

NUSTIAN

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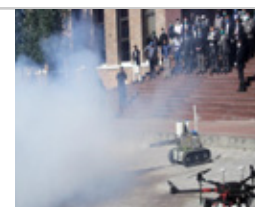
NUST's R&D Initiatives to fight off COVID-19

In times of crisis and uncertainty, two acts have far-reaching impact - one, spreading hope and positivity, and second, taking actions to help fight the crisis. NUST as comprehensive and research-intensive university, is committed to undertaking activities aimed at high societal impact through technological and intellectual endeavours. During the current pandemic too, NUST showed its dutiful presence to fight off the crisis. Some of the steps taken by NUST in the wake of COVID-19 are appended below:

- Inventors at NUST Atta-ur-Rahman School of Applied Biosciences (ASAB) have indigenously established robust and cost-effective Molecular Diagnostic Assays for the detection of Novel Coronavirus. The assays are currently going through pre-clinical trials.



- Scientists at NUST College of Electrical & Mechanical Engineering (CEME) have also indigenously developed unmanned ground vehicle **N-Rover**, and assembled and deployed aerial system **Aero-N** for decontamination of open and closed spaces. These systems fight the virus's outbreak by disinfecting critically important surroundings and locations like Indoor & outdoor quarantine camps, hospitals, airports, residential neighbourhoods and other public places.



- The Robot Design & Development (RDD) Lab at the National Centre of Robotics & Automation (NCRA) housed at NUST CEME, has developed a bilingual (Urdu and English) screening app, which is the world's first Urdu app for Android. The app **CovidCheck** Pakistan, was used for 8200 screenings in 9 different countries (including US, UK, UAE and Saudi Arabia) within the first 2 days of its beta rollout on March 23, 2020. The app enables citizens to screen for COVID-19 while staying at home, and not putting themselves and others at risk by going to hospitals.



The app is available at <http://ncra.org.pk/covid/>

- N-Safe Hand Sanitizer Gel and SANITIZE Liquid Hand Sanitizer are certified for 99.99% microbial control by Pakistan Council of Scientific & Industrial Research (PCSIR). Having received authorisation by the Drug Regulatory Authority of Pakistan (DRAP), N-Safe Hand Sanitizer Gel is being manufactured under license by Pharmatec Private Limited while SANITIZE; an alcohol-based liquid hand sanitiser, developed according to the World Health Organisation (WHO) Guidelines 2020 is licensed to Nutra BioMed.



- NUST has also been developing low-cost ventilator device named **N-Saviour**, in accordance with Acceptance Testing Procedures (ATP) issued by the Pakistan Engineering Council (PEC). The ventilator is expected to undergo clinical trials by the Drug Regulatory Authority of Pakistan (DRAP) in the near future.



- NUST is helping the PEC Ventilator Committee - consisting of Ministries (MoST), regulatory bodies (DRAP), and hospitals (PIMS, Holy Family, CMH, MH, PAF hospital) - to help evaluate, define and adapt protocols for testing and validation of ventilators, which are currently being developed by various universities, startups and firms in Pakistan. Dr Mohsin Tiwana (CEME) and Dr Asim Waris (SMME) are part of the PEC Ventilator Committee.

- Upcoming solutions include a software framework being developed by NUST scientists at the RDD Lab, NCRA, in collaboration with Czech Tech University, Czech Republic, and Umm Al-Qura University, Saudi Arabia. This software framework will forecast human density at specified locations, predicting how densely populated locations like pharmacies, hospitals, super markets etc., will be at certain times, and thereby

estimating transmission and exposure risks. This will help citizens decide when to visit these places and reduce the risk of spread. While its short-term impact is hard to evaluate and predict, the app should be useful for social distancing in general, even in the post-COVID era. It will be a handy tool for people to protect themselves against regular flu and other epidemics.

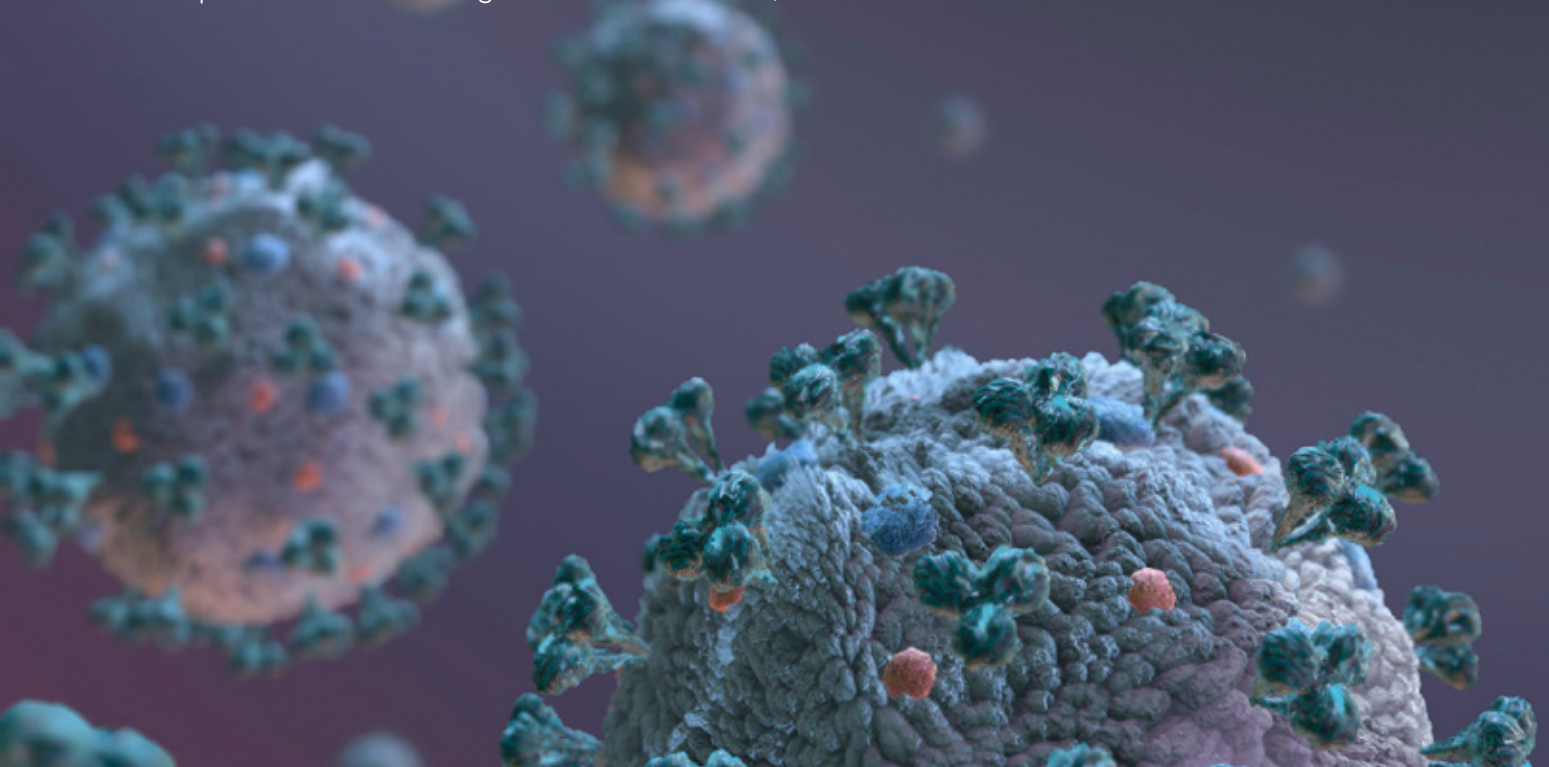
- NUST has also indigenously developed low-cost Disinfectant Walk Through Gate (DWTG). DWTG is a static metallic frame along with 200L Storage tank and Centrifugal pump to form a sterilising compartment for disinfecting people. This automated DWTG is suitable for disinfecting dermal surfaces and surfaces of objects and sterilisation of personnel working even during 'lockdown' at Pakistan Navy units, Departmental Stores, Banks, Universities/ Schools, Mosques, Quarantine Centres and Sickbays etc.



ASAB scientists publish first whole genome sequence of SARS-CoV-2 in Pakistan

Dr Aneela Javed and Dr Ali Zohaib, leading scientists at Atta-ur-Rahman School of Applied Biosciences (ASAB), have successfully sequenced the complete genome of SARS-CoV2 – this will open up new avenues in tracing the evolutionary origin of SARS-CoV-2 that is currently infecting the Pakistani population, and will be useful in comparative genome analysis. This is indeed a much-needed breakthrough, as it will not only aid in understanding the origin of the virus but will also pave the way for development of accurate diagnostic assays and effective vaccines.

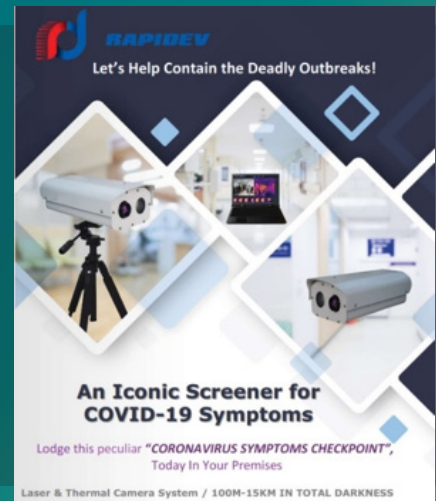
The project has been completed in collaboration with Armed Forces Institute of Pathology (AFIP) Rawalpindi, and Charite-Berlin Germany. The sequence was published through National Genome Data Centre, China on March 25, 2020, making it the first genome sequence of SARS-CoV-2 to be published from Pakistan, and is now available on NCBI <https://www.ncbi.nlm.nih.gov/nuccore/MT240479>, GISAID and NEXTRAIN.



COVID-19 - Solutions & Initiatives at National Science & Technology Park (NSTP)

Rapidev: Laser & Thermal Camera System for Detection of Covid-19 Symptoms

Among the Hi-Tech SMEs, Rapidev, developed an Iconic Screener for COVID-19 Symptoms - a visionary approach to detect the Covid-19 infected using laser and thermal imaging technology. A technological contribution towards containing the deadly outbreak of novel coronavirus, it is specially designed for densely crowded areas.



NRTC-produced Ventilators

Within few months after the first Covid-19 case was recorded in Pakistan, National Radio & Telecommunication Corporation (NRTC) started producing its own ventilators. In first batch NRTC manufactured 8 ventilators and handed them over to National Disaster Management Authority (NDMA).



Cognitive Healthcare International

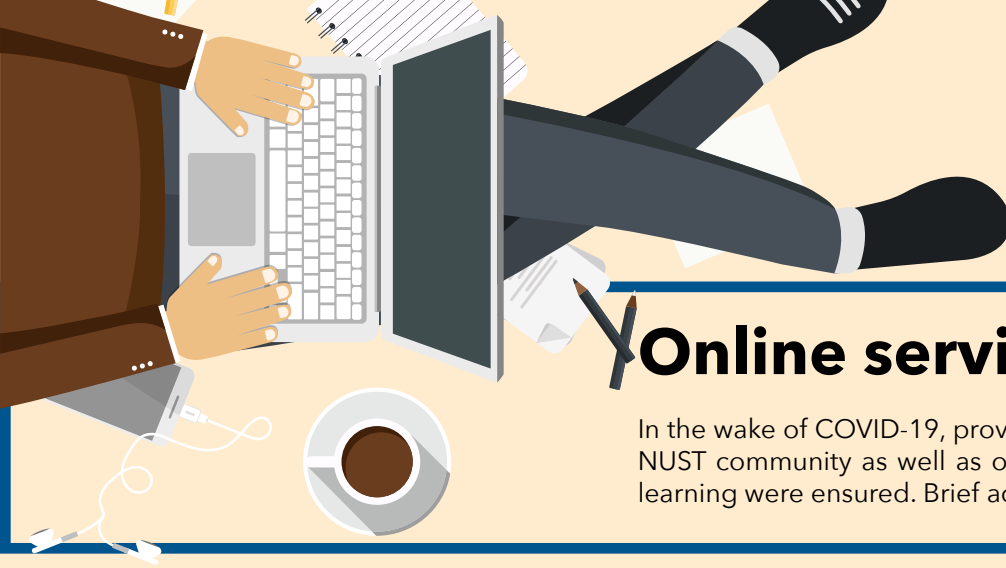
Cognitive Healthcare International (CHI), a healthcare provider, has utilised latest advances in Information Technology to enable remote patient monitoring, care and diagnostics. CHI began 4 years ago in 2016 with an aim to offer unmatched healthcare, break barriers of physical availability and to provide real-time intervention to chronic and acute care issues. CHI has been quite effective in remotely guiding patients to fight off COVID-19.

Protocols for Personal Protective Equipment (PPE) by Chattha BioCare

To cater to the shortage of PPE for healthcare workers, Chattha BioCare developed protocols for PPE sterilisation and reuse. The protocols that have been developed are quick, safe, effective and can be used in any setting.

Our Approach-1





Online services

In the wake of COVID-19, provision of uninterrupted online services to NUST community as well as online readiness with regard to distance learning were ensured. Brief account of various activities is as follows:

ONLINE READINESS FOR DISTANCE LEARNING

Due to lockdown during COVID19, universities were compelled to adapt to online education. NUST was one of the first universities in the country to go online for Distance Learning through Microsoft Teams on March 30, 2020. Comprehensive instructions/guidelines were prepared for faculty and students along with training sessions for the faculty. Online classes were held in the light of HEC guidelines and accreditation bodies' requirements. In addition, technical support system was developed to address technical queries in a timely and efficient manner. For online readiness following stats show progress during the year 2020.



22,246
Active Users

37,858
Active Channels

128,418
Classes & Meetings

3800+
Support Queries Addressed

Academic Achievements

A total of 5 Academic Council Meetings were held this year, including 4 Online Academic Council Meetings. Bachelor of Laws (LLB Hons), and MS Electrical Engineering & MS Mechanical Engineering have been launched at S³H and CAE, respectively. NOCs for MS Agribusiness Management (ASAB), MS Governance & Public Policy (S³H) and MS & PhD Artificial Intelligence (SEECs) have been received from HEC, admissions will be offered in Fall 2021.

ONLINE SURVEY ON OUTBREAK OF CORONA VIRUS PANDEMIC

On the outbreak of COVID19 pandemic, it was imperative to systematically assess the impact of the virus on the society. A detailed survey was required to offer policy recommendations to Government of Pakistan to help them take evidence-based decisions. ICT Directorate was tasked along with NBS core team to design the survey, upload, acquire response data, communicate with respondents (NUST Student Volunteers), and help core team conduct data analysis in a record time of just 4 days. This momentous task was a result of absolute teamwork.

Minister MoST extols NUST for developing technologies and products to combat coronavirus

Federal Minister for Science & Technology Chaudhry Fawad Hussain visited NUST on April 2, 2020. The Minister spoke high of NUST for playing a significant role, as a leading research-led university of the country, in helping the Government fight this pandemic. He commended NUST for coming up with highly innovative and effective products at a fast pace. The Minister also praised the scientists for having sequenced the complete genome of SARS-CoV-2, which will not only help develop more accurate diagnostics for this virus but also will impact vaccine development studies.



Meanwhile, a national Post-Covid-19 exhibition "Changing Calamity into Opportunities" was organised at COMSTECH, Islamabad, on April 30, 2020. His Excellency Imran Khan, Prime Minister of Pakistan, graced the occasion as chief guest. The showcase brought together various technologies and solutions developed by the country's scientists, engineers and innovators, to fight the pandemic of COVID-19. Lt Gen Naweed Zaman, HI (M), (Retd), Rector NUST, accompanied by the university's scientists/ Principal Investigators (PIs), partook in the event to showcase technologies and products developed by NUST.

PPE Collection for Doctors & Paramedics

To help the frontline workers in the war against deadly COVID-19, NUST Volunteers Club (NVC) raised donations to equip doctors and paramedics with Personal Protective Equipment (PPE) kits. Team of volunteers efficiently completed the task of collecting high quality PPEs and sanitisers from the vendors. After the completion, collection and packaging, 127 PPE kits and 17 liters of sanitizer were sent over to DHO Mardan and 110 PPE kits were given to Abbasi Shaheed Hospital, Karachi. NVC takes pride in its enthusiastic volunteers who took the extra mile to arrange for the required equipment for frontline workers in these uncertain circumstances.



