grants. This year, RCMS faculty member Asst. Professor Dr Junaid Ahmad Khan earned the research productivity award for his unprecedented research in the area of Fluid Mechanics and Applied Mathematics.



## SNS professor earns grants for two research projects

Dr Syed Rizwan Hussain, Associate Professor at the Department of Physics-School of Natural Sciences (SNS), has won grants for two of his research projects under HEC-NRPU program and Pak-US Technology Development program with a total funding of Rs 37 million. He is the only faculty from NUST to win Pak-US project this year. Both the projects are focused on fabrication of laser-assisted energy storage devices and nano-structures.





## Springer appoints MCS faculty as Regional Editor for Neural Computing & Applications for Pakistan Region

Dr Haider Abbas has been appointed by Springer as a full time Regional Editor for Pakistan for Neural Computing and Applications (ISI-Indexed with 2.5 Impact Factor). Dr Abbas is associated with the Department of Information Security, Military College of Signals, NUST. He is already serving as Associate Editor for IEEE Transactions on Information Technology in Biomedicine/ IEEE Journal of Biomedical and Health Informatics, Journal of Network and Computer Applications (Elsevier), Electronic Commerce Research (Springer), IEEE Access and Cluster Computing (Springer).

He is the Fellow of the British Computer Society, UK, Fellow of the Institute of Science and Technology, UK and a Senior Member IEEE, USA.



## Paper Publication



### Research by ASAB faculty gets published in Nature Neuroscience (Impact Factor 16.72)

Dr. Touqeer Ahmed, Assistant Professor at ASAB, won the International Brain Research Organization (IBRO) fellowship to visit RIKEN, Brain Science Institute (BSI), Japan. He conducted research on a project aimed at understanding the “strength of aversive memories.” This work was published in the Nature Neuroscience (impact factor 16.72). This is indeed an honor for ASAB-NUST and Pakistan.



### RCMS faculty publishes paper in reputed journal

RCMS faculty member, Asst. Professor Dr. Zartasha Mustansar, published her research title: “A study of the progression of damage in an axially loaded Branta leucopsis femur using X-ray computed tomography and digital image correlation” in collaboration with the University of Manchester UK, in a reputed journal, PeerJ, the award winning journal in biomedical sciences. Her research is co-authored with one of the royal/Regius professors of the UK, Professor Philip Withers who is awarded the Royal Society Armourers & Brasiers’ Company Prize for pioneering use of neutron and X-ray beams to map stresses and image component and Queen’s Anniversary prize for X-Ray Computed Tomography.



### Elsevier journal publishes research article by SEECs faculty

A Journal Research paper titled ‘Multiscale segmentation of exudates in retinal images using contextual cues and ensemble classification’ Published in the Elsevier journal “Biomedical Signal Processing and Control.



## Paper Acceptance

### 10 research papers from RIMMS accepted at IEEE-Antennas & Propagation Symposium-2017, USA

Researchers at NUST Research Institute for Microwave and Millimeter-Wave Studies have been carrying out research in all major areas of “RF & Microwave” of which “Antennas and Propagation” is one of the most important sub-domains. Sharing the research with international community through conferences has been a priority at RIMMS and as a result a healthy PhD-to-Conference Paper Ratio of 6.6 was attained in 2016.

IEEE Antennas and Propagation Symposium (IEEE-APS) is a flagship conference of the IEEE AP Society being held since 1963 every year in different cities of North America. In recent years, the average attendance of the conference is over 2000 with a parallel Industrial Exhibition also taking place at the same venue. Major research groups working in this area participate in such conferences, present their latest work and collaborate with other participants through an active exchange of ideas.

RIMMS faculty members have been presenting their research at IEEE-APS every year since 2014. It was for the first time that the faculty submitted a total of 10 papers for IEEE-APS Conference-2017 being held in San Diego, USA from July 9-14, 2017 and after thorough scrutiny / peer review, all the papers have been accepted for presentation in the conference. The papers include research work of MS and PhD students as well as Lab Engineers which reflects the high quality research being conducted at RIMMS. Two faculty members from RIMMS will be traveling to the US to represent NUST at the conference and present these papers.

### SEECs faculty's paper accepted in Journal of Non Linear Dynamics

A research paper, titled 'A novel image encryption scheme based on orthogonal matrix, skew tent map, and XOR operation' and authored by Dr Muazzam Ali Khan, has been accepted on May 11, 2017 for the spring journal Non Linear Dynamics with Impact Factor 3.0



### Paper by PhD scholar accepted in IEEE Transactions on Vehicular Technology, IF 2.243

A manuscript titled "Joint User Association, Power Allocation and Throughput Maximization in 5G H-CRAN Networks" authored by Mudassar Ali, PhD supervisee of Dr Saad-bin-Qaisar has been accepted for publication in IEEE Transactions on Vehicular Technology (TVT). IEEE Transactions on Vehicular Technology is one of the most prestigious publications of IEEE with an Impact Factor of 2.243 covering land, airborne, and maritime mobile services, vehicular electrotechnology, equipment, and systems identified with the automotive industry.