C³A's INITIATIVES DURING THE COVID-19 OUTBREAK

e-Counselling during lockdown

The outbreak of COVID-19 brought sudden changes in the life of people. The closure of the university and lockdown had an impact on students' mental health. Some of them found it difficult to cope with the unexpected changes in the lifestyle, which resulted in psychological and emotional issues. The Centre initiated e-counselling facility via email in addition to face to face counselling for all NUST students in order to provide them a platform where they could share their concerns and apprehensions regarding COVID-19 and lockdown. More than a hundred students reached out via e-counselling and discussed their issues surfacing due to the uncertainty of the situation.

Urdu Pamphlet on "Covid-19 and its Impact on Psychological Wellbeing" for NG staff

Guidelines in Urdu were developed for NG Staff regarding possible psychological effects on the human mind and their coping mechanisms relating to prevailing COVID-19 situation and lockdown. Urdu pamphlets containing guidelines were distributed to all colleges, schools and directorates for dissemination amongst the NG Staff.

Posting of Self-help Material

Numerous short articles, posters and tips on the COVID situation for the NUST Community were developed and posted on the social media and CMS for all to benefit from. This self-help material aided many as positive feedback was received at the Centre.



NSTP ONLINE TRAINING SESSIONS

COVID-19 brought a paradigm shift to the lives of people from all walks of life, reducing physical mobility to bare minimum as organisations and businesses predominantly switched to work-from-home policies, while adapting to social distancing. Through the e-training sessions that were designed for the tenants, start-ups, and industries, NSTP planned and conducted various online training sessions spread over 2 hours each. The free online training courses and mentoring sessions included case studies, presenting scenarios, interactive infographics, YouTube videos and other activities to help participants practice their new knowledge and learn from industry experts.



NUST GETS MANUFACTURING LICENCE FOR MEDICAL DEVICES FROM DRAP

Years of R&D in Biomedical Engineering, backed by the thriving research and innovation ecosystem at NUST, led to the establishment of N-ovative Health Technologies (NHT) - formerly known as Medical Devices Development Centre (MDDC). Manufacturing licence was awarded to NHT on March 20, 2020, by Drug Regulatory Authority of Pakistan (DRAP) for the mass production of cardiac stents and PTCA (Angioplasty) Balloon Catheters.

NHT has also already successfully carried out non-clinical, pre-clinical (animal) and clinical (human) trials on the indigenously produced stents at some of the best certified European testing facilities. Based on this landmark, the Government of Pakistan also awarded grant of PKR 331 Million for the development of NHT at a larger scale.



HIGHLIGHTS



QS World University
Ranking 2020-21

Ranked
355
among
World Universities
(2021)

Ranked
148
Employer Reputation
in World Universities and
42 among
Asian Universities
#1
in Pakistan
(2021)

Ranked
76
among
Asian Universities
(2021)

Ranked
201-250
in the subject of
Electrical & Electronics
Engineering
#1 in Pakistan
(2020)

Ranked
41
among
Young Universities
in the world
(2021)

Ranked
151-200
in the subject of
Computer Science &
Information Systems
#1 in
Pakistan
(2020)

Ranked
301-350
in the subject of
Chemical
Engineering
#1 in Pakistan
(2020)

Ranked
260
worldwide
Engineering &
Technology
#1 in Pakistan
(2020)

Ranked
301-350
in the subject of
Mechanical &
Aeronautical
Engineering
#1 in Pakistan
(2020)

#1
in Pakistan in
all categories of QS
University Rankings



NUST is Ranked 1st in four SDGs, 2nd in seven SDGs,
3rd in four SDGs, 4th in two SDGs and overall 2nd
among Pakistani universities



PRIME MINISTER INAUGURATES N-OVATIVE HEALTH TECHNOLOGIES (NHT)

– Pakistan's first stent manufacturing facility

H.E. Prime Minister Imran Khan inaugurated N-ovative Health Technologies (NHT) – Pakistan's first facility for indigenous manufacturing of cardiac stents, angioplasty balloon catheters and other life-supporting medical devices – at the National University of Sciences & Technology's (NUST) Islamabad campus on October 16, 2020. Others present at the occasion included Federal Ministers, numerous cardiologists from around the country, and faculty and students of NUST.



With the establishment of NHT, Pakistan has become the 18th country in the world, and second Muslim country in the world after Turkey, to have its own facility for cardiac stent production. As per the World Health Organization (WHO), Pakistan stands 18th in the world to have maximum deaths per year due to coronary diseases and falls in the Red Alert Zone. This precarious situation is largely due to exorbitant prices of imported cardiac implants, which over 80 percent patients find inaccessible. The establishment of NHT will not only bring quality stents within the reach of these patients, but also save huge sums of foreign exchange every year for the national exchequer.

Speaking at the occasion, the Prime Minister commended NUST for accomplishing this huge national project that will give a significant boost to the country's health sector, adding that the initiative is in line with the Government's prime objective of attaining self-sustainability. He maintained that NHT has emerged as a beacon of hope for those who cannot bear the cost of heart-related treatments owing to involvement of expensive imported products, such as heart stents. He assured NUST of the Government's full support for suchlike trailblazing initiatives of national significance.

Federal Minister for Science & Technology Chaudhry Fawad Hussain also shared his views at the inauguration. He extolled NUST for once again delivering a gigantic project that has been engineered to revolutionise the country's health sector. He added that the project was awarded to NUST, citing its well-established research and development paraphernalia, and, as expected, the university has lived up to the expectations of the Government and the people of Pakistan. In a special vote of thanks, Lt Gen Naweed Zaman, HI(M), (Retd), Rector NUST, expressed deep gratitude to the Prime Minister, various Ministries and bodies of the Government of Pakistan, and the COAS & Chairman NUST BoG, for their patronage and assistance for timely completion of this mega national project that will have far-reaching positive impact on the society and the economy.

It merits mention that NHT is an ISO 13485: 2016 certified facility accredited by European Commission Notified Body and approved by Drug Regulatory of Pakistan (DRAP). To begin with, NHT has launched three of its major products, including REJUVENATE – Bare Metal Stents (BMS), N-DEAVOUR – Drug Eluting Stents (DES), and VASOGLIDE – PTCA Balloon Catheters. NHT has also made another phenomenal breakthrough by manufacturing "N-SAVIOUR," a ventilator system against the backdrop of COVID-19, which will be used to treat patients with chronic respiratory issues.



Feature

N-ovative Health Technologies

NUST has successfully accomplished the benchmark of establishing an ISO 13485 certified production facility - N-ovative Health Technologies (NHT) to indigenously mass produce, cost-effective good quality medical devices and implants, including Bare Metal Stents (BMS), Drug Eluting Stents (DES) and Angioplasty Balloon Catheters.

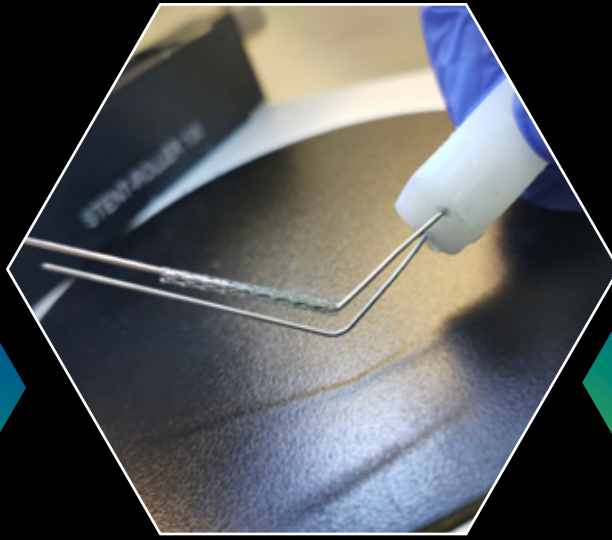
A detailed research and analysis revealed a devastating scenario with heart attacks, heart failures and other cardiac ailments as the leading cause of deaths in Pakistan. Against the backdrop of being alarming situation, NHT (then MDDC) was established to meet the growing demands of the healthcare sector in terms of cardiovascular devices and implants. Furthermore, the imported commercial stents that have currently occupied Pakistan's Market are accessible OR within reach to only 20% of the diseased population, rendering remaining 80% of the population deprived due to high cost incurred.

MDDC's niche is significantly cost-effective good quality treatment solutions to the 80% of the diseased population (i.e. an unmet market). A team of highly trained/skilled engineers and scientists have been a core/centerpiece of this population facility. Above all, this facility is a National Asset to meet the immediate demand of the country with special emphasis:

1. On the reduction of foreign exchange being spent/ engaged on imports every year and
2. On the generation of foreign exchange for the country through exports.

According to the Federal Government decision MDDC project was completed on June, 2020 and a Special Purpose Vehicle i.e. N-ovative Health Technologies (NHT) Pvt. Ltd. has been recently established as a Public Sector Company with Securities Exchange and Commission of Pakistan (SECP). The state of art, NHT Pvt. Ltd. facility is now ISO 13485:2016 Certified from European Commission Notified Body and recently Manufacturing License was also acquired from Drug Regulatory Authority of Pakistan (DRAP). The production facility of NHT Pvt. Ltd. has a number of clean rooms of different classes as per the requirements of different production processes and medical device regulations. The entire production technology includes production machines and testing instruments have been procured from Germany.

Currently, NHT Pvt. Ltd. is producing three products i.e. REJUVENATE Bare Metal Stent System (BMS), VASOGLIDE Angioplasty Balloon Catheter and N-DEAVOUR Drug Eluting Stent System (DES). All the necessary lab-based tests/ trials related to the



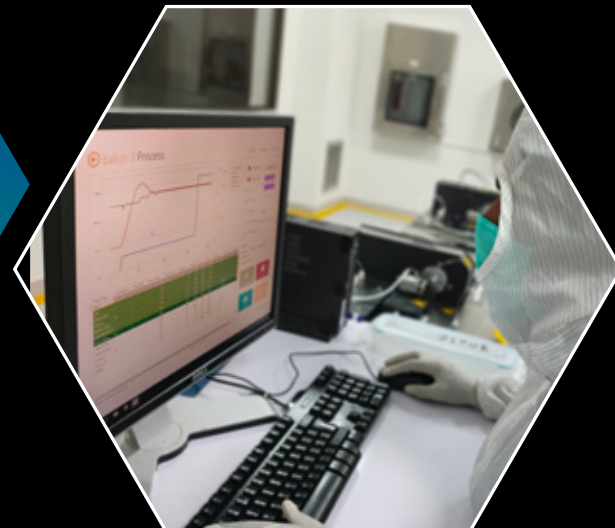
performance and biocompatibility of the products were conducted successfully in Germany. Animal Trials of NHT Pvt. Ltd. products were carried out in large animals (i.e. porcine models) at center of Cardiovascular Research and Development (CCRD), American Heart of Poland with very promising results. Multi-center Human Trials of NHT Pvt. Ltd. products were successfully completed at Rawalpindi Institute of Cardiology (RIC), National Institute of Cardiovascular diseases (NICVD) Karachi, Medikay Cardiac Hospital, Islamabad and Hearts International Hospital under the supervision and monitoring of EMORY University USA. NHT Pvt. Ltd. has successfully completed all the tests and trials of Cardiac stents and Angioplasty Balloon Catheters from the world's renowned Testing Facilities located in Europe and USA. Furthermore, the NUST media team has been able to capture the testimonials of some of the patients that turned out to be a substantial performances on the part of NHT Pvt. Ltd. Other than the patients, some senior cardiologists, Dr. Nadeem Rizvi (NICVD, Karachi) and Maj. Gen Azhar Mehmood Kiani (R) have also shared their positive experiences with NHT Pvt. Ltd. products.

Contributing to the list of successes, during this time of pandemic outbreak, another phenomenal step has been taken to manufacture "N-SAVIOUR, Made in Pakistan" Ventilator which will not only fight against COVID-19 pandemic but will also be used to treat patients with chronic respiratory issues due to unhealthy dietary habits and poor air quality.

Pakistan is currently expending 100% on the import of electro-medical equipment, and hence indigenous production of ventilator at NUST which is planned to be commercialized through a Special Purpose Vehicle, N-ovative Health Technologies Pvt. Ltd. will offer a massive relief to the Government of Pakistan by cutting down the foreign exchange (FE) amounting to 3 Million Dollars on the import of the ventilators. Timely indigenous production of ventilators at NUST is therefore not only a need of hour, but would also help to curb dependence on biomedical equipment related import a long way into the future.

Apart from cutting down the hefty amounts being expended on the imports of ventilators, Pakistan can export "N-SAVIOUR" Ventilator to the developing countries especially South Asian. Moreover, N-ovative Health Technologies Pvt. Ltd. will also aim to attain CE Certification of its medical devices in order to capture European Markets as well. The scope of this 'N-SAVIOUR' ventilator production facility at NUST will be broaden later to include the production of the other respiratory products such as Oxygen Concentrator, Pulse Oximeter, Powered Air Purifying Respirator (PAPR) etc.

The initiative taken by NHT Pvt. Ltd. related to the indigenous production of cost effective medical devices will be trend setter in the country like Pakistan where 100 % reliance is on imported devices. NHT Pvt. Ltd. is a first university based company in Pakistan which is involved in the mass production of the medical devices in Pakistan.



NSTP inks MoU with Turkish Aerospace Industries

NUST inked a Memorandum of Understanding (MoU) with the Turkish Aerospace Industries (TAI) in an auspicious ceremony held at Prime Minister's House on February 14, 2020. Lt Gen Naweed Zaman, HI (M), (Retd), Rector NUST, and Prof Dr Temil Kotil, President TAI, signed the MoU on behalf of NUST and TAI respectively. H.E. Imran Khan, Prime Minister of Pakistan, and H.E. Recep Tayyip Erdoğan, President of the Republic of Turkey, were also present at the occasion. The MoU entailed an agreement that the Turkish Defense Aviation giant, also a tenant at National Science & Technology Park (NSTP), will collaborate with NUST in various areas including, Joint Research on Defence related R&D, and Intellectual Property Training leading to Technology Transfer and Student & Faculty exchange between the two nations.



UN Secretary-General H.E. António Guterres visits NUST

The United Nations Secretary-General, H.E. António Guterres, has said that Pakistan is one of the most consistent and reliable contributors to peacekeeping efforts around the world. Since the first Pakistani deployment to Congo in 1960, Pakistan has contributed over 1,50,000 personnel to 41 peacekeeping missions in 23 countries, adding that 157 military, police and civilian personnel have paid the ultimate price while serving under the United Nations' flag. The Secretary-General made these remarks as he was addressing "Pakistan's Peacekeeping Seminar and Photo Exhibition" held at NUST Centre for International Peace & Stability in Islamabad. He visited the university as part of his visit to Pakistan. He said that CIPS is one of the most important institutions in the world that support peacekeeping activities in an extremely competent and professional way.



Engr Javed Mahmood Bukhari assumes office of Rector NUST

Engr Javed Mahmood Bukhari assumed the office of Rector National University of Sciences & Technology (NUST) on December 16, 2020. A graduate of some of the most prestigious universities within the country and abroad, the new Rector holds diversified administrative as well as teaching experience. He has remained on the faculty of NUST Military College of Engineering Risalpur, National Defence University Islamabad, Command & Staff College Quetta, and Pakistan Military Academy Abbottabad.

The better part of Engr Bukhari's illustrious career spans active service in the Pakistan Army's Corps of Engineers, where, after having received the coveted Sword of Honour, he distinguished himself by rising to the rank of Lieutenant General. Apart from his ample academic experience, he held multiple command and staff appointments, which, inter alia, included Command of a Corps and as Director General Frontier Works Organisation. In recognition of his meritorious services, he has been awarded Hilal-i-Imtiaz (Military).

Under his dynamic leadership, NUST will surely continue its legacy of excellence in the realms of higher education and research, and strive with renewed vigour to contribute to national development.