A manuscript titled "Use of Digital Game Based Learning and Gamification in Secondary School Science: The Effect on Student Engagement, Learning and Gender Difference," authored by Ms Amna Khan has been accepted for publication in Springer Journal of Education and Information Technologies, which is an official journal of IFIP Technical Committee on Education with an impact factor of 0.95.

## Paper Presentation

**Dr. Muazzam Ali Khan Khattak** presented paper "Unicast Routing Protocols in Vehicular Adhoc Networks: A Comparative Analysis" in 2017 International Conference on Information and Network Technologies held at Jakarta, Indonesia from May 24 to 26, 2017.



**Zehra Keshf**, MS scholar of Career Counselling and Education program, attended two-day conference on March 10, 2017 at Institute of Clinical Psychology, University of Management and Technology, Lahore. She presented her research paper titled "Ostracism, personality and workplace deviance in employees of private organizations."

Zehra also presented her paper in the conference "Building Bridges in Initial Teacher Education; Theory & Practice; Curriculum & Assessment; Schools & Universities" organized by Fatima Jinnah Women University, Rawalpindi, from May 19 to 21, 2017. Title of paper was "Ostracism and Its Effects on Personality in Educational Environment" and it was well received by the participants.





## Co-curriculars





## National Design Challenge 2017

With the aim of providing engineering students with an opportunity to enhance their practical engineering skills, IMechE NUST Student Chapter (NSC) organized National Design Challenge (NDC), the biggest event of its kind in Pakistan. The event was conducted from May 16 to 18, 2017 at SMME. As per the driving motivation, the competition was styled not only to test the technical know-how of students, but also their ability to apply it for the creation of an actual engineering product. Students participated in teams of 3 or 4 members. Each team had the task of designing and fabricating a small-scale vehicle that satisfied some pre-defined parameters, and operated in a manner specified by the organizers before-hand. These models were then tested at a custom-built testing 'arena' stationed at SMME lobby, under the observation of Dr. Aamir Mubashir and Lecturer Naqash, both of whom had kindly consented to act as judges for the event. The participants showed great determination to get their devices ready in time, with the testing arena usually seen crowded with students in the days leading up to the event.



## College of EME students stand out at "Design, Build & Fly Competition" at GIKI

National Design, Build and Fly Competition is a UAV (unmanned aerial vehicles) design contest held annually by American Institute of Aeronautics and Astronautics (AIAA). This year, teams from the Department of Mechanical Engineering of College of EME participated in the event under the supervision of Asst Prof Dr Saif Ullah Khalid. The teams designed and built battery powered UAVs. During the activity, the students learned to transform the classroom knowledge into a real-time complex engineering system. They performed highly well in presenting their progress in the form of a technical report submitted before the competition, written and oral examinations, and flying part of the contest. Consequent upon it, a team comprising the 3rd year students, i.e., Haseeb Javed, Arfeen Ahmed Ali, Syed Saadat Shakeel, Aqib Javed and Muhammad Sarmad Zahid, won the runner-up prize, and brought laurels to their alma mater. The team was awarded with a shield, certificate, and a cash prize of Rs 60,000.

## Job Fairs / Open House

### 01 NUST College of E&ME

The annual Open House & Job Fair of College of EME was held on May 24, 2017. Federal Minister for Planning, Development and Reform: Prof Ahsan Iqbal, graced the occasion as chief guest. At the occasion, the minister emphasized on strengthening industry-academia relationship. He took keen interest in the students' projects related to Radars, Unmanned Air and Ground Vehicles, Robotics, Prosthetic limbs, Biomedical Applications, Vehicle Monitoring and Management Systems, Automotive Technology and Indigenous Software Development for engineering applications. He highly appreciated work done by young engineers and congratulated them on their commendable performance, and advised them to keep themselves abreast with the fast changing frontiers of knowledge.

A total of around 170 delegates from more than 100 companies and organizations participated in the event and conducted interviews and job tests.

### 02 Military College of Signals

A mega event of 'Open House' was organized by Military College of Signals (MCS), a constituent college of NUST, on May 23, 2017. Graduating students displayed their final year projects in the field of Telecommunication and Software Engineering. More than 150 guests from industry, academia and government sector were present on the occasion. The chief guest, Lieutenant General Naweed Zaman, HI (M), (Retired) Rector NUST expressed his appreciation over high standard of projects.



### 03 NUST Business School

NBS held Job Fair-2017 on Thursday April 27. As part of the job fair, a two-day training program was also designed to equip the graduating students with basic skills required to work in corporate organizations. This year's Job Fair was sponsored by the Bank of Punjab.





## 04 SEECS

SEECS held Open House-2017 on May 23, 2017. Rear Admiral Dr Nassar Ikram SI (M), Pro-Rector Research Innovation and Commercialization (RIC) NUST graced the occasion as chief guest. The projects displayed by the students were indicative of their innovative potential and competence. A total of 116 projects from three different disciplines were displayed at the Open House. The industry representatives benefitted from the opportunity as they had direct access to the talented youth to assess their suitability for various national business and industry streams.

## 05 NICE-SCEE

The fifth Job Fair of NUST Institute of Civil Engineering-SCEE was organized on May 25, 2017 for the graduating batch of 2013. The event provided an opportunity to the Civil Engineering firms to meet graduates of the institute to discuss career employment and other associated opportunities. All the graduating students displayed their final year projects at the occasion.



## 06 SMME

In order to showcase the projects of SMME students, Open House and Job Fair 2017 was held at the school on May 25, 2017. The students briefed the evaluation team, faculty and students about their projects. It was a daylong activity which culminated with award of prizes to the top three projects. The event was graced by Senior Vice Chairman PAAPAM, Mr Saeed Iqbal Khan. The awards were sponsored by Indus Motors, IMECHE and PAAPAM.



## NASCON ROBOMAZE 2017

NASCON ROBOMAZE 2017 was held on April 16, 2017. Students from Mechatronics Engineering Department, College of Electrical & Mechanical Engineering, NUST competed and took first position in this competition. The competition was held among 18 different teams of top universities like LUMS, CASE, FAST and UET. The competition demanded comprehensive programmed robots with suitable hardware, with high speed and accuracy. Winning Team Included Adeel Ahmed, Ahmed Usman, Tahir Noor and Muhammad Bilal Rafique representing from Degree 36, Mechatronics Engineering Department. Their robot was able to complete the line track efficiently in the shortest span of time. A prize money of 8,000PKR was given to the winning team.



## Global Village 2017

The SEECS Global Village gives students an opportunity to familiarize themselves with the diverse cultures of the world, as it is the understanding of this diversity that one can overcome and prevent racial and ethnic divisions and move towards world peace. This year, every undergraduate class of SEECS represented a different country on April 19, 2017. A huge number of Nustians converged on the stalls to learn something about history, demographics, cultural heritage, science and technology achievements, food and architecture, etc., of over 35 countries at the Global Village.



**“Preservation of one’s own culture does not require contempt or disrespect of other cultures.”**

-Cesar Chavez Hispanic civil rights and labor leader.

## Olympiad '17 held at NUST

The third edition of NUST Olympiad, the biggest co-curricular event of National University of Sciences & Technology, kicked off at its main campus on April 7, 2017. Rector NUST Lt Gen Naweed Zaman, HI (M), (Retd) graced the inaugural ceremony as chief guest.

The four-day mega event is being attended by over 2000 participants from various universities and other educational institutes across Pakistan. The special feature of this year's Olympiad is the amalgam of diverse social events viz. Saqafati Maila (Carnival) on the second day that will feature food stalls, cultural walk and a performance by the revered Sufi singer, Asrar Shah; and a concert on the penultimate day featuring live performances by pop icon, Ali Azmat and the Roxen Band. The participants would also have the opportunity to demonstrate their potential in as many as 40 in- and out-door competitions in various sports, debate & declamation, mathematics, e-gaming, etc.

In his welcome remarks before a packed audience at the inaugural ceremony, Lt Gen Naweed Zaman, HI (M), (Retd), Rector NUST, termed Olympiad the flagship of co-curricular events organized at the university. He said that though academics generally is considered to be the most important yardstick to gauge an individual's ability, the importance of co-curricular activities in a student's life cannot be overemphasized. At NUST, he main-

tained, it is strived to keep a healthy balance between academic and non-academic pursuits as special attention is paid to physical and mental fitness of students. The Rector also said that through organizing events like Olympiad and NIMUM, NUST has been endeavoring to break the cultural barriers and allow the youth from diverse ethnic backgrounds to compete and work together and respect each other's values and aspirations.

It may be mentioned here that this year's Olympiad is the product of collaborative efforts of all clubs and societies at NUST with two events being pitched by each society.