Bank of Punjab inks multi-faceted MoU with NUST

NUST has joined hands with the Bank of Punjab (BoP) to further the cause of nation-building through transformative higher education, research and innovation, and employee training programme. In order to solemnise this multi-tiered partnership, an agreement signing ceremony was held at the Serena Hotel Islamabad on December 31, 2020. Engr Javed Mahmood Bukhari, Rector NUST, and Mr Zafar Masud, President & CEO of BoP, signed the agreement at the occasion. Under the newly forged partnership, the BoP has agreed to fund the university's research projects, particularly in the field of Banking & Technology. Another key focus area of this understanding



is women empowerment, through encouraging and sponsoring female-led startups. Besides, NUST will also offer customised professional trainings for capacity building and skill enhancement of BoP employees. As part of NUST Endowment for Educational Development (NEED) initiative under the National Talent Hunt Programme (NTHP), the partnership will create a discernible positive impact on society by enabling the brightest minds of the country to receive world-class education irrespective of their financial limitations. Speaking at the occasion, Rector NUST lauded the contributions of BoP towards educational development, adding that the new partnership will give impetus to NUST's efforts to bring about socio-economic improvement in the country through leveraging higher education and cutting-edge research and innovation.

Accessible Pakistan Application launched

Friends of Paraplegics (FOP), in collaboration with the Embassy of Germany and NUST, launched the "Accessible Pakistan Application" at the university's main campus on Mar 9, 2020. The application draws upon a unique concept focusing on the social integration of Persons with Disabilities (PWDs) and senior citizens by highlighting the universal accessibility standards and building by-laws. Supported under the Micro Project Scheme of the Federal Republic of Germany, the Accessible

Pakistan Application helps in the online identification of accessible spots/services for Persons with Disabilities (PWDs) and old-aged citizens, through Android & IOS applications and website. In addition to a large number of students and faculty, prominent dignitaries including Ms Romina Khurshid Alam, MNA/Member of SDGs Task Force; Dr Palitha Mahipala, WHO Representative in Pakistan; Ms Annika Wistrach, Representative of German Embassy and Mr. Irfan-ullah General Secretary, Friends of Paraplegics, attended the ceremony.



NUST Intellectual Property Office continues its upward trajectory

Even during the desperate times of COVID-19, NUST helped its researchers and scientists in protecting their intellectual work, including the ones related to the dreaded disease. In this regard, NIPO filed a number of national IP applications, especially patent applications for indigenously developed hand sanitisers as well as national and international patents of SARS-CoV2 diagnostic kit. NIPO also assisted in the documentation of diagnostic kit with regulatory authorities and preparation of technology transfer agreements for the said inventions. The total number of IPs filed has reached 790, while total awarded patents presently stand at 131.



Defence Research & Development Directorate established at NUST

Defence Research & Development (R&D) Directorate, comprising serving officers from all three services, has been established at NUST. The directorate has started functioning since September 2020. The newly established directorate will assist in achieving the university's objective of supporting defence organisations towards self-reliance by utilising NUST intellectual capital, thus creating and supporting an effective academia-defence



industry linkage. With substantial number of PhDs at NUST in all Engineering domains, the university can exploit its collective intellectual mass towards Defence R&D. As an initial step, Defence R&D Directorate invited Tri-services for demonstration and adoption of Ground Surveillance Radar, namely NUST Radar Version 3 (NR-V3), which is a modern solid-state coherent pulse doppler radar. NR-V3 has been indigenously developed by engineers from NUST CEME and have recently been cleared after technical trials. NR-V3 has the potential to play a pivotal role not only in war against terrorism but can also prove its mettle for securing our Eastern and Western borders.

NUST transferred 2 IPRs of N-Safe hand sanitiser gel to Pharmatec Pvt Ltd

In the midst of ever-developing need of normal purification of hands to help prevent the spread of novel Coronavirus, many uncertified hand sanitisers, with flawed viability, showed up in the market the nation over. With the purpose to serve the community and promote society specific R&D, NUST developed N-Safe; an alcohol-based hand sanitiser gel, formulated according to the World Health Organization (WHO) Guidelines 2020.

NUST Technology Transfer Office transferred two IPRs of N-Safe Hand Sanitizer Gel to Pharmatec Private Limited on April 30, 2020. N-Safe Hand Sanitizer Gel has been certified for 99.99% microbial control by Pakistan Council of Scientific & Industrial Research (PCSIR). Having received authorisation from the Drug Regulatory Authority of Pakistan (DRAP), N-Safe Hand Sanitiser Gel is



being manufactured under licence by Pharmatec Pvt Ltd, one of Pakistan's most dynamic and fast-growing privately owned pharmaceutical companies, which is developing, manufacturing and supplying pharmaceutical generics and value-added products in the market.

NUST transferred 2 IPRs of SANITIZE liquid-based hand sanitiser to NutrabioMed

NUST transferred two IPRs of SANITIZE an alcohol-based: alcohol-based liquid hand sanitiser to Nutra BioMed on May 19, 2020. The university launched SANITIZE, developed according to the World Health Organization (WHO) Guidelines 2020 that declare only high percentage alcohol-based disinfectants as effective protection against COVID-19.



NUST Interdisciplinary Cluster for Higher Education (NICHE) inaugurated

Inaugurated at NUST Islamabad campus on December 14, 2020, NUST Interdisciplinary Cluster for Higher Education (NICHE) is the latest addition to NUST's vast and robust R&D infrastructure. NICHE has brought together 22 key laboratories from cutting-edge disciplines from across 8 NUST constituent institutions to create an interdisciplinary higher education and research facility that will improve synergy among researchers. The new facility not only enhance the quality of multidisciplinary research being conducted in the country but also help nurture impactful and result-oriented academia-industry partnership. During the first phase, NICHE has identified High Performance Computing, Artificial Intelligence & Deep Learning, Nanoscience & Nanotechnology, and Biotechnology as its major areas of focus, with new dimensions to be added in the subsequent phases.



NUST establishes a vast state-of-the-art Sports Complex

With its strong emphasis on all-round grooming of students, NUST offers an experience of a lifetime. In conjunction with its uncompromising focus on the development of academic competence, NUST ensures a conducive environment in order for every Nustian to remain physically fit since a healthy mind dwells in a healthy body. Adding to its existing sporting infrastructure, NUST has instated one of the finest and comprehensive Sports Complex at its Islamabad campus. Inaugurated on December 14, 2020, the NUST Sports Complex consists of multiple facilities, including swimming pool, bowling alley, indoor games hall, male and female gymnasias, badminton courts, tennis courts, basketball courts, wall climbing, skating rink, running track and more.



SEECs emerges as national winner of Microsoft Imagine Cup

National final of Microsoft Imagine Cup was held at Pak-China Centre, Islamabad on February 18, 2020, in the presence of eminent guests including Education Minister Shafqat Mahmood, and Chairman HEC Dr Tariq Banuri.

This year, around 600 teams from all over Pakistan applied for this competition. Out of which, 60 teams managed to exhibit their projects to a wide national audience at the final round. Team "Flowlines" from NUST School of Electrical Engineering & Computer Science (SEECs) was declared national winner. The winning project is a collaborative mobile app, where users can draw images and write text in the air, which can be seen by anyone, through augmented reality. The team members Mahad Masood Bajwa, Momin Muazzam and Noor binte Amir conceived the idea and worked under the supervision of their faculty advisor Dr M. Ali Tahir.



Launch of Pakistan's first Biomass Cluster

The US-Pakistan Center for Advanced Studies in Energy (USPCAS-E) of NUST, in collaboration with the UNIDO-United Nations Industrial Development Organization, Pakistan Office (UNIDO) and Global Environment Facility, launched Pakistan's first Biomass Cluster on January 24, 2020, at NUST H-12 campus. The idea of setting up a



biomass cluster metamorphosed into its formal launch at NUST, as a result of a collaborative project of the three stakeholders to demonstrate technical feasibility and commercial viability of modern biomass-to-energy conversion technologies in Pakistan. The project is aligned with the Government of Pakistan's goal for 30% renewable energy contribution to the country's power portfolio by the year 2030. The United Nations Resident Coordinator for Pakistan, Mr Knut Ostby, graced the occasion as chief guest.

Pre-medical students now eligible for BS Computer Science at NUST Islamabad and Balochistan Campuses

The candidates with pre-medical background/equivalent are now eligible to seek admission in BS Computer Science programme at SEECs H-12 and NUST Balochistan Campus (NBC). These candidates will have to clear deficient Mathematics courses of 6 credit hours, within one year. Meanwhile, NUST has revamped the IT Infrastructure of Exam Centre. Huawei Desktop Cloud Solution, Fusion Access with 525 Thin Clients has been installed to enhance the reliability and performance of the system.

S³H graduates its first PhD Scholar

The Department of Economics, NUST S³H, graduated its first PhD scholar, Shehzad Alvi, supervised by Dr Faisal Jamil. Title of his dissertation was "Essays on Climate Change & Food Security." His PhD dissertation was examined by renowned international scholars on the subject including Dr Adolfo Cristóbal Campoamor, Loyola University, Spain; Dr Faith Chan, Leeds University, UK; Dr Eatnaz Ahmad, Quaid-e-Azam University, Islamabad and Dr Muhammad Arshad Khan, COMSATS University, Islamabad. His defence was conducted online on MS Teams that was attended by 51 participants, including research scholars both from within and outside Pakistan.

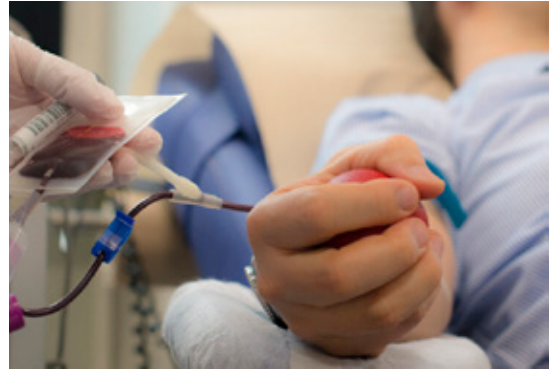


Blood Donation Drive 2020

NUST Community Services Club (NCSC) collaborated with Sundus Foundation to hold a door-to-door blood donation drive and help Thalassemia patients amidst the COVID-19 outbreak.

The drive was divided into two segments; online marketing and on-ground execution. Extensive social media marketing was carried out and forms were circulated to reach out willing donors over a period of 15 days. After the filtering the response for another week, Sundus Foundation set out a mobile unit to cover the addresses in Lahore. All these addresses were covered within 7 days and 30-35 pints of blood were collected. The drive was held keeping in mind all the mandatory precautions and tenets of social distancing that the ongoing pandemic demands. The purpose of this donation drive was to contribute to Sundus's depleting blood bank.

Learning from the event: Carrying out the blood donation drive amongst the coronavirus outbreak was a necessity due to the depleting blood banks of the country. It is vital that even in hard times; we do our best to help all those in need.



COVID-19 Ration Drive 2020

The COVID-19 outbreak was followed by lockdowns imposed throughout the country. These lockdowns had left several unemployed while plenty did not receive their salaries. NCSC donated for ration to be delivered to multiple such families who had lost their sources of income.

NCSC had saved up a handsome sum of donations for the second Milaap-e-Dastarkhwan - a food drive for the underprivileged. Thus, NCSC utilised that sum of money and contributed it to helping deserving people. Ration packs comprised all basic necessities such as Daal, Rice, and Oil etc.



Ehsaas Scholarship

During the outbreak of COVID-19, Financial Aid Office PGP Dte put all-out efforts to meet the requirements of HEC for award of Ehsaas Undergraduate Scholarship. Resultantly, as many as 293 UG students have been awarded scholarship, funds received from HEC and released to NUST institutions.

Financial incentives for PhD scholars

To attract highly competent PhD scholars, it was deemed necessary to propose adequate financial assistance package. Financial Aid Office PGP Dte made efforts to design financial support package in liaison with institutions and directorates of NUST. Resultantly a pilot project has been provisionally approved. number of competent and research-oriented scholars could benefit from this merit-based scholarship.

Online conduct of thesis defence of MS & PhD scholars

In order to avoid delay in conduct of thesis defence of MS & PhD students due to Covid-19, NUST devised SOP for online conduct of MS & PhD thesis defense, overall a lot of MS and PhD online thesis defense have been conducted.

Maryam Block inaugurated

In order to provide homely on-campus residential facilities to NUST faculty, a dedicated female-exclusive single residential block has been established at the H-12 campus. Named Maryam Faculty Mess, the new block provides allied facilities, viz. sports, laundry, TV Lounge and guest rooms to accommodate female guests of faculty.



Electric shuttle cars

As part of its environment friendly initiatives and with a view to reducing carbon emission inside the campus, NUST has inducted electric cars in its transport fleet. These cars are smokeless and noiseless; this is a major contribution towards a cleaner and greener Pakistan. These cars are being used by faculty, students and staff for daily commute within the campus.



Cricketing maestro Shahid Afridi visits NBC

Legend cricketer Shahid Afridi visited NUST Balochistan Campus (NBC) on October 26, 2020. In his informal address and QA session, he emphasised the importance of hard work and consistency in achieving life goals.



SEECs STUDENT ACHIEVEMENTS

The following compilation comprises exceptional SEECs students who made great use of their off-time during the COVID-19 pandemic and earned worthwhile achievements:

- 1. Maaz Bin Tahir Saeed (BESE-9B)** – MLH Fellowship
Maaz Bin Tahir Saeed was one of the only two people from Pakistan to be accepted for the online MLH Fellowship. MLH Fellowship provides both practical and educational experience for software engineers and grooms their skills. The selection competition was between a hundred people, and the Fellowship featured an acceptance rate of only 2% worldwide.
- 2. Muhammad Hamza Nawaz (BEE-12D)** – Community Services at WHO Platform. A freshman from BEE-12D, Muhammad Hamza Nawaz practiced humanitarian values at the Health Emergencies Program by raising awareness regarding COVID-19 in Pakistan. The community services in question were performed in coordination with the World Health Organization platform and were targeted to help enhance the awareness against corona virus pandemic.
- 3. Komal Mariam (MSEE-9)** – Research Paper Publication at CIKM 2020
Komal Mariam, a Masters student co-authored a research paper on “GeoFlink”, which was a part of her internship at AIST Japan. Out of 2000 submissions and with an acceptance rate of 20%, her paper got accepted at the 29th ACM International Conference on Information and Knowledge Management (CIKM, 2020).
- 4. Raamis Ali (BEE-8D)** – Countrywide Community Services by his Organization, Chadar, Raamis Ali from BEE-8D is the former president of the community service organization Chadar, which raised more than 4.5 million PKR for charity during the COVID-19 pandemic. He along with his team helped around 1700 families in dire need all over Pakistan. He was also honored by the President of Pakistan, Dr. Arif Alvi as a frontline hero against the corona virus at the Governor House, Lahore.
- 5. Hamza Ali Imran (MSCS-8)** – Published Research Paper Publication at INMIC 2020
- 6. Muhammad Kumail (BSCS-8A)** – Accepted as Google DSC Lead
Muhammad Kumail from BSCS-8A was selected as a Google Developer Student Club (DSC) Lead. The competition for the position was between more than 1000 people but Kumail did splendidly in bringing the title to NUST.
- 7. Assima Akhtar (MSEE-9)** – Accepted at DAC Young Fellow Program
Assima Akhtar from MSEE-DSSP-9 got accepted in Design Automation Conference (DAC) Young Fellow Program. She virtually attended the DAC Conference and summer school. Assima, among 450 other participants actively took part in many DAC events and also won the best poster presentation award.
- 8. Hassan Kumail Ali (BESE-8A)** – Selected for Scholarship at Facebook Developers Circle
Yearly scholarships are given at Facebook Developers Circle in fields such as Web Development, Machine Learning and Data Science. Hassan Kumail Ali from BESE-8A was selected for a scholarship at Facebook Developers Circle for the Front-end Development Program. Among thousands of applicants, Kumail was one of the 4 people who were selected from Pakistan, and 50 worldwide.
- 9. Naqash Gerard (MSITL-6)** – Research Paper Publication at AHFE 2020
Naqash Gerard is a student from MSITL-6. He had his research paper accepted and presented at International Conference on Applied Human Factors and Ergonomics (AHFE, 2020) which was held in San Diego, USA. Naqash was one of 500 total tough participants.
- 10. Aymen Bashir (BEE-9B)** – Selected for Global UG Exchange Program
Aymen Bashir from BEE-9B was one of the 98 participants who were selected for the Global Undergraduate Exchange Program Spring 2020. Aymen attended Western Caroline University in the US and participated in a conference of WHEE Lead on topics of Inclusive Leadership and Diversity.
- 11. Muhammad Mustafa Umer Gondel (BEE-9A)** – Special Prize Winner at FICS 2020
Muhammad Mustafa Umer Gondel from BEE-9A won the special prize at Finding Innovative & Creative Solutions for Society 2020, which was held at CIPS, NUST. Mustafa earned this achievement among more than 200 tough competitors.
- 12. Syed Kumail Haider (BSCS-10A)** – Extensive Community Services at Bunyaad Food Drive
Syed Kumail Haider from BSCS-10A displayed devotion to the cause of charity by becoming part of Bunyaad Food Drive (NGO event) among 15+ people. He actively played a role in raising money to provide meals to 120+ families during the course of Ramadan, 2020.
- 13. Zeerak Naveed (BEE-9A)** – Team Leader of Special Prize Winning Team in SDG-9 at FICS 2020
Zeerak Naveed from BEE-9A was the Team Leader of X-FREE, the team which won the Special Prize in SDG-9 at FICS 2020. Zeerak earned this achievement among 230 stalwart contenders.