## Annual Sports Closing Ceremony at College of EME

Annual Sports Closing Ceremony of College of EME was held on May 22, 2017. Commandant College of E&ME Brig Tariq Javed was the chief guest. Prior to that, basketball final match was played between Electrical Engineering Department and Department of Mechanical Engineering. DME won the match by 21 to 16 points. There were a total of ten games in the competition including football, cricket, table tennis, hockey, badminton, tennis, squash, swimming, volleyball and basketball.



## Humor poets set off loud guffaws at NUST

The Literary Circle of National University of Sciences and Technology (NUST) organized its signature event 'All Pakistan Maza-hiya Mushaira' at the university's main campus on May 17, 2017. Some of the renowned names in humor poetry including Mr Zahid Fakhri, Mr Salman Gillani, Mr Khalid Masood, Dr Inam-ul-Haq Javed and Mr Sarfraz Shahid, had the jam-packed audience rolling around with laughter at the Jinnah auditorium packed with students, faculty and staff. The poets amused the audience with their humor-coated lines and were reciprocated well with thunderous applause and laughter.

Mr Gulfam Gen Secretary and Ms Maham Khan Editor in chief "The Circle" of NUST Literary Circle were the Masters of Ceremony for the event. The event also included a book launch written by Maham Khan a student of ASAB with the title of Abhi Kuch Waqt Baki Ha. Towards the end the chief guest Registrar NUST presented poets with NUST shields. The mushaira was well attended by an overwhelming number of students. It was



well received by them and looked forward to witness such performances in future too.



# *A rendezvous with social media celebrities!*



**By: Huma Ansari**

On the sunny afternoon of April 28, 2017, the NUST Dramatics Club arranged an interactive session with social media icons Sham Idrees, Shahveer Jaffrey and Froggy at the NIT seminar hall of NUST main campus.

suspense. At about 3:45pm, the hooting and screaming of the enthusiastic crowd, welcomed the famous Sham Idrees, who has more than 5 million followers on YouTube, his best friends, Froggy and Shahveer. It was only then when it transpired the surprise guest was Mr Khurram Idrees, elder brother of Sham Idrees and ex faculty at NBS, NUST who is well known for being



the designer of NUST's logo.

As the melody of the national anthem played in the ears all around, the event kicked off. The compères asked the guests to briefly introduce themselves. The guests couldn't help but commend NUST for how beautiful they thought it was. The president of NDC, Haider Baig, interviewed them, for which the audience cheered out loud since this was the moment they impatiently waited for. They were asked interesting questions like what they found

People started entering the hall at 2:30pm. The first to arrive were the dedicative executives of the NDC. The ushers, photographers and the stage managers quickly took their places. The team publications readied their pens for taking notes. The team admin events was particularly rushing up and down across the hall all the while buzzing with excitement and performing their respective duties. The seminar hall was packed with audience by 3:30pm all due to the marketing by team social media. The HRs were continuously in contact with each executive member and maintained coordination between the whole crew. Perhaps the heat and agitation was because of the spectators' high anticipations thanks to the fact that the NDC had been bringing them amazing shows and people the whole month.

To create some more hype, one of the emcees announced that in addition to the three celebrities, the audience will be having a surprise guest on stage. There was an air of curiosity in the hall and the audience became even more eager to break the

different among Pakistan and Canada. Sham, Shahveer and Froggy proved to be true entertainers as they showed the audience a glimpse of their journey from being nobody to becoming an internet sensation. Every few moments the hall roared with laughter on their witty remarks. It was revealed that Shahveer was the most mischievous of the lot and that Froggy was very different from the grumpy housewife character she played in most of their videos. They discussed the show, which was supposed to happen the next day, which they came to promote. The audience was given a chance to ask questions, for which many hands were raised eagerly. Sadly, at around 5pm, it was time to say goodbye to the stars. The members of NDC had successfully organized the event in a time of mere 48 hours and they let out sighs of relief. As the NDC's third successful event of the week wrapped up, people stood up thrilled by the experience they just had; thought provoking, inspirational and hilarious at the same time.

## Session with cast and crew of *Chalay Thay Saath*

The interactive session between the cast and crew of the upcoming, highly anticipated Pakistani movie *Chalay Thay Saath* was organized by the members of NUST Dramatics Club on April 13, 2017. The cast itself was so excited to visit NUST that they had uploaded a video on the social media. The cast was greeted at the NIT seminar hall with an ear-splitting loud applause by the audience. After the national anthem, the trailer of movie was screened. And then President NDC Haider Ali Baig, came onto the stage to ask a few questions from the cast and crew before the audience raised queries with them. The event ended with the cast taking selfies with youngsters from the audience.



## Intra-NUST Drama Fest brings out Nustians' latent talent

Brought to NUST audience by the 'Dramaybaaz' of NUST Dramatics Club, 23rd May saw an evening of ostentatious gratification and a night of surging talent. The Drama Fest served to be the last event by any society for the semester, hence, NDC aimed at celebrating, encouraging and cheering the newly found out actors. The chief guest at the event was Principal SNS Professor Dr Azad Akhtar Siddique. Accompanying him was none other than NDC's faculty sponsor Dr Muhammad Illyas Chishti.

Predominantly focused on acting debuts, the night witnessed performance by the freshmen batch of School of Social Sciences and Humanities (S3H). Their play 'Intoxicated Truths' was an excellent work themed around the unfair and unruly dynamics of the justice system. Ensuing was the display of talent by SEECs students on the domestic inequalities. Their performances were laced with valuable lessons wrapped up in whimsical theatrics. Crowds do not bear well in stagnancy and sequence. To break things up a little, and spice up the air, Saif from SEECs and Haider Ali from SNS wooed the audience with an astounding dance number. With the floor pulsing to the beat, the lights gleaming to the rhythm, the dancers owned the floor.

The final contestant play was an exemplary endeavor by students of SNS. With their rich, buoyant, somber spectrum of command, addressing a harrowingly arduous subject. Their deliverance, ingenuity, commitment, and devoir truly deserved

the escalated reaction it got. Manipulating the audience's emotions, hanging them on the edge of tears and silent screams, SNS certainly presented what podiums like ours must be used for.

The best ending, NDC saw possible in the context of theatrical expertise was the staging of play *Dafa 302*, which charmed its way through the crowd, as it has done before diverse audiences. The night ended on a musical note, with packed, spirited performances by the sprightly trio of Rhythm 24, which brought the crowd to their feet.





# SPORTS

## SEECs Sports Gala 2017

SEECs Sports Gala prize distribution ceremony took place at the school's seminar hall on June 6, 2017. Mr Khurram Rahat, Managing Director Teradata, graced the occasion as chief guest and distributed medals and shields among the winners of each category. The gala covered a wide range of sports from team games like Volleyball, Cricket, Football, Futsal, Basketball, Hockey to single player games like tennis, table tennis, squash, swimming, badminton, chess and athletics.





## Sports Gala SMME 2017

One of the biggest and most awaited events, SMME Sports Gala blew the soul in students after a tiresome week of long assignments, stressful OHTs and demanding projects. The adrenaline rushed in its full flow when the Drillers, Hammers, Bulldozers and Crushers competed for the title of Best House and left no stone unturned to prove their mettle. The competition was fierce and the battle took place in several fields such as cricket, football, table tennis and Kabaddi. The performances exceeded the expectations and the race for scores made the sports all the more interesting and intense. The trophy went to the house Crushers because of their spectacular performance and unmatched spirit.



## Spellbinding concert bids adieu to graduating batches

Following the advice of Rector NUST Lt Gen Naweed Zaman, HI (M), (Retd), a new precedent of holding a grand social event to bid farewell to the graduating batches was set on the eve of at NUST. As part of the send-off reception for the graduating batch-2017, the organizing team of Finding Innovative & Creative Solutions for Society (FICS '17) orchestrated a philharmonic concert featuring music maestros from around the country. Rector NUST graced the occasion with his kind presence among an overwhelming crowd of students, faculty and staff. A good number of food stalls were also set up to complement the show. The event drew to a close late a night with a magnificent display of fireworks that lit up the night sky. It may be mentioned here that the university administration would hold such farewell events every year.





## Community Service

### NCSC Fempower project launched

NCSC launched its project “Fempower” in a bid to raise funds to empower women through equipping them with skills necessary to become financially independent. The project was launched on May 16, 2017 at NIT seminar hall during a seminar on women empowerment. Guest speakers included, Ms Waliya Najib (photographer), Ms. Ghazala Bangash (owner of driving school for females) and Ms Shahnaz Kapadia (a successful social entrepreneur). The Fempower team will look around for deserving cases during the summers and begin collection of funds via social media by the next semester.



### Balochistan students visit NUST

NUST Community Service Club in collaboration with PSA Dte arranged an exposure visit to NUST of 180 students from 7 different universities of Balochistan on April 25, 2017 at SMME. They visited various labs and facilities of SMME and SEECS, followed by a lunch.





## Experience NUST 2017

NUST Community Service Club (NCSC) organized a career counselling session on April 3 for as many as 120 students from various schools, including Beaconhouse, Torcia Academy, Westminster School and IMCB. The visiting high school students were given a detailed briefing on NUST. The students were then divided into two groups, i.e., one conducted to NBS and S3H whereas the other guided to SMME, SCME and NICE.