Competition to stimulate and inspire innovation concludes at NUST

Grand Finale & Prize Distribution Ceremony of Finding Innovative & Creative Solutions for Society (FICS 2020), a platform to foster social entrepreneurship, was held at NUST on October 13, 2020. In view of the situation caused by COVID-19 outbreak, extraordinary measures were taken to conduct the event. The overall winner of FICS '20 was Team Cyber Guard from NUST Military College of Signals (MCS), which emerged victorious from amongst 231 project ideas pitched during the 3-stage competition.



Cyber Guard monitors and protects the pilferage and exfiltration of sensitive organisation data, either at rest or at motion. The winning team was awarded a cash prize of PKR 100,000/-, sponsored by Army Welfare Trust (AWT). In addition, the first 3 runners-up and winners of Special Categories in 3 SDGs were awarded a cash prize of PKR 20,000/-, each. A total of 31 finalist teams of FICS'20 demonstrated their prototypes of technology-based innovative solutions using online mode to 4 panels of judges at the Grand Finale. Winning teams have also been awarded 6-month free incubation space at TechOne - NUST's Incubation Centre.

Apart from the Prototype Development Fund (PDF) sponsored by the National Radio Telecommunication Corporation (NRTC), FICS is fortunate to have patronage for 7 SDG categories from a diverse set of industries. FICS '20 sponsors and partners included NRTC, AWT, Reenergiza, Arkhitech, Alfoze Technologies Pvt Ltd and Graana.

Pakistan Research Day 2020

First-ever "Pakistan Research Day 2020" by the Web of Science, a Clarivate Group Company, was held at National University of Sciences and Technology. The occasion was graced by Mr Shafqat Mahmood, Minister of Federal Education & Professional Training, members of the Higher Education Commission (HEC), and attended by over 300 attendees from the Pakistani research community from top universities and other government institutions.

The day was marked to unveil the exclusive Research & Innovation Landscape Report that discusses Pakistan's research productivity, which has increased by 300% since 2010.



Huawei ICT Competition Global Final 2019-20



Huawei, a leading global provider of Information & Communications Technology (ICT) infrastructure and smart devices, announced the winners of the Huawei ICT Competition Global Final 2019-20 in the closing ceremony held online in China in November. Two teams from Pakistan participated in the global final and each team had 3 participants from different universities. Students from NUST SEECS Mr Haseeb Mehdi (MSIT) and Mr Syed Muhammad Kazmain (MSIT) rose to prominence by securing 1st and 3rd positions respectively among 150,000+ international participants.



7 NUST researchers featured among top 2% in the world

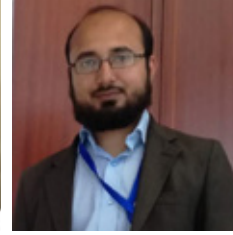
According to a database published by PLOS Biology, seven researchers from NUST have been featured amongst the world's top 2% researchers by Citation Impact for the calendar year 2019. The research was published by a consortium of authors from Stanford University (USA), SciTech Strategies USA, and Elsevier, The Netherlands, whereby they recently published updates to their lists of top 100,000 researchers based on standardised citation indicators using the Scopus (Elsevier) database. The researchers are ranked according to a composite index created by the authors factoring in several bibliometrics including citations, hirsch-index, citations to papers in different authorship positions, etc. The seven researchers are from four different institutions of NUST and four different disciplines, including Artificial Intelligence, Telecommunications, Signal Processing and Mathematical Methods in Fluid Mechanics. The researchers are Dr Noreen Sher Akbar and Dr Usman Akram from CEME; Dr Meraj Mustafa Hashmi from SNS; Dr Faisal Shafait, Dr Muhammad Moazam Fraz and Dr Saad Bin Qaisar from SEECS; and Dr Farooq Tahir from RIMMS.



Dr Saad Bin Qaisar
(SEECS)



Dr Faisal Shafait
(SEECS)



Dr Farooq Tahir
(RIMMS)



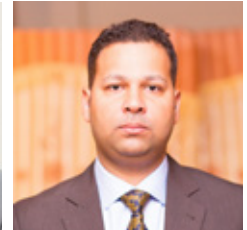
Dr Noreen Sher Akbar
(CEME)



Dr M Moazam Fraz
(SEECS)



Dr Usman Akram
(CEME)



Dr Meraj Mustafa Hashmi
(SNS)

NUST stands among international awardees for GCRF project on Gastroenteritis

Global Challenges Research Fund (GCRF) of the UK Research & Innovation (UKRI) has awarded a project "Quantifying the Transmission Routes of Gastroenteritis" (GastroPak) to a consortium of researchers from the National University of Sciences & Technology (NUST) Pakistan, Earlham Institute UK, University of Warwick UK, Cranfield University UK, Institute of Development Studies UK, National University of Ireland Galway, University of Agriculture Faisalabad, and Brigham and Women's Hospital USA. The grant is worth GBP 2 Million, out of which GBP 0.534 Million, has been granted to NUST. The project is being led by Professor Dr Christopher Quince from Earlham Institute and University of Warwick, while the NUST team is being represented by Professor Dr Imran Hashmi and Professor Dr Sher Jamal Khan from NUST Institute of Environmental Science & Engineering (IESE), and Dr Aneela Javed from NUST Atta-ur-Rahman School of Applied Biosciences (ASAB). The research is aimed at quantifying rate of different non-vital Gastroenteritis Transmission in Pakistan, including social, biological, chemical and technical factors through agriculture, sanitation, drinking water, food, and person-to-person contact. The study will further ascertain



Dr Sher Jamal (NUST IESE)



Dr Imran Hashmi (NUST IESE)



Dr Aneela Javed (ASAB)

the effectiveness of alternative wastewater treatment technologies for gastroenteric pathogen removal contrasting relatively low-technology methods, such as managed wetlands, with higher-technology membrane bioreactors.

Felicitating the researchers on this meritorious accomplishment, Lt Gen Naweed Zaman, HI (M), (Retd), Rector NUST, hoped that this phenomenal achievement would inspire more researchers from the university to acquire such international grants in the future and bring accolades to their university and the country.

Following is the link to a similar news published by Earlham Institute UK:

<https://www.earlham.ac.uk/newsroom/ei-scientists-tackle-deadly-gastroenteritis-thanks-%C2%A32m-funding-award>

Hatch 8 launched at NSTP for boosting startups

National Science & Technology Park (NSTP) launched Hatch 8, a pre-incubation programme, with the first cohort beginning in the last week of January 2020 providing orientation session to the selected startups, to help grow its research and innovation ecosystem. NSTP now has three programmes designed specifically for startups in different stages of their lifecycle - Hatch 8, Cube 8 and Excelerate.

Hatch 8 at NSTP helps startups step into the business world, training startups from launching the product into the market to getting a customer. Hatch 8 has experienced entrepreneurs, industry experts, leading academic experts to interact with our skilled entrepreneurs, who impart training required for the development of a successful venture. So far they have conducted sessions on Business Model, Business Structures, Strategies and Operating Plans & Corporate Communication. Until now Hatch 8 at NSTP has trained a good number of startups, including AVITec (HealthTech), Load Ex (AutoTech), Ellipsis Tech and RAAR (EnergyTech) to name a few.



Award of Design Patent to SEECS faculty

Design Patent of Dr Rafia Mumtaz, a faculty member at SEECS, has been accepted by Intellectual Property Organisation (IPO). Titled "Mobile Atmospheric Pollutant Telemetry Unit (MAPTU)," the patent is awarded based on the unique shape and novel design of the air quality monitoring unit. Dr Rafia Mumtaz is the Director of Internet of Things (IoT) Lab at NUST SEECS and is running multiple IoT related projects of potentially great societal impact.



CEME team stands out in "Pitch the Future-SEM'21"

Team NUSTAG participated in "Pitch the Future-SEM'21" and was ranked "Top in Pakistan" and "4th Globally" in its Electric Mobility submission. NUSTAG is automotive research and development group at College of EME, supervised by Dr Raja Amer Azim and co-supervised by Dr Fahad Mumtaz Malik. The competition aimed to find innovative solutions to traverse a 1500 km route distributed among several countries with the selection of optimum route and charging station, incorporating design and technological innovation to accomplish this challenge. TEAM NUSTAG is the only team from Pakistan standing on the Scoreboard with extensive contribution from our Electric Mobility group headed by Abdul Basit of DE-39 Electrical.

Best performing faculty and staff conferred accolades

In recognition of their meritorious services during the year 2019, NUST's excelling faculty, researchers, innovators (both at university and institutional level) and staff were conferred certificates of appreciation and cash prizes at an award ceremony held at the university's main campus on December 14, 2020. Rector NUST graced the occasion as chief guest and handed over awards to the high performers.

Dr Arsalan Ahmad (Assistant Professor at Department of Computing-SEECs), Dr Osman Hassan (Principal & Dean SEECs) and Dr Seemab Latif (HoD Research at SEECs) were the proud award recipients of University Best Teacher, University Best Researcher and University Best Innovator respectively. At the School/College level, as many as 18 faculty members received Best Teacher Award, 17 received Best Researcher Award and 3 received Best Innovator Award. In addition to that, a total of 24 officers from the Secretariats of Academics, Planning & Resources, Research, Innovation & Commercialisation,



and Finance & Investment were also bestowed Best Performance Awards. The ceremony also honoured two officers for rendering outstanding services at NUST for over 20 years.

The ceremony, being Lt Gen Naweed Zaman, HI(M), (Retd)'s last presiding event as Rector NUST, also paid tribute to him for his four years of commendable service while leading the university.

PNEC team manufactures UAV Prototype for IMechE UAS Challenge 2020

A PNEC team manufactured an Unmanned Aerial Vehicle (UAV) Prototype for IMechE UAS Challenge 2020 held on March 2. Considering the configuration of its previous Unmanned Air Vehicles (UAVs), the team chose the tilt-rotor configuration as it combined the advantages of fixed wing with those of rotorcraft UAVs. Everything from the designing, testing and manufacturing of the UAV was done independently by the team without external help. Meanwhile, Team NUST Airworks scored the highest marks for their CDR amongst 33 international competing teams on March 18.

NUST-SEECs team wins Erasmus+ Grant

NUST-SEECs won the Erasmus+ Research Grant for a period of three years for the project titled, "Capacity Building for Digital Health monitoring and Care Systems in Asia- DigiHealth-Asia." The total grant accepted is Euros 950092.00 where NUST share is around Euros 60,000. This is a collaborative project between Belgium, Pakistan, Thailand, and UK. The PI of this project from NUST is Dr Rafia Mumtaz and the Co-PIs include Dr Syed Ali Hassan, Dr Umair Hashmi and Dr Syed Mohammad Hassan Zaidi.

International Competition of Autonomous Running Robot

Team "Aloha Oe" from the Department of Mechatronics Engineering at CEME participated in the International Competition of Autonomous Running Robot under the guidance of Dr Waqar Shahid in November 2020. Team Mechatronics of CEME secured 3rd position in the competition and received a cash prize of 500 USD. Team members included Umair Latif, Ahmed Azeem, Khubaib Waqar Khan, Muhammad Usama Bashir and Ubaid ur Rahman from DE-39 MTS.

ARTICLE

MULTI-DOMAIN IMPACT OF CORONAVIRUS PANDEMIC

The coronavirus pandemic has swept away the fabric of governance worldwide like strong wind blows away garments hung on the clothesline to dry. In place of a sense of control and direction which was until recently the universal hallmark of the managers and directors of the affairs of the state, there is now a widespread feeling of bamboozlement. The pandemic has given states, societies, and economies a battering whose effects can be seen in the grogginess masked by tenuous self-assurance of leaders, experts, and official spokespersons. Since this disorientation is now the new face of public service globally, the act of singling out the leaders of any one country as its embodiment will be disingenuous.

The pandemic inexorably continues to serve as a ruthless litmus test for the administrative capacity of states, the cohesion of societies, and the buoyancy of economies. It has laid bare the deficiency of public and social infrastructures in both the developed and the developing world. Overloaded health systems, recessionary economies, and seething citizenry are pushing the state-citizen social contract to the limit. The possibility of releasing pressure through the safety valve of bread and circuses and the exercise of the popular right to protest peacefully is foreclosed by the dictates of social distancing. The pandemic is fast changing our ways of being, thinking, and acting. Some of these broad changes are already visible in politics, economy, and society.

Politics of Volubility

The magnitude of the crisis has contributed to the intensification of the politics of volubility. This mode of politics consists in the utilization of all types of media, especially social media, to keep people submerged in a ceaseless stream of words. It is expected by the purveyors of volubility that the verbal anodyne will be enough to soothe the pain of shattered livelihoods. The fact that social media platforms are participatory forums where anyone can put in their two cents explains their extraordinary success and popularity. The overall effect of the incredibly massive volumes of opinion shared liberally and ecumenically day in and day out on these platforms is that nothing ever gets settled one way or the other. Billions of thoughts remain suspended in this uproarious purgatory of opinions. All positions are deemed deserving of equal consideration, which is another way of wasting scarce time and maintaining social inertia rather than beneficial change.

These forums have paradoxically provided to all in responsible positions the much-sought-after sanctuary from blame that was not available offline, for if nothing is



ever decided conclusively in this marketplace of opinions where words are the continuously devalued currency, then blame can be deflected and credit can be claimed ad infinitum through an endless minting of points of view. This exists side by side with the participatory and democratizing potential of social media. One cannot exclude the other. Reinforcement of one consolidates the other.

In the context of the coronavirus pandemic, it can be seen everywhere that leaders espousing different ideologies have utilized social media to claim credit for their policies, regardless of the real-life consequences of those policies for the peoples, societies, and countries for which those leaders are responsible. This has had the effect of drastically diminishing the concern of policymakers for the consequences of the policies they formulate and support.

Caution can be abandoned realistically, if there is a strong chance that flawed policies will never be conclusively proven wrong, because for those decrying a certain policy as erroneous, there will always be those declaring it as correct. Right now, the politics of volubility is snowballing in direct proportion to the outbreak of protests and social unrest caused by hunger, poverty, and racial and income inequality around the world, because the more things go wrong the more there is a need to portray them as moving in the right direction.

A subset of this form of politics is the contemporary global feature of leadership characterized by the unfailing persistence in enjoying the amenities of public office together with the abdication of responsibility in the case of dereliction of duty or even the refusal to admit there was any such failure in the first place. This has become a default response pattern of global leadership for coping

with the pandemic's fallout as it finds a cowed medium in the shell-shocked acquiescence of the masses in extraordinary times.

Social Isolation

The pandemic has generated two distinct forms of isolation. One form is desirable and necessary, while the other is neither desirable nor necessary. The first form consists of necessary measures like lockdown and social distancing to stop the spread of the disease. To the extent that it enables people to take required precautions for ensuring their own safety and that of others, it should be encouraged.

Precautionary isolation degenerates into a social menace when it breeds fear and mutual suspicion, leads to the stigmatization of marginalized sections of society, and results in the ostracism of the disadvantaged in the name of fighting the pandemic. One of the key prerequisites of success in the fight against the pandemic lies in preventing the vulnerable from becoming collateral damage in this fight. So far, the exact opposite seems to be going down around the world.