## Footymania '17 raises funds for deserving students

NCSC organized Footy Mania, a futsal event to raise funds for paying fee of deserving NUST students, from April 12 to 14, 2017. Organized at NBS ground, the event registered various teams for the matches that continued into the wee hours. The event raised an amount of Rs 50,000, which would be used for paying partial fee of two students.

## Dental camp held at orphanage

A dental camp was organized at Aaghosh Orphanage on April 1, 2017. NCSC has adopted the orphanage and the students visit it on weekly basis to attend to of the orphan children. The dental camp was a success.





## NCSC stages *Patang*: A play by special children

NCSC organized a play *Patang* staged by special children of HEC National School of Special Children (NSSC) on April 24, 2017, at SMME seminar hall. The event commenced with a welcome speech by a Special Olympics team member, Mr Haseeb Abbasi. Children between the ages of 12-14 years performed different roles in the play written by NCSC members. Heads from NSSC, Ghonsla Orphanage and Al-Faraibi School also witnessed the play. Towards the end, certificates were awarded to all the participants.



## NCSC organizes 'Knack of All This' at SOS village

With a view to providing underprivileged children a platform to showcase their skills, NCSC organized Knack of All This at SOS village in sector H-11 of Islamabad on May 19, 2017. This year, the activities focused on public speaking, self-defense and career counselling. About 40 students from primary to middle classes participated in the event. Mr Adeel Samar inspired the young minds through his thoughts and boosted confidence in them to share their feelings. It was followed by a career counseling session by Ms Zahra, a child trainer, who motivated kids to follow their dreams and make them come true.



## Alumni Affairs

### Five SEECS alumni featured in *25 under 25*

Pakistan's premier technology blog TechJuice has published the 2017 edition of its annual 25 Under 25 list of the country's high achievers in the field of science and technology field. In 2016, eleven NUST-SEECS alumni included in five groups. Continuing its tradition of high achievements, five NUST-SEECS alumni have been highlighted in 2017. They are:

**Hooriya Anam; Awais Shafique; Arsalan Javed**  
Co-Founders TAME



Hooriya Anam, Awais Shafique and Arsalan Javed, maybe young electrical engineers but with their unique blend of technical skills, have curated a breakthrough technology called TAME for tremor patients.

#### Share Quote

Over 280 million people in the world have lost their independence to Pathological Tremors. They can't walk, eat, or sleep properly. Despite medical advancements in the world there is still no cure for tremors. However, TAME offers the solution for real-time suppression and diagnosis of Pathological Tremors without hindering the voluntary movement of the patient. It works essentially by sending low current pulses through the body in order to actuate a group of muscles which in turn generates a movement to counter that of the tremors. The team has gotten ethical approval to move ahead with patient trials and have successfully completed a pilot program at Fauji Foun-

dation Hospital. What initially started as a final year project has now morphed into something that could put millions of lives at ease.

TAME has won accolades at various platforms including top prizes at Falling Walls Lab as Young Innovator of the Year 2016, FICS 2016, PIEAS Create '16, and Best IT Innovation Award 2015. Earlier in 2017, the team was selected as one of the six finalists from across the globe to participate in the Intel IxDA Student Design Challenge 2017. Their pressing challenge is commercializing the product. Developing a product on a massive scale requires investment, which can be very hard to find for young ventures in Pakistan's current scenario.

Despite this challenge, Hooriya, Awais, and Arsalan continue to represent Pakistan on an international level and hope to bring TAME to tremor patients soon.

**Afnan Sharief,**  
Founder Codistan



Afnan Sharief, a fresh software engineering graduate, is running a company that has over 40+ national and international clients. His company is also the pioneer of some very famous products including MadHunt and iCataract.

Afnan hails from a small town in Punjab. He still remembers his first day at the university when he was introduced to big names like Google and Apple during the elementary ICT and orientation lectures, and told that he could also establish similar companies.

Afnan was intrigued by the fact that not even a single company from Pakistan was quoted as an example. However, he took it as an opportunity and committed to establishing such a company in future. Since then, Afnan has had a strong desire to make "a dent into the universe". He had sky-high dreams. Unfortunately, he fell ill and had to leave his studies for two semesters. The stage was critical from where he fought back. Despite losing on a complete academic year, the struggle he underwent instilled in him the desire to achieve something big.

Afnan started his entrepreneurial journey and has since never looked back. He started off as the Managing Director at Aloo Clan, which is a digital services provider company. After some time he left it and formed his own company, Codistan, a self-sustainable digital services provider company. Right now, it is serving many brands including about 40 brands from Islamabad, 9 from UAE and about 3 brands from Australia.