The pandemic has made social atomization markedly pronounced. Maintaining social solidarity and conviviality has become a challenge in view of the imperative of social distancing. What was spontaneous and given in pre-pandemic days is no longer so in terms of social contact. Earlier we could shake hands and hug, sit together and chat, and were hosts and guests. Now, we are either susceptible to, infected by, or recovered from the coronavirus. Positive thinking has had to double down to keep depression and despair at bay.

Domestic Polarization

A prominent feature of the post-pandemic world is the aggravation of domestic political polarization. The exigencies of the public response to the outbreak has knocked the wind out of governments and fanned the flames of inter-party differences across many countries. Issues that were simmering before the outbreak are now reaching the boiling point. It is possible that the pandemic will lead to significant reconfiguration of the public and political spheres. Existing political parties may well undergo drastic changes, even disintegrate with new political entities rising from the detritus of the current sociopolitical organization, and replacing the monolithic traditional political forces before the pandemic has run its course.

One should also not be oblivious to in-group and between-group differences as well as intra-class and inter-class fault lines that are perpetually shifting under the seemingly solid crust of the sociopolitical landscape. States need to stay alert to detect timely any substantial movement in social tectonics as these shifts are usually initiated by deep economic recessions.

International Isolationism

The pandemic has strengthened the isolationist tendencies in the contemporary international system. Economic decoupling and the disruption of global supply chains have already undermined economic interdependence. Interstate cooperation was on the decline and interstate competition was on the rise even before the pandemic struck, as evidenced by the US-China trade war, Russia-NATO tensions, Brexit, Indian

hegemonic aspirations, and events in the Middle East. The pandemic has further spurred the competitive tendency of interstate relations. Just as the domestic knee-jerk response of nations in crises consists in fervently clinging to the illusory adequacy of the belief in social atomism, so the first international response of states in crises is to hug tightly the phantom of geostrategic atomism or self-sufficiency.

What should be worrisome is if social isolation within societies may be silently conditioning states to accept isolationism as the new normal at the international level. It should worry us because isolationism hardly ever leads to greater regional or global stability, acting rather as the prelude to regional or global conflict. One should especially feel alarmed by regional conflicts because most global conflicts, before they go global, are regional. The combined effect of social atomism, domestic political polarization, inter-state competition, and international isolationism can quickly spiral out of control. This means that people will have to work consciously and indefatigably at the preservation of social graces in the current prevalence of mutual fear and trepidation and preserve social solidarity while practicing social distancing. States will have to promote domestic development and equitable distribution while coping with the economic downturn, and foster international cooperation despite the competitive urgings of human and collective social nature. It will certainly be difficult to do it in the presence of asymmetrical capabilities, unwarranted privilege, and divergent self-interest domestically and internationally, but we have no other choice.

Temporary Suspension of Reason

The pandemic seems to have curtailed people's reasoning capacity, at least for the time being. It has stunned them into taking actions and seeing them in ways that would have been considered outrageous at other times. To take the example of the healthcare stuff, lionized globally, and rightly so, as the frontline personnel in the war against coronavirus, a series of videos from around the world of doctors and nurses doing group dances and capers went viral on social media.

To dance in the presence of death and disease is downright macabre but one mark of the post-pandemic times is that, instead of being considered strange, these frolics have been celebrated as illustrative of the extraordinary courage and fortitude of the healthcare personnel. Many who can't even entertain the thought of dancing near the deathbed of a neighbor, friend or a family member consider these actions normal and a natural way of coping with the stress of fighting the outbreak.

It should be noted that the suspension of reason is the natural ally of the above-mentioned politics of volubility since the latter cannot function without the former. Words can be substituted for deeds only once reason is thrown off balance in the welter of relativism. This is symptomatic of another condition of post-pandemic times in which people performing sublime acts are also the ones to commit pathetic acts. This may be what being human is all about but perhaps the pressure of the pandemic is causing us to commit noble and ignoble deeds in quick succession with the proximity in time of opposing actions

striking us as unusual.

Diminished Economy Security and Freedom

The pandemic has dealt a severe blow to the economic security of nations and economic freedom of individuals alike. It has taken a toll on the ability of states to do development. Massive stimulus packages to shore up real economy in the face of recession have increased the states' spending burden. These packages, indispensable as they are for stimulating production and consumption, run the risk of creating a gigantic dole system from which it may not be possible for states and recipients to extricate themselves for some time to come.

This dole economy will seriously impact the economic freedom of its beneficiaries by increasing their dependence indefinitely on the state largesse and seriously undermine their ability to exercise the function of public and popular oversight so crucial for ensuring the transparency and integrity of institutions. It is always difficult to check the hand that feeds you. It will eat up national savings and impact investment in public infrastructure and the development of skills which means that the economy will be hobbled in the long run.

The Principle of Ascending Disorder

A counterintuitive trend of social organization can be inferred from the observation of the initial response of various governments worldwide to the coronavirus outbreak. While some countries have bounced back to take control of the situation, other countries appear helpless before the natural progression of the pandemic. This trend can be called the principle of ascending disorder or descending order according as one chooses to look at it. What it means in simple terms is that the higher the level of social organization, the lower the degree of order in that organization, or, conversely, the lower the level of the social organization the higher the degree of order in that social organization.

For instance, the household tends to be more orderly than the community, the community more organized than the town, the town more organized than the city, the city more organized than the province and, the province more organized than the center. This principle also holds true for other forms of organizations than administrative and sociopolitical units. In other words, each lower rung of organization tends to be more cohesive than the next higher rung. What this means is that our current social systems are not doing a very good job of managing complexity. Natural disasters and social crises reveal this failing starkly, because they are complex phenomena requiring a complex response to be contained and mitigated.

Post-pandemic Leadership

Management of large-scale complex social systems – and state is just one such system – in routine and emergency circumstances requires the interplay of many elements and the combined action of various capabilities and endowments: good intention to focus on the collective good; integrity or moral courage for the recognition and rectification of error; domain expertise to cope with the technical details of promoting common weal and prosperity; transferability to ensure the application of knowledge across multiple domains; practical intelligence to appraise the conflicting demands



and relative worth of different solutions to problems; foresight to anticipate and envision the likely outcomes of alternative courses of action; and legitimate authority to enforce beneficial policies.

Rarely does it happen that all or most of these skills are present in anyone individual or even a group of individuals. This infrequency is partly due to the way the modern system of higher education is structured. Increased specialization of learning and compartmentalization of professions discourages simultaneous acquisition of these capabilities.

The pandemic has brought home the crying need for the creation of durable processes and procedures focused on the cultivation of comprehensive leadership skills required for designing and directing complex social systems. The development of these skills rests on a unique appreciation of reality which understands that any single situation contains within itself potentially limitless possibilities and all possible situations. Forces and elements at play in any particular situation can, therefore, be parlayed to give birth to favorable situations with the assimilation of this understanding that leads to the mastery of the dialectics of change. The scale of local, national, and global challenges stemming from the pandemic calls for a future global leadership that will possess this understanding and demonstrate this mastery.

The author heads Research and Analysis at the NUST Institute of Policy Studies (NIPS) and can be reached



NUST establishes 15 spin-off companies

Establishing spin-off companies as the outcome of intellectual knowhow of a university is the important facet of Tech Transfer. NUST developed a comprehensive spinoff policy that was approved in the 54th ACM held on February 12, 2020. This policy enables the NUST fraternity to establish their companies under the ambit of NUST Holdings Pvt Ltd. This year, NUST established 15 spin-off companies in the field of AI, Robotics, Infrastructure, Healthcare, Edtech and Hospitality Management.



NUST team conferred winner's prize

With a view to recognising a team of young enterprising students from NUST who stood out at the first-ever PTCL-hosted hackathon – Ideas Hackathon, an award ceremony was recently held at the headquarters of PTCL. Members of the winning team were conferred medals, certificates and cash prize as a token of appreciation for their ingenuity and stupendous performance. A virtual competition held from October to November 2020, the hackathon was aimed at fostering innovation in a structured scheme of idea evaluation and, in so doing, accentuating the value of idea sharing in a challenging time-bound environment. As many as 50 undergraduate and postgraduate students, distributed in 10 teams, represented top 5 universities of Pakistan at the event, which included NUST, Lahore University of Management Sciences, Bahria University, FAST University and Institute of Business Administration. Amongst others present at

the ceremony were Dr Nassar Ikram, NUST Pro-Rector for Research, Innovation & Commercialisation; Mr Mazhar Hussain, Group CHRO; and Mr Raza Sarwar, General Manager HR at PTCL, besides officials from NUST Placement Office. In his remarks, Dr Nassar extolled PTCL for taking the initiative that, he said, would augur well for invoking the spirit of innovation amongst the youth in the country. He also apprised the attendees of efforts being made by NUST in the field of innovation, entrepreneurship and university-industry linkages. Expressing his views, Mr Mazhar Hussain acknowledged the NUST management for developing an innovation-based knowledge ecosystem through Pakistan's first incubation centre – Tech One and National Science & Technology Park (NSTP). He also appreciated the winning team and NUST Placement Office officials for making this competition a huge success.



International webinar on the “Role of S&T for National Progress, Growth & Competitiveness”

The existence of a comprehensive S&T-based apparatus is a crucial determinant of long-run growth, economic independence, and competitive edge of a state. A highly globalised contemporary world environment necessitates the adoption of S&T and innovation-oriented strategies for rapid growth in relevant output measures. Accordingly, with a view to determining answers as to how Pakistan can advance its domestic S&T infrastructure, capitalise on existing opportunities and acquire competitive advantages, the NUST Institute of Policy Studies (NIPS) organised an international webinar on the “Role of Science & Technology for National Progress, Growth and Competitiveness,” on July 28, 2020.



NIPS, the NUST’s think tank, is a leading national policy research and advocacy forum that seeks to promote and enrich policy dialogue, and furnish viable solutions. The virtual event was chaired by Lt Gen Naweed Zaman, HI (M), (Retd), Rector NUST & Patron NIPS. The resource persons of the webinar were Dr Malcolm Parry, CEO Surrey Research Park, United Kingdom; Dr Kang Dachen, Professor at Institute of Policy & Management, Chinese Academy of Sciences (CAS); and Dr Masoom Yasinza, Rector International Islamic University Islamabad (IIUI). The webinar was moderated by Dr Nassar Ikram, Pro-Rector Research, Innovation & Commercialisation (RIC), NUST & Vice President National Science & Technology Park (NSTP) at NUST.

Webinar on “China-India Standoff and Implications for the Region, Notably Pakistan”

It is the objective of NIPS to focus on the contemporary issues and provide detailed analysis to the respective stakeholders so they can take timely decisions. One such issue emerged when China-India skirmishes started in May and Pakistan being its neighbour had to reconsider its effects. In this context, a webinar on “China-India Standoff and Implications for the Region, Notably Pakistan” was conducted on June 17, 2020. Ambassador Riaz Khokhar was the speaker and he gave a detailed overview of the current situation and how Pakistan should act in an environment where her neighbors are intermittently fighting. The session was attended by senior fellows, diplomats and academics. Besides other distinguished guests, Former Chief of Air Staff Air Chief Marshal Kaleem Saadat NI (M) (Retd) also attended the webinar.



National Seminar on “Knowledge Economy”

Knowledge economy plays a vital role in the growth and development of any country and without advancement in this sector a real progress cannot be achieved. To mark the importance of Knowledge Economy, NIPS arranged a National Seminar on “Knowledge Economy: The Path to Speedy and High Quality Growth” on March 4, 2020. Mr Asad Umar, Federal Minister for Planning, Development, Reforms and Special Initiatives, honoured the session as chief guest. The seminar had two main sessions where Dr Atta ur Rahman, Tania Aidrus then Special Assistant to Prime Minister on Digital Pakistan, Dr Tariq Banuri Chairman HEC, and Tariq Sayeed Saigol, Chairman Kohinoor-Maple Leaf Group and Ameer Hassan were the keynote speakers.

UN75 Dialogue on “Inequalities: Bridging the Divide”

NUST hosted an online UN75 dialogue on “Inequalities: Bridging the Divide” on May 28, 2020. It was live-streamed from the university's main campus. Prominent dialogue participants included Ms Kanwal Shauzab, Parliamentary Secretary Planning & Development; Ms Romina Khurshid Alam, MNA and Member Parliamentary Committee on SDGs; Mr Saleem Ranjha, Additional Secretary Ministry of Education; and Ms Nighat Dad, Founder Digital Rights Pakistan. Each of the participants shed light on various forms of inequalities, their effects on society, and how to take measures to create a more equitable society within their individual realms. Besides online panelists, the event was attended by over 200 online participants including students who posed more than 130 questions to panelists.



Seminar on Kashmir Issue

After the revocation of special status of Jammu & Kashmir, a dire need was felt to raise voice for the rights of Kashmiris. To play its part, NUST Institute of Policy Studies (NIPS) arranged



a seminar on the topic "Indian Occupied Jammu & Kashmir's Destiny: Freedom from Indian Oppression" on January 6, 2020. Two distinguished speakers, former Ambassador Afrasiab Mehdi and Ahmer Bilal soofi, President Research Society of International Law (RSIL), were invited to speak on the topic. Ambassador Mehdi emphasized on the unchanging behavior of the Indian leadership and urged the Pakistani leadership to resort to the other strategic means to resolve the Kashmir issue. Ahmer Soofi asked the intellectuals and academics to focus on the research, study the history and build a compelling legal argument buttressing Pakistan's position on the Kashmir dispute. Session was attended by diplomats, senior fellows of NIPS, researchers, faculty members and media officials.

ASAB hosts webinar titled "COVID-19 and Biotech, are we ready for the challenge?"

As part of NUST's Webinar Series 2020, NUST Atta-ur-Rahman School of Applied Biosciences arranged a webinar on June 16, 2020 to answer some of the most critical questions regarding the global pandemic titled 'COVID-19 and Biotech, are we ready for the challenge?' The speakers for the Webinar were Dr. Najam-us-Sahar Sadaf Zaidi (Associate Professor, ASAB), Dr Fazal Adnan (Assistant Professor, ASAB) and Dr Shah Rukh Abbas (Assistant Professor, ASAB). Dr Sadaf shed light on the viruses' genome and replication mechanism while Dr Fazal Adnan explained the progress on the development of an effective vaccine to combat the disease. Moreover, Dr Shah Rukh Abbas highlighted the effect of COVID-19 on global economy and the shift of the World's focus towards Research and Development in the Biotechnology sector. The webinar was open for students and faculty alike with an extensive question and answer session towards the end of the session.

Sensitisation training on "Protection against Harassment at Workplace Act 2010"

A three-day sensitisation training on "Protection against Harassment at Workplace Act 2010" was conducted with female focal persons at NUST. The objective of the training was to familiarise them with protection against Harassment Act 2010 and its implementation at NUST. The exercise also aimed to help female focal persons understand the process and procedure of lodging a complaint and how they could handle/facilitate students/colleagues in case of harassment at the workplace.



Meanwhile a series of lectures on "NUST Anti Harassment Policy" were also delivered to students of all Schools and NUST constituents from January to March 2020. The main objective was to help students and the NUST community develop an understanding of the Anti-Harassment policy, its implementation at NUST and explain the procedure of lodging complaints without fear of being harassed as the Centre follows a stringent policy of confidentiality.



NUST represented at International Conference on Media & Conflict 2020

The dynamic team of Mass Communication department led by HoD, Dr Muhammad Arif, participated at the 2nd International Conference on Media & Conflict, #ICMC2020, held from February 11 to 12 at the Jinnah Convention Centre, Islamabad.

As a media partner of the conference, NUST-Mass Comm students and faculty provided media management services for the coordination, content production,

media management besides contribution to media coverage. The participation provided industrial exposure to mass communication students of NUST. President of Pakistan Dr Arif Alvi graced the conference as chief guest.



NUST HOLDS "YOUTH DIALOGUE ON GENERATION EQUALITY- REALISING WOMEN'S RIGHTS FOR AN EQUAL FUTURE"

A seminar on Generation Equality, the 5th goal of the UN Sustainable Development Goals, was held at the National University of Sciences and Technology (NUST). The seminar's focus was on the year 2020, being the year of gender equality, the year of enabling women to influence the decisions about their future, and how empowering women can contribute in social development initiatives, and policy-making initiatives that benefits not only women and their communities, but also the society as a whole.



Webinar on Introduction to Data Science & Machine Learning conducted by SEECS faculty

A webinar on "Introduction to Data Science & Machine Learning" was organised on June 15, 2020 as the first episode of the Webinar Series conducted by NUST. The online event provided an introduction to Data Science and enlightened the participants with the importance of gathering, analysing, and decoding the data from multiple sources and extracting actionable knowledge from it. In today's tech-driven world, data acts like fuel to the IT industry; hence, innovative data processing techniques and modern software is a necessity for the industries to create data-driven business solutions. The webinar gave the participants an overview of the demand for skilled professionals in Data Science and how they can craft a career in this field.



National Conference on Qualitative Psychology (NCQP 2020)

Department of Behavioural Sciences, S³H organised the “National Conference on Qualitative Psychology (NCQP2020)” on March 5, 2020, to showcase qualitative research geared towards integrated solutions considering Sustainable Development Goals. Forty (40) research papers (selected after blind review of 100 submitted papers) were presented in three parallel scientific sessions that were mainly segregated based on research methods used in these papers (that is, Interpretative Phenomenological Analysis, Thematic Analysis, and Focus Group Discussion and Systematic Reviews.)

Workshop on Solar PV Performance & Design



USPCASE NUST organised a two-day workshop titled “Solar PV Performance & Design” on January 22-23, 2020. Participants from Industry, academia and government organisations participated in the workshop. The workshops focused on hands-on training regarding Solar PV design and installation.

Dr Raza-ur-Rahman from Harvard University delivers talk at SEECS

A talk on “Development of Novel Analysis & Data Integration Systems to Understand Human Gene Regulation” was delivered by Dr Raza-ur-Rahman, on January 30, 2020 at SEECS Seminar Hall. His talk focused on building databases, software, and web-applications for biological data.



Webinar on “Future of Air- conditioning in Buildings”

Principal USPCASE Dr Adeel Waqas held a webinar on “Future of Air-conditioning in Buildings” organised by SAARC Energy Centre on June 16, 2020. This webinar discussed next generation A/C systems, development of low-GWP A/C systems, advances in A/C system efficiency, expected growth in air-conditioning demand and global warming contributions. The webinar was attended by officials from relevant Government departments of SAARC member states. Research organisations, academia, associated industry and entrepreneurs were also present in the webinar.

*Growing your leadership
capacity demands
personal effectiveness.
Being effective is the
ability to do the right thing
at all times, no matter the
cost.*

– Benjamin Suulola

SEECs student represents Pakistan at 3rd Global Ministerial Conference & World Assembly

M u h a m m a d Adeel Samar (BEE-8B 2K16), represented Pakistan at 3rd Global Ministerial Conference & World Assembly held at Stockholm,



Sweden from February 17-23, 2020. The conference's theme was Achieving Global Goals 2030. Minister lead delegations from more than 80 countries participated and Adeel Samar was among the top few young dignitaries across the globe who were selected and invited to attend the conference to present solutions to the global ministers regarding global goals 2030. Ministers from across the world including Iceland, Finland, France, Germany, Sweden, Netherlands, Belgium, South Africa, Zimbabwe, UK, USA and many more participated.

Two SEECs UG students develop Pakistan's first AI-powered mobile photo editor

Zain-ul-Abedien and Muhammad Abdullah, students of the NUST School of Electrical Engineering & Computer Science (SEECs), have developed an Artificial Intelligence-enabled photo editor "Blur Photo" that creates amazing blurred background pictures like DSLR camera. It features automatic human detection, combined with various beauty filters, to help you edit your photos in a professional manner. The application is available on Google Play with more than 100k downloads. The startup behind the app is Vyro. ai housed at #Hatch8 - the pre-incubator at the National Science & Technology Park NSTP - Pakistan's first STP. They have a passionate team of dedicated young individuals all set to make a mark in the tech world.

Geniuses like Zain-ul-Abedien and Muhammad Abdullah are the true face of NUST, Pakistan's #1 Engineering & Technology University.

Dr Zeeshan Ali of SCME publishes in the highest impact factor journals

Dr. Zeeshan Ali, an Assistant Professor at the School of Chemical and Materials Engineering (SCME) and an active researcher in the field of energy storage materials, has published numerous articles of high impact factor in the year 2019 - 2020. Eight of his research articles have been published in Advanced Materials, Advanced Energy Materials (x2), Materials Today, Nano Energy, Coordination Chemistry Review, Nature Communications and Small. These eight journals have a cumulative impact factor of 152. An achievement of this magnitude is truly impressive and merits recognition. The distinguished researcher carried out his PhD studies from Peking University, China in the supervision of Prof. Dr. Yanglong Hou. Overall in his brief research career, he has authored/co-authored 28 research articles in exceptionally reputed journals with a cumulative impact factor of 328. After joining NUST, he has immersed himself into his research work with full devotion and passion. We wish him all the best for his academic and research pursuits. Furthermore, we encourage him to continue with the same zeal and vigour.



Top 5 Prolific Researchers of NUST

The volume of research publications in novel and diverse subject areas has been increasing steadily at NUST. This is evident by the fact that 1370 papers have been published in the year 2020 as compared to 1224 in 2019. The top five prolific NUST researchers, who contributed to the sum total of 1370, with the most number of papers in 2020 are as follows:

Name	Faculty	Number of Journal Papers	Average Impact Factor
Ghulam Ali	USPCASE	19	4.68
Salman Raza Naqvi	SCME	19	3.54
Naseem Iqbal	USPCAS-E	18	3.27
Syed Ali Hassan	SEECs	14	7.74
Asad Waqar Malik	SEECs	13	4.33

Human history is, in essence, a history of ideas.
– H.G. Wells

e-Conference on “Promoting Applied Sciences in Pakistan” at SNS

NUST's first e-conference titled “Promoting Applied Sciences in Pakistan (PASP-20)” was held on July 20-21, 2020 at Department of Physics, School of Natural Sciences (SNS) through ZOOM Webinar. The theme of the conference was promotion of science in various applied fields including Materials Technology, Space Technology, Superconductivity, Quantum Computation and Entanglement, Energy Storage, etc. Dr Syed Rizwan from Department of Physics, SNS in collaboration with organisers from University of Cambridge, UK and UAE University, UAE arranged the event as conference chairs. The Federal Minister for Science & Technology Ch Fawad Hussain graced the event as chief guest of the opening ceremony, and Chairperson Senate Standing Committee for Science & Technology Senator Mr Mushtaq Ahmed Khan was chief guest for closing ceremony. Both honorable guests highlighted recent advances made in the field of science and contribution of NUST towards promotion of technology within Pakistan.



USA-Pakistan Bilateral Conference on Energy Materials 2020

The first “USA-Pakistan Bilateral Conference on Energy Materials 2020” was held on January 16-17, 2020 at Department of Physics, School of Natural Sciences (SNS), NUST. The conference theme was based on Dr Syed Rizwan's (conference chair) HEC/USAID project which solely aims at developing new and efficient energy materials and devices. A number of international speakers participated in the event including the U.S Presidential award winner, Prof. Deji Akinwande from University of Texas at Austin, USA.



RCCI Digital Exports Conference

The Rawalpindi Chamber of Commerce & Industry (RCCI) Digital Exports Conference was held on the February 3-4, 2020 at Pearl Continental Hotel – Rawalpindi. The purpose was to promote state-of-the-art technology brands and innovators from across Pakistan. Robot Design and Development Lab (RDDL) and Robot Maker Lab (RML) (NCRA) at Department of Mechatronics Engineering, CEME participated in the exhibition to showcase their respective products. The products included TREC UGV, Led disposal robot, Spraying Drone, Passive prosthetic limb, Orthotic Insole, Solar panel cleaning robot and Fruit Maturity Meter. These products were highly appreciated at the exhibition.



Industry/Alumni Innovation Talks series

In order to further strengthen the Industry-Academia linkages at NUST and to promote research and steer the innovation towards industrial and societal impact, NUST CAC launched the Innovation Talk Series in Oct 2019. These talks were implemented into sub talk series – Industry Innovation Talks (IIT) and Alumni Innovation Talks (AIT) for 4th, 5th and 6th Semester students.

Top Industry professionals, subject matter experts and NUST Alumni were invited to interact with NUST students and researchers at NUST Schools/Colleges. During the year 2020, over 60 Innovation talks were conducted where several esteemed guest speakers from Industry plus Alumni interacted and shared their knowledge with the students.



NAB Awareness Programme at NBC

In collaboration with NAB Quetta, NUST Balochistan Campus conducted a one-day awareness programme regarding prevention of corruption on November 11, 2020. The theme was to make our youths (Students) aware about their responsibilities against corruption at any level.

ANNUAL PAKISTAN INTERNATIONAL MEGA LEATHER SHOW 2020

NUST participated in Annual Pakistan International Mega Leather Show organised by Pakistan Tanners Association (PTA) held at Expo Center Lahore from January 27-29, 2020. NUST displayed some of the key Innovative Projects / Technologies developed by NUST researchers, faculty and students.

Multiple “Career Skills” workshops

With a view to ingraining employability skills in students, NUST Career Development Centre held numerous Career Skills Workshops and Mock Interviews Programme during Fall semester 2020.

These activities encompassed workshops on 9 Career Development Plan, 21 Professional Employability Skills, 13 Resume Writing and 16 Interviewing Techniques held using both distance learning and face-to-face modes simultaneously. In addition, Mock Interviews for 7th semester across 32 disciplines were held involving rigorous 2-tier training of students.



Professional Development Centre (PDC)

NUST Professional Development Centre conducts a variety of training workshops for the Industry professionals. The Centre offers open short courses, workshops, diplomas and customized courses to meet specific needs of particular clients. PDC also trains NUST Staff and Officers through capacity building workshops. Since January 2020, PDC NUST has trained external and internal partners through following workshops and online diplomas:

EXTERNAL TRAININGS - NUST SERVING THE INDUSTRY

SEMINAR ON ALTERNATIVE DISPUTE RESOLUTION & DISPUTE AVOIDANCE UNDER FIDIC RULES INCLUDING CLAIM MANAGEMENT

NUST PDC conducted a seminar on "Alternative Dispute Resolution and Dispute Avoidance under FIDIC Rules including Claim Management" at NUST, Islamabad campus on Jan 7, 2020. A well-renowned global speaker, Mr. Christiaan Grosskopf, conducted the session. Seminar witnessed active participation of key Industry professionals from various fields and domains.

NUST PDC PARTNERS WITH HBL TO DEVELOP FUTURE LEADERS

NUST PDC partnered with Habib Bank Limited (HBL) to enable & equip the future leaders navigate successfully through the digital transformation path in banking sector. The Virtual Instructor Led Training (VILT) focused on developing knowledge on key facets including Digital Transformation, FinTech, Artificial Intelligence, Soft Skills & general awareness of the key business areas.

WORKSHOP ON LEARNING IN THE "NEW NORMAL" FOR ASIA FOUNDATION

Since the onset of COVID-19, the organisations have been adapting to the new normal and focusing to adopt alternative ways of running businesses. Learning, among other things, was mostly affected by the social distancing protocols. NUST PDC has virtually conducted trainings for Asia Foundation and trained national & international staff on areas including significance of mental & physical health during pandemic.

SECP Graduate Training Programme

PDC also conducted training of the incoming 2020 batch of the Graduate Trainees of Securities & Exchange Commission of Pakistan (SECP). The programme was aimed at developing technical and soft skills in alignment with the SECP work and culture.



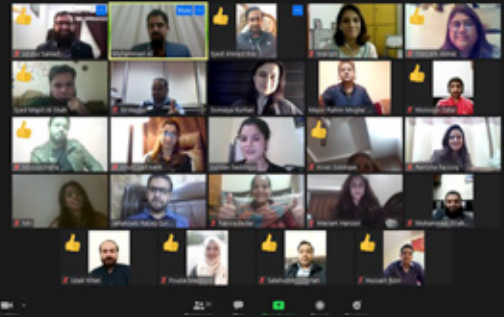
PDC NUST goes to Lahore

For the first time, PDC, in collaboration with Integrated Health Systems & Services, has launched a 6-month diploma programme in "Hospital Management" in Lahore. The diploma focuses on providing key skills in all areas of managing a hospital, from waste management to human resource and financial management.



HRCI Global Accreditation

After a rigorous process, NUST has become the first university in Pakistan to have its courses in Human Resource accredited by Human Resource Certification Institute (HRCI). The institute is the premier credentialing organisation for the human resource profession, setting the global standard for HR rigor, excellence and expertise for more than 45 years. With this achievement, NUST PDC HR certification is now globally recognised for the participants.



INTERNAL TRAININGS

PDC e-LEARNING CAFÉ

NUST PDC launched the e-Learning Café - an online learning platform (accessible at www.elearning.pdc.nust.edu.pk) for NUST Faculty Members, Students, Officers and their families. The platform offered customer-centric courses related to Health, Management, Education, Science, Mathematics Arts, also targeted students keen to maintain equilibrium between studies and mental well-being and women interested in pursuing careers in freelancing.



WORKSHOP ON "CREATING INCLUSIVE SPACES IN ACADEMIA"



PDC executed Faculty Training on making NUST a safe and inclusive space. Training on "Creating Inclusive Spaces in Academia" was conducted by Dr. Salma Siddiqui, faculty at NUST School of Social Sciences and Humanities (S3H), during Feb-Mar time-frame. 5 x batches have been conducted, and over 900 participants have been trained.

NUST PDC COLLABORATES WITH COURSERA

NUST PDC joined hands with Coursera by providing an online platform to our students and faculty. The Centre introduced job relevant and multi-disciplinary 3,800 online courses with 400 different specialisations and 270 projects in partnership with Coursera University and Industry partners. The NUST family was benefited by attending over 53,000 hours of world class online courses on the Coursera platform. Coursera on Campus has offered diverse courses in Arts and Humanities, Business, Computer Science, Data Science, Information Technology, Maths and Logic, Personal Development, Physical Sciences and Engineering, Social Sciences, Language Learning, and Health.





A five-member delegation from Coventry University UK and British Council Pakistan visited NUST on January 7, 2020



A two-member delegation from Macquarie University Australia visited NUST on February 20, 2020



A four-member delegation from University of Palermo Italy and HEC visited NUST on January 30, 2020



A three-member delegation from Queen Mary University of London and British Council Pakistan visited NUST on February 17, 2020



A three-member delegation from Ulster University UK visited NUST on February 18, 2020



A high-level women delegation of UAE led by H.H. Sheikha Jawaher Bint Mohammed Al Qasimi, Wife of His Highness the Ruler of Sharjah, Chairperson of NAMA (Sharjah's Women Advancement Establishment) visited NSTP on February 20, 2020



A three-member delegation from University of Essex, UK visited NUST on February 27, 2020



A four-member delegation from Linnaeus University, Sweden visited NUST on March 4, 2020

Student and Faculty Exchange

NUST encourages students and faculty to join International Universities of repute for a semester or two which may help in student's international exposure and hence learning. For this purpose, NUST has partnered with a number of international universities which time to time offer exchange opportunities to students. NUST offers both student and faculty outbound exchange with countries such as South Korea, Australia, Turkey, China, USA, Malaysia and UK etc.



The list of Partner International Universities willing to host NUST students/faculty for Exchange is available on NUST International Office web link: <https://nio.nust.edu.pk/mobility/global-partnerships/>

To streamline outbound student and faculty nomination, selection and application process, few faculty members are selected as focal persons for internationalization at all NUST Institutions. These focal Persons ensure that these exchange opportunities are disseminated among all students and faculty and are assisted throughout the application process.

The list of Focal person is available at: <https://nio.nust.edu.pk/mobility/focal-persons-for-internationalisation/>

A student outbound exchange policy review has been done to streamline selection/ application process so students can avail maximum benefit from our student exchange agreements. Students can contact NUST International Office to enquire about exchange and any other international opportunities.

USEFP Seminar on Fulbright Scholarships (USA) for 2020-2021

In order to facilitate NUST students and to increase their awareness of various international scholarships, NIO recently organized following events in collaboration with scholarship champions.

An interactive session on Fulbright Scholarship was successfully organized in collaboration with the United States Education Foundation Pakistan (USEFP) on 6th February, 2020 from 1100 to 1300 hours at SCEE Seminar Hall for Undergraduate and post-graduate students. The event was organized by NUST Champion for Fulbright Scholarship Dr. Yousuf Jamal (IESE) in collaboration with NUST International Office and SCEE. More than 100 students from all schools and colleges of NUST (via video conferencing) attended the event.