Apart from Codistan, Afnan is also known for iCataract. iCataract can be connected to any smartphone and used to detect and quantify cataract. The said product has won the prestigious ITU Telecom World 2016 Young Innovators' Competition. It was also in top 4 in the PTA mobile awards. MadHunt, another product of Codistan, has also been making waves for quite sometime now. It won the Startup Weekend competition in 2016 and was one of the top 5 startups selected for the Jazz NIC XLR8 program.

Afnan who has achieved so much in about 3 and a half years, aims at forming a Unicorn by 2020. He wants to scale Codistan, and his products including MadHunt by as much as he can. He is focusing to form a brand out of Pakistani soil, that he could name alongside the leading tech companies of the World – an aim he has been pursuing since his first day at the university.



## Ali Rashid, Founder CarChabi

An electrical engineer who has always been intrigued by electronic circuits and went on to make one of Pakistan's first hybrid electric vehicle kit! That's Ali Rashid for you, the Founder of CarChabi.



Born into a family of government employees, Ali's deep interest in technological development always made him challenge the norms right from his childhood. His inclination towards disassembling stuff to gain better understanding of creating products and his eagerness towards coming up with new ideas set him on course for a bright future ahead. The extent of which can be identified from his effort of making a PTCL internet router in his neighborhood to meet his expenses or using his Suzuki FX car to fit an electric kit in it.

Last year, he founded CarChabi which was an IoT-focused startup that used an app along with a hardware kit to allow you to

control your control from your smartphone. The day he graduated from Plan9, he had generated around 15 lakhs in revenue which got doubled in just seven months since their launch. Previously, he along with his co-founder have also won at the LUMS Throw-a-thon competition and were also shortlisted for TIE's top 15 startups that year. They are the first Pakistan-based hardware startups that has made so far and have recently secured USD 150,000 in seed funding.

Recently he has formed his own automation company RoboArt with the primary aim of making Pakistani lives better by addressing their immediate needs. One of its first products "Gatelocks" would unlock your home by just using your smartphone! As of now, the company is also working towards identifying new opportunities in the field of car securities and in the longer run, they wish to develop products related to prosthetic limbs and defense systems.

Over the years, Ali has learnt not to listen anyone's discouragement and transforms them into motivation to keep developing innovative products. His ultimate aim is to use all his expertise and one day live up to his university nickname of Tony Stark by creating Pakistan's first Ironman suit!

## Rector meets NUST alumni in Korea

"The esteemed Rector NUST will soon be here", were the words echoing in the minds of alumni members sitting and waiting patiently for his arrival, in a small restaurant in Itaewon, Korea.

Rector-Alumni meeting 2017 was organized by NUST Alumni Association of South Korea with the objective of strengthening the liaison between NUST and its graduated members. Lt Gen

Naweed Zaman HI (M), (Retd) Rector NUST, despite a demanding schedule, took out his precious time to meet the NUST alumni members. The meeting session commenced with the introduction of the members, followed by their academic progress, and their perspective towards the improvement of NUST. Tea-talk time session continued for almost one hour during which, several key topics discussed including establishing firm collaborations between NUST and research institutes/universities in Korea, enrollment of foreign students in NUST, industry-academia linkage, etc.

Speaking to the alumni, the Rector said that it is vital for any top-ranked university to expand the network of its collaborating partners. A joint research venture will certainly contribute towards improved quality of research and higher funding for the projects. Rector further discussed the contributions that the NUST alumni can offer to initiate a joint research program with South Korea.

Rector emphasized that the advancement and progress of an institute is reliant on the dynamic contributions from its alumni. "As a graduate of NUST and a proud Pakistani, it is now upon your shoulders to present a softer image of our beloved homeland before the world at large. By so doing, foreigners may not only get attracted to Pakistan but may also

choose to get enrolled in top Pakistani universities," he said. For the sake of achieving this objective, he proposed alumni members to mingle with Korean as well as foreign students to show them videos of NUST and send them invitations to visit Pakistan. In his concluding remarks, the Rector invited the alumni members to visit NUST on their return to Pakistan.





# Alumni Talk Series

Alumni Talk Series was conducted in Risalpur on April 27, 2017, for the final year students of College of Aeronautical Engineering and Military College of Engineering. Alumni speakers Mr Muhammad Afzal Malik (MCS Graduate, CEO USEN), Ms Sarah Shahid (NBS Graduate, Director Business Planning and Analysis at Telenor), Mr. Jibran Hashmi (MCE Graduate, CEO ENCON), Mr. Hamza Asharaf (CAE Graduate, CEO Simdyna) and industry representatives Mr Abdul Rauf (Project Manager PESCO), Ms. Madiah Rahman (SEO Consultant) and Mr. Tabish Tehseen (Product Brand Manager Affinity) mentored students on soft skills, project management, entrepreneurship and provided industry specific guidance.