Following Guests from USEFP participated in the event

- Ms. Rita Bruun Akhtar (Executive Director, USEFP)
- Mr. Saleem Abdul Razaque (Program Manager, USEFP)
- Ms. Mashal Khan (Education USA Adviser/Team Lead Islamabad Advising)
- Mr. Syed Asad Ali Shah (Education USA Adviser)



Ms. Rita Bruun Akhtar (Executive Director, USEFP) gave opening remarks in which she briefly enlightened students regarding Fulbright scholarship and the numbers of students from NUST who have been able to avail this opportunity. Mr. Saleem Abdul Razaque (Program Manager, USEFP) explained in detail the application process, Fulbright eligibility criteria, and the features it covers. He along with Ms. Rita also answered several queries of the participants.

USEFP Seminar on GRE preparation

An interactive workshop on Graduate Record Examination (GRE) preparation was successfully organized in collaboration with the United States Education Foundation Pakistan (USEFP) on 19th February, 2020 from 1000 to 1200 hours at Central Library Seminar Hall for young faculty members and students of Undergraduate and post-graduate programs. The event was organized by NUST Champion for Fulbright Scholarship Dr. Yousuf Jamal (IESE) in collaboration with NUST International Office. More than 60 students from all schools of NUST attended the event.

Guest speaker from USEFP, Syed Asad Ali Shah (Education USA Adviser) apprised the students with all aspects of GRE and answered several queries of the attendees. He also solved few mock questions and shared some techniques regarding the test. Dr. Yousaf Jamal, at the end, gave concluding remarks and presented a souvenir to the guest. Student feedback at the end of the event was positive and they were interested in further guidance.

NUST conferred CSR Award for “Best Community Program”

In recognition of its extraordinary CSR efforts and initiatives, National University of Sciences & Technology (NUST) was conferred the “CSR Award for the Best Community Program” by the Professionals Network at a graceful ceremony held at the Marriot Hotel, Karachi on January 30, 2020. Governor Sindh, Mr Imran Ismail and Commissioner Karachi, Mr Iftikhar Ali Shallwani, graced the occasion as chief guests and bestowed the CSR awards in multiple categories upon the representatives of award winning organisations and Higher Educations Institutions (HEIs). Dr Nassar Ikram, Pro Rector (RIC) NUST, received the award on behalf of NUST.

The accolade awarded to NUST speaks volumes of how the university is effervescently engaged in creating discernible positive impact on the communities at large by providing quality education for all. In conjunction, the award is a token of appreciation for NUST for bringing a difference in the lives of the underserved by offering need-based scholarships to the deserving yet financially challenged students from across Pakistan. Under its flagship NUST Endowment for Educational Development (NEED) initiative, NUST endeavours to ensure that students from financially challenged backgrounds, who qualify on merit for admission at the university, are provided financial aid options to pursue their aspirations. Since 2015, this impact has been extended to support more than 1500 students.

Beyond offering financial assistance to deserving scholars, the university also never loses focus on establishing an environment based on inclusivity. The recently inaugurated NUST Balochistan Campus (NBC) at Quetta is a step towards achieving this objective, and bears witness to its commitment to providing world-class education to students from across Pakistan. God willing, the initiative is destined to go a long way in the economic, social and human resource development of Balochistan. Meanwhile NUST has been recognized for its Corporate Social Responsibility (CSR) efforts by National Forum for Environment and Health CSR Awards 2020 at a graceful ceremony held at Serena Hotel, Islamabad. The University has won the award in the category of societal-based



impact through education, and this accolade recognizes the positive difference that NUST has created in the lives of many families by supporting deserving students hailing from across Pakistan.

You give but little when you give of your possessions. It is when you give of yourself that you truly give.

-Khalil Gibran

Enhancing National Outreach

Punjab shows support for NUST's nation-building initiatives



With a view to enhancing its collaboration reach across Pakistan, and establishing partnerships with local industry and community, NUST held an outreach event in Lahore in November 2020. The event, based on the theme of 'Building nation through transformative higher education', was attended by notable leaders and business owners from Cement Industry, Electronic & IT organisations, Manufacturing, Chemical, Banking & Financial, Fertilizers and Engineering sectors etc. Film star Mr Shaan Shahid, singer Mr Sahir Ali Bagga, and cricketers; Mr Amir Sohail, Mr Taufeeq Umar and Mr. Muhammad Yousaf showed the renewed support for higher education; as an instrument of change that our nation needs. The participants vowed to support the educational initiatives of NUST, and enhance the industry academia linkages through innovation based impactful collaborations.

In the national outreach enhancement process, UAO visited Gujrat, Gujranwala and Sargodha during the second leg of tour in 2020. In order to ensure an extensive outreach for NUST brand building, and for establishing progressive partnership with the business community, SMEs and philanthropists, the team visited Gujranwala, Gujrat, and Jehlum as first touch base cities. Multiple meetings with many local and corporate organisations in this South Punjab region were held to discuss the Need Initiative objectives. The organisations showed a positive response towards the outreach and various opportunities for students like internships, placements, scholarships, and monetary endowments were discussed. The

prospects belonged to reputed organisations including Sonex, Master Tiles, Citizen International Plastic Furniture, Korn Mills Pvt. Ltd, Asia Fans, Plasco Pipes, Royal Fans, Gondal Group, the Jhelum Chamber of Commerce and Industry etc.

The meetings resulted in successful development of pledged support for endowment building by the organisations that joined hands with NUST as a partner to the endowment program. The outpour of support was highly appreciated, and lump sum as well as yearly planned contributions are the source of hope for many students benefitting from the endowments and scholarship support.



Exploring the Faisalabad Chapter - Meeting with Dr Khurram Tariq



The University Advancement team, under the leadership of Pro-Rector RIC Dr Nassar Ikraam visited Faisalabad to hold a meeting with Dr Khurram Tariq, Chief Executive Kay & Emms Pvt Ltd. During the meeting Dr. Khurram Tariq was briefed about NUST's academic and research ecosystem, and its development and nation-building endeavours.

Dr. Khurram was greatly impressed by the progress that a Pakistani university is making among the global education institutions of prestige, and promised to support the University by adopting two zakat deserving students. He also showed an inclination to support NUST in its development endeavours, and praised the University for the efforts being undertaken across the country, particularly in Balochistan.

Strengthening industrial ties in the South

Over the last few years NUST has established strong linkages with the corporate and business sector of Pakistan in Karachi. In January 2020, a NUST team, led by Pro Rector RIC Dr Nassar Ikram, held six high-level meetings with the industry leaders of Karachi and two meetups with the Rotary Club and the Karachi Chamber of Commerce and Industry members were held.

During the outreach, the team met with the leadership of Pakistan Petroleum Limited, Pakistan State Oil, Shirazi Investments, Federation of Pakistan Chambers of Commerce and Industry, National Bank of Pakistan, and Mehran Sugar Mills and discussed the collaboration options between academia and industry. With this outreach, NUST has penetrated the industrial hub of Pakistan further, and looks forward to establishing mutually beneficial partnerships for a Progressive Pakistan.



Getting to Know Multan – An Outreach Presentation

On the sidelines of NUST's first-ever job fair in the City of Saints, Multan, NUST brought together its alumni from the region. A comprehensive presentation was given by Director Advancement, Ms Maria Qadri. The presentation was well received by the industry representatives of 36 organisations present at the NUST Job Fair, and the President of Multan Chamber of Commerce and Industry, Mr. Sheikh Fazal Elahi. With an initial foot in the door, the Advancement team is now all set to explore South Punjab and establish mutually beneficial collaborations with the industry and businesses of the region.



Initiation of Post Pandemic Outreach – Visit to Karachi



With the recent pandemic, the physical outreach efforts of the Advancement function of NUST nearly came to a stand-still. However, with the corona infected cases falling across the country, the team decided to take a bold step of reinitiating its outreach efforts by undertaking a 2-days meetings campaign in Karachi.

The primary agenda of the visit included the key account recoveries, courtesy call-ons with the partners and finding potential leads for future collaborations. The visit saw 6 meetings being held with the corporate and the

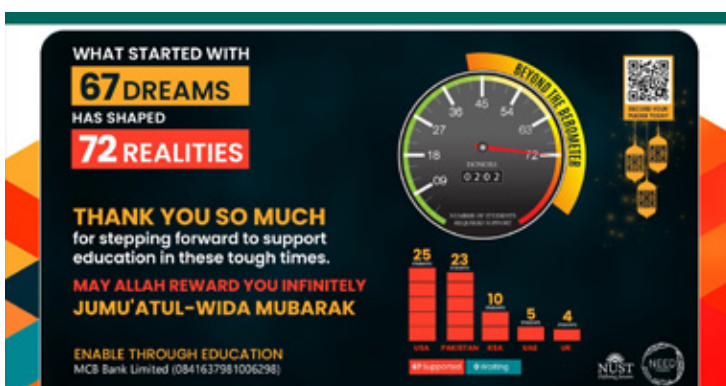
philanthropic sectors, and resulted in the recovery of the pledge of Mr Aqeel Kareem Dhedhi through AKD securities.

This recent endowment partnership with AKD securities will support the NUST Balochistan Campus to establish itself as a resource centre of educational excellence and equity. Previously, Mr. Aqeel had established a scholarship endowment seat at NUST in 2017 which is going to have a lifelong impact in the life of at least one family for all times to come.

Hope has No Limits - Zakat Campaign 2020

This year has been tough throughout, while we navigate through uncertain times. However, with hope and trust in Allah and kind hearted individuals, we took the step of getting the message out for support of 67 zakat eligible students this year. What unfolded was beyond our expectations. We not only managed to support these students, in fact our NEED Initiative partners stepped forward to shape 72 lives.

Overwhelming support from our NUST community and partners from across the globe was received as PKR 10.2 million in commitments has been raised with the help of 202 cause partners. In addition to contributions from Pakistan, our KSA and USA Alumni Chapters were also engaged to garner support for the initiative, and 36% of the total donations received were offered by our very own alumni. The faculty and staff of NUST also actively took part in the campaign as 102 employees pledged monthly support for these deserving students.



NUST, Rotary Club going hand in hand

Over the course of partnerships made through outreach, UAO has found an ambassador in Rotary Club's esteemed member, Mr. Anis Younus - Director EMBA Corporation. Mr. Anis has been an advocate for the NEED Initiative programme and has helped with establishing connections with local Rotary chapters in Punjab and Sindh. This has enhanced the scholarship support for financially challenged students, and also the connectivity for future partnerships with club's members.



Forging Partnerships

In 2020, despite the ongoing pandemic, UAO still had their targets set to uptake new students. Believing in the spirit of corporate giving, it was endeavoured to form alliances with top-notch corporate sector organisation sectors in Pakistan. Alumni also generously contributed to the great cause, which was highly appreciated. Despite all the odds in this year, hope was always alive.

NUST celebrates partnership with NetSol Technologies

NEED Initiative celebrated its long-term partner Mr. Najeeb Ghouri - CEO of NetSol Technologies on receiving Sitara-i-Imtiaz for his services to Pakistan. Owing to his philanthropic spirit and focus on uplifting the marginalized youth, he has been supporting NUST's development initiatives since 2017. He is also a member Board of Trustees of NTF. During his visit to NUST in September, Mr. Najeeb Ghouri also signed an agreement to formalize the establishment of three permanent endowment seats for the benefit of financially challenged students at NUST. His delegation, including Mr. Faizan Ghouri and Ms. Momina Mustehsan, visited National Sciences and Technology Park (NSTP) for a detailed orientation on innovation & research infrastructure of the university, with an aim to explore further collaborative avenues.



NUST Faculty Placements

NUST initiated this programme in 2018, which is the first such programme for any Pakistani university to place its selected researchers in the industry to establish fruitful collaborations. Within 2 years, 34 faculty members were placed in 15 industries. As a result, 72 industrial projects were identified, 53 internship and placement slots secured and 19 trainings obtained. In 2020, the number of faculty members placed in the industry were quite limited. The program is currently on hold due to COVID-19 and will be started again as soon as the situation improves. However, 2 faculty members were placed at Rapidev (NSTP) and Zauq Group (NSTP) for a period of 1 week.

Habib Metropolitan Bank joins NUST in reshaping futures

A new chapter in the journey of NEED Initiative has been opened through partnership with Habib Metropolitan Bank. As a first step in joint collaboration, the organisation has graciously extended support for two financially challenged students at NUST by establishing 'Habib Metro Scholarship Award'. During the agreement signing ceremony held in September at NUST H-12 Campus, Islamabad, Head of Retail Bank Habib Metro - Mr. Ahmed Shah Durrani vowed to take the partnership further on multiple domains.



Alumni-led Endowment Partnership: “Pursuers of Happiness”

An MoU signing ceremony was held in October, marking the establishment of an endowment seat by some generous alumni, collectively teamed up as “Pursuers of Happiness” under the leadership of Hashim Pervaiz (NBS Class of 2017), Saad Bin Yousuf (NICE-SCEE Class of 2017) and Isra Nasir (SADA Class of 2019). Pro-Rector RIC, Dr. Nassar Ikram received the alumni delegation and lauded their spirit of giving back and making an impact in the lives of deserving students by paving way for them to live their educational aspirations. The established endowment fund will perpetually support a brilliant scholar hailing from a financially disadvantaged background under the banner of NEED Initiative. NUST is grateful to Hashim, Isra, and Saad for taking lead and being a source of inspiration for many.



USPCASE team’s visit to ICCI

USPCASE team, led by Head of Department Research (HOD-R), Dr. Majid Ali accompanied by Dr. Hassan Abdullah Khalid and Mr Fawad Kashan, visited Islamabad Chamber of Commerce and Industries on Wednesday October 28, 2020. The main purpose and objective of the meeting was to introduce USPCASE to chamber and associated industry, offer them the services to resolve industry problems, trainings, workshops for industry.

Team from Green Growth Pakistan visits USPCASE

A team from Green Growth Pakistan visited USPCASE on October 22, 2020 to discuss various avenues for possible collaboration. During discussion it was finalized that USPCASE NUST will extend its technical support and will jointly organize a seminar titled “Clean and Green Energy Integration in CPEC”

Students’ Industry visits

NUST Corporate Advisory Council (CAC) being one of the major stakeholders of Industry Visit Policy, through its network of over 150 industry partners, plays a supplemental role to facilitate students’ industry visits for the NUST Schools/Colleges. There is an ever-increasing involvement of all Schools/Colleges in executing the visits in line with internal policies and SoPs since 2017. As many as 124 visits were conducted in 2017, 378 in 2018 and 391 in 2019. As a result of planned and coordinated efforts between CAC, ACAD and NUST Schools/Colleges, overall, 208% increase in total number of student industry visits has been noted since 2017 till 2019. However, owing to the unforeseen national health emergency, the pace of visits could not be met as envisioned earlier this year. Only 83 industry visits were conducted in the 1st quarter of 2020.

NUST team visits Punjab Agriculture Department

Knowing full well the role of universities in sustainable development of the country, NUST has been developing different technologies in an array of fields. The latest of these technologies are the ones developed for smart farming, including Soil Moisture Meter, Weather Station Device, Smart Sensing Device, Fruit Maturity Meter and Drone for Aerial Spray. A presentation was made at Agriculture department, Punjab on August 18, 2020 to highlight the projects being developed for agri sector. Secretary Agriculture, Punjab Mr Wasif Khurshid appreciated the efforts of NUST in research and innovation and committed full support of his departments to materialising projects that can benefit the sector.

NUST developing ties with agricultural institutes

In line with NUST vision of being a research-led university with a focus on Technology, Innovation, Entrepreneurship and Community Service, NUST actively engages industry for undertaking research projects to benefit Pakistani industry and society in line with sustainable development goals. A meeting was held on September 23, 2020 at NUST to discuss ways to improve agri sector of Pakistan. Meeting was attended by Agri sector organisations, industry and universities. As a follow-up, NUST team visited Muhammad Nawaz Sharif University of Agriculture Multan (MNSUAM) on November 6, 2020. The purpose was to showcase tools and projects that NUST has been working on to help the agriculture sector improve its efficiency. Meeting resulted in identifying multiple fronts that both the institutes can collaborate in, especially in the development of AI-Based smart farming technologies using MNSUAM's data set and NUST's smart tools.