## Success Story

**Ahsan Rehman**, a SEECs graduate from 2012, is currently serving as Data Scientist at IBM, Greater Chicago Area, USA. A dynamic and result-focused professional with a passion for identifying and solving problems, Rehman has gained incredible proficiency in a variety of descriptive, predictive and prescriptive analytic techniques. He is actively working on multiple projects in the Data Science, Analytics, Algorithm Research and Optimization field. His professional experience includes working as an Advance Analytic & Optimization Consultant at IBM Global Business Services, Technical Consultant at TransUnion and Advanced Analytics Associate at Schneider. Rehman has been part of multiple cross-industry projects comprising Telecommunication, Financial services, Banks, Hardware Manufacturers and Brokerage.



# New Arrivals



## Digital evidence and computer crime

by Casey, Eoghan.

Edition statement: 3rd ed.

Published by: Academic Press, (Waltham, MA :)

Subject(s): Computer crimes --Investigation. | Electronic evidence. | Evidence, Criminal.  
Year: 2011

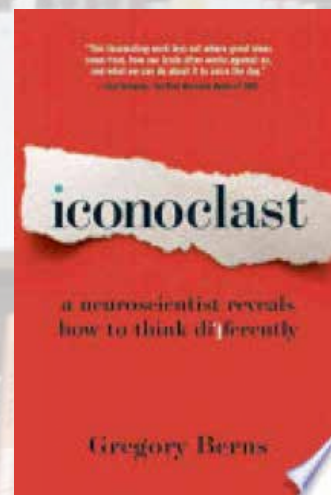


## Iconoclast

by Berns, Gregory.

Published by: Harvard Business Press, (Boston, Mass. :)

Subject(s): Neuropsychology. | Iconoclasm. | Psychology, Industrial. | Creative ability. | Psychophysiology --methods. | Behavior --physiology. | Fear. | Perception --physiology. | Risk-Taking. | Thinking --physiology.  
Year: 2010

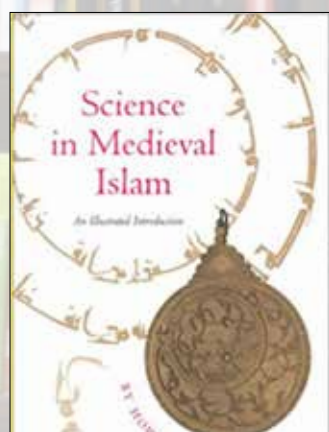


## Science in medieval Islam : an illustrated introduction (3rd printing edition)

by Turner, Howard R.

Edition statement: 1st ed.

Published by: University of Texas Press, (Austin :)



## Research methods in education

by Cohen, Louis,

Authors: Manion, Lawrence. | Morrison, Keith--(Keith R. B.)

Edition statement: 7th ed.

Published by: Routledge, (London ; | New York :)



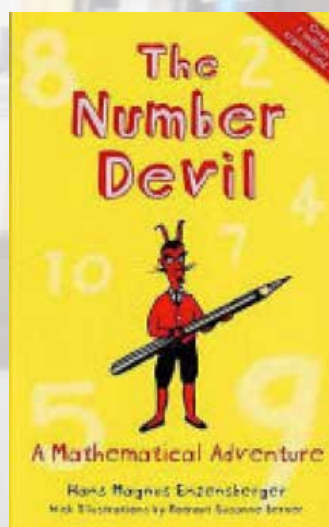
## The number devil

by Enzensberger, Hans Magnus.

Authors: Berner, Rotraut Susanne,--ill.

Edition statement: 1st American ed.

Published by: Henry Holt, (New York :)



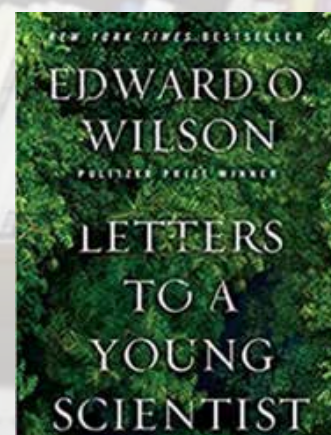
## Letters to a young scientist

by Edward O. Wilson

Published by: Liveright (New York)

Physical details: 244p.

Year: 2013







# Striving for Excellence

## Mission

To develop NUST as a comprehensive, research-led university with a focus on Technology, Innovation, Entrepreneurship and Community Service



Ranked ★★ ★  
**437th** In the World  
Overall Ranking



Ranked among  
**Top 100** world universities  
under the age of 50



Ranked ★★ ★  
**275th** in the world in the field  
of Engineering &  
Technology



Ranked  
**No 1** Engineering and Technology  
University of Pakistan