Earlier, NUST team also visited University of Agriculture Faisalabad on October 22, 2020 to identify areas where technological solutions developed by NUST could be integrated with Agricultural projects. Team from NUST was also invited by the Directorate of Water Management (DWM), Agriculture Department Lahore, to discuss the limitations that agriculture department currently has to face. NUST demonstrated the existing technologies available and an agreement was signed to deliver soil moisture meter and other agri-related devices.

NUST hosts visit of Mr Naeem Khanani - Chief Operating Officer at DocEasy

Mr. Naeem Khanani visited NUST on November 12, 2020 to explore the opportunities of collaboration through R&D and projects developed by NUST with commercial potential. He appreciated the efforts NUST is putting in to establish University Industry Linkages. He discussed the Water Treatment Systems and how water can be made drinkable, which is specifically needed in Sindh.

NUST signs MoU with Textile Testing International Labs, Lahore



NUST and Textile Testing International TTI signed a Memorandum of Understanding (MoU) to enhance cooperation between the two organisations on November 2, 2020 at the TTI premises in Lahore. Dr Nassar Ikram, NUST Pro-Rector Research Innovation & Commercialisation (RIC) NUST and Mr Hameed K Latif, CEO TTI Labs, signed the MoU on behalf of their respective organisations. The MoU aims at increasing collaboration between NUST and TTI in areas including faculty placement, jobs and internships, professional trainings and joint research leading to technology transfer.

UVGI system handed over to CEO Club, Lahore

In order to combat the spread of COVID-19 through technological means and following the national policy to fight the pandemic, an Ultraviolet Germicidal Irradiation (UVGI) System, jointly developed by Textile Testing International labs (TTI) and Pakistan Navy Engineering College (PNEC) NUST, was handed over to CEO Club Pakistan at Management House Lahore on November 2, 2020. UVGI systems are used for quick and efficient disinfection of medical equipment, personal belongings and other small items. The event was attended by NUST Pro-Rector RIC Dr Nassar Ikram, CEO TTI Laboratories Mr Hameed K Latif, and Founder CEO Club Mr Ijaz Nisar.



Director ORIC, Kinnaird College Lahore visits NUST

Established in 2012, NUST Office of Research, innovation & Commercialisation (ORIC) has been serving as a benchmark for universities across Pakistan. In this connection, a two-member delegation from Kinnaird College, Lahore, headed by Dr Ghazala Yaqub (Director ORIC) and accompanied by Ms Saba Taj (Manager Industrial Relations), visited NUST on November 5, 2020 to get an insight into ORIC at the university and improve ORIC structure at their university.



*Coming together is a beginning,
staying together is progress, and
working together is a success.*

-Henry Ford

Kashmir Solidarity Walk

NUST Family observed 'Kashmir Solidarity Walk' at NUST H-12 campus, on February 06, 2020, to show support for the people of Kashmir against Indian atrocities. The participants included an overwhelming strength of students, faculty and staff, and their families - holding placards, denouncing the Indian unbridled cruelties against Kashmiris; and calling upon the world in general and the United Nations in particular to resolve the longstanding issue according to the wishes of Kashmiri people and the United Nations resolution.



National Literary Festival

The National Literary Festival (NLF) is NUST Literary Circle's signature event, its aim being the revival of love for literature in the young generation. In a world which has become so fast paced and screened, NLF, held from March 6-8, 2020, beckoned us to slow down and read a book; enjoying the concoction of words strung together beautifully relaying feelings and ideas. NLF not only promotes reading published literature but also provides a platform for young budding poets and prose writers to recite their work. NLF has gained popularity by sparking debates on an array of subjects. This ability to galvanize people and change mindsets aids in students becoming more learned and eloquent leading to the betterment of society. This year, NLF has had talks on CPEC, Sufism, Feminism, Science & Technology and much more. The event offered participants a chance to compete in a variety of competitions, sharpening skills and earning recognition along with a prize or two! NLF's agenda and its teams' tireless effort to execute it flawlessly have made it the talk of the town.



Survey Camp and Orientation held at MCE

Survey Camp (I-Grade) was conducted for the NUST students of BECE-2018/F at NUST Military College of Engineering (MCE) from October 12 to October 25, 2020. The event could not be held earlier due to COVID-19. Meanwhile, the orientation week for newbies (Entry batch 2020) was commenced from October 26 to October 29, 2020. As many as 47 students attended the orientation session. Whereas, the postgraduate students from Fall 2020 entry attended their Orientation on October 26, 2020. There were 86 students who attended the orientation session.

NIMUN 2020: *Humanity above all*

NIMUN '20 witnessed a successful run of its 9th installment, and took place at NUST Islamabad campus from January 9-12, 2020. The event was set in motion with a felicitous opening ceremony, graced with highly esteemed guests in attendance. The Chief Guest, Permanent representative of Pakistan to the United Nations, Mr Muneer Akram, endowed the attendees with some words of wisdom. The baseline theme, "Humanity Above All," and the topics of discussion pivoted upon all 17 Sustainable Development Goals (SDGs) of the UN's 2030 Agenda for Sustainable Development. In comparison to the previous editions, the circle for discussions on world issues this year was upgraded. All 16 committees simulated and served as catalysts to enlighten the youth and make them more socially as well as politically aware of the world around them.

The UNDP session was the highlight of the conference, allowing delegates to interact with reputed guests and diplomats. The guests for the occasion included Minister Moeed Yusuf, Special Assistant to the Prime Minister on National Security Division, Ignacio Artaza, UNDP Country Representative, and Dr Simbal Khan who is a Peace & Development Expert, among others. The productivity of the committee sessions in the four days was revitalised with social nights; nurturing friendliness and promoting an informal atmosphere of interaction between the participants hailing from diverse backgrounds, in hopes of exposure and exchange of goodwill.

The Global Ramp walk featured an amalgamation of countries under one roof, in all their glory. The carnival, "Shaam-e-Khaas", witnessed an exceptional performance by artist Uzair Jaswal with assorted food stalls to provide refreshments for the delegates, followed the spellbinding talent of Jal The Band at the Musical Night.

The final day featured the closing ceremony, with the Principal and Dean NBS, Dr Naukhez Sarwar, and members of the faculty as the audience. NIMUN '20 concluded with the themed hi-tea, which symbolised the motto "Winter Solstice", perfectly encompassing the colorful reflections of the season.

The success of NIMUN '20 was based on the discourse on the most pressing issues around the world, discussed by the torchbearers of humanity - the youth. It also showed the side of Pakistan not commonly portrayed, the side working towards prosperity and peace.



NUST FORMULA STUDENT TEAM PARTICIPATES IN FORMULA STUDENT UK VIRTUAL 2020

NUST Formula Student Team participated in Formula Student UK Virtual 2020 and attained remarkable achievements. The team has secured 3rd position in Design, 3rd position in Acceleration, 9th position in Skid pad, 10th position in Cost and an Overall 7th position. No team from Pakistan ever has achieved such brilliant results in Formula Student.

Persevering through years, the team has finally proved themselves as they say "one does not simply bounce back after facing failure after failure. Unless it's the NUST Formula Student Team". NUST congratulates the FS Team on their triumph and wish them very best of luck for their future.

NUST Formula Student Team makes a mark at **Formula Student UK Virtual 2020** by securing

3rd	Position in Design Event
3rd	Position in Acceleration Event
9th	Position in Skidpad Event
10th	Position in Cost Event
Overall 7th Position	

The image also shows a Formula Student race car and logos for NUST and Formula Student.

CAE teams participate in National Flying Competition (NFC) 2020

National Flying Competition (NFC) 2020 was held at the College of Engineering of Karachi Institute of Economics & Technology from 14 to 16 February, 2020. Various competitions related to flight of quadcopters and fixed wing aircraft were held and aerial vehicles were required to perform special tasks as per competition rules.

Teams from Avionics and Aerospace departments of CAE participated in different events like Aircraft Design, Build and Fly competition, Delivery Boy, Hell in a Cell and Battle of Drones. Team of Avionics Department, CAE won the "Delivery Boy" event. In this event, a claw was attached to a quad-copter and it was required to pick up a box weighing 100g and further drop it to a specified location.



SEECs students win Pakistan Science Fair Award



Students from NUST School of Electrical Engineering & Computer Science (SEECs) have won the Pakistan Science Fair Award 2020, organised by Ulster University, United Kingdom. The award ceremony took place at Shamadan Hall, Serena Hotel, Islamabad, on January 28, 2020.

Noor Binte Amir, student of Bachelors of Engineering in Software Engineering (BESE), secured first position, whereas Muhammad Kamran Janjua, student of Bachelors of Science in Computer Science (BSCS), secured third position in the Individual Poster Competition. The title of the winning poster by Noor was "FLOWLINES: Tackling Body Image Issues using AI-Based Autodraw Art in AR", and the title of Kamran's poster was "Plant Health Monitoring via Motion Induced Priors."

The Pakistan Science Fair Award 2020 is a collaborative project between Ulster University, UK and Pakistan's leading universities; NUST, Air University, Bahria University, and FAST NUCES. This competition provided an opportunity for students to showcase their talent, as well as continue their studies with Ulster University. Students participated in Pakistan Science Fair Awards 2020, and designed posters that proposed innovative uses of Data Science or Artificial Intelligence.

NUST family is proud of Noor and Kamran - we congratulate them on their remarkable achievements, commend them for making us proud, and wish them more success and glory in their future endeavours.

ASHRAE NUST-SMME STUDENT BRANCH

It is the pioneer chapter of "American Society of Heating, Refrigerating and Air-Conditioning Engineers" (ASHRAE) in NUST. It organizes several competitions from time to time. This year ASHRAE Competition was organized by ASHRAE Student Chapter CUI Wah, in Collaboration with ASHRAE Northern Pakistan Chapter. Our recommended MS student Ibrahim Khan has obtained first position in the Graduate BS Engineer Student category. It was an online competition held on July, 11th 2020, entitled "1st Knowledge Competition on HVACR."



IEEE Student Branch website Contest 2020



IEEE NUST SEECS has won third place in the region 10 IEEE Student Branch Website Contest 2020. Region 10 in Asia Pacific consists of nearly 700+ branches and the contest aimed to judge the website of these branches on a meaningful basis to acknowledge the websites that were up to a modern, informative and interactive standard. Among these branches, IEEE NUST SEECS website, which was launched only a year ago, managed to place an impressive third. R10 Student Activities Committee will submit website entry of IEEE NUST SEECS for the global website contest 2020.

For more details of the global website contest visit:
<https://students.ieee.org/ieee-student-branch-website-contest/>

We are very proud of the contribution of entire IEEE NUST SEECS student body (<https://ieeeseecs.com/the-team/>), faculty councilors and we specially credit IEEE NUST SEECS Web & IT team for their outstanding work.

National Climbing Championship 2020

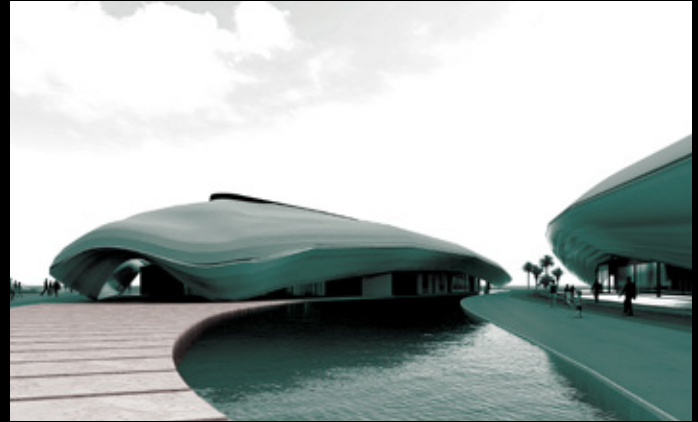
National Climbing Championship 2020 was organised by The Alpine Club of Pakistan (National Mountaineering and Climbing Federation) at Margalla hills and Pakistan Sports Complex on November 7-8, 2020. Zaheer Ahmad, NUST alumnus and current employee of NUST Sport Branch, participated in the competition. In the 15-metre standard speed wall category, Zaheer won Gold Medal with top speed of 7.4 seconds which is new National Record. He broke his own previous record of 8.4 seconds made in 2019. Zaheer has also qualified to represent Pakistan in upcoming Asian Beach Games to be held in Sanya, China in April 2021.



“*Let your ambitions fly, let nothing hold you back.*”
 — Nabil N. Jamal

SADA graduates stand out at 34th Cycle of World Architecture Awards

Saad Shahid, a graduate of School of Art, Design & Architecture (SADA), was amongst the winners at the 34th Cycle of *World Architecture Awards*. His project at the competition was based on his thesis, which inquires the idea of public spaces and recreation along the Persian Gulf. It aims at identifying the disparity that exists between the populations of the Saudi Arabian city of Al-Khobar. The expatriate community, accounting for 44% of the city's population, is at neglect by the locals when it comes to acceptance and tolerance. Al-Khobar, being one of the fastest growing urban centres in the Middle East, results in a very robotic and mundane lifestyle for its dwellers. The Cornish Waterfront development serves



as a getaway for the city's inhabitants. The sole presence of the sea brings calm and joy to the people, where they go for fishing and walk.

Graduation Thesis Project of **Aimen Abbas** was also one of the winners of 34th Cycle of *World Architecture Awards*. Aimen graduated from SADA in 2019. Her thesis project is an attempt to assort the essence of the experience of the world's oldest form of hospitality architecture - Caravanserai. While being set in an urban context, it addresses modern day requirements.

The design proposal is based on the idea of an inn that explores the concept of a *caravanserai* as a metaphor for a successful platform of exchange and communication. Where it was used as a stop for traders and merchants anciently, here it serves as a temporary abode for the travellers coming to the hub of hospitals in proximity to the site, acknowledging the need of a dwelling for patient attendants. The project seeks to forge spaces where people can find a sense of relaxation and calm, while the architectural elements subtly act together as social activators.



Orientation NUST 2020

It was a comprehensive student led, 5-Day event, built on the legacy of its predecessors, that started from 12th October 2020 to 16th October 2020 and was filled with all the sessions and information that a freshman needs to know before the start of his/her professional academic career. Due to the prevailing pandemic, it could not offer the students all the other fun-filled activities that were part of the former Orientations, however, the organizing committee along with the Student Affairs Directorate worked day and night to make this edition of Orientation of NUST the best amidst this crisis.



Sports Week at NBC

Annual Sports Week of NUST Balochistan Campus was held from November 13 to 15, 2020. Students participated in different games like cricket, football, badminton, table tennis, basketball, and other indoor games like ludo, chess and carom. Both boys and girl students actively participated in the events and proved themselves against their opponents. In the end trophies were distributed to winners.



NBC students enjoy hiking

Following a rigorous academic routine and to encourage physical activities, the Adventure Club at NUST Balochistan Campus (NBC) students adventure club organized a hiking trip from Sunset Point to Sleeping Beauty Top at Quetta Cantt on November 7, 2020. As many as 10 faculty/staff and around 100 students took part in the hiking activity.



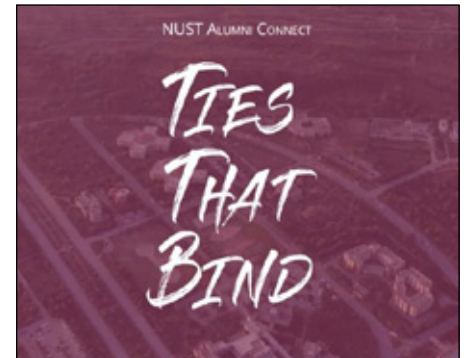
BBQ night at NBC

BBQ night was arranged for newly admitted students of NBC Quetta on February 22, 2020. Students arranged various food stalls at the venue.



Ties That Bind- Launch of Alumni Web Series

"Ties That Bind" is a web series featuring NUST Alumni and their connection with the place they will always call home-NUST. Season 1 of this trip down the memory lane premiered on 5th January 2020. This season featured 12 alumni and delved into their journeys after NUST, thus inspiring the new generation of NUSTians.



Meeting alumni serving in Civil Services of Pakistan

Reaching out to NUST alumni in the Civil Services of Pakistan has been a key objective of 2020. The Alumni Office has thus been connecting to the alumni who are now CSS officers to build a stronger network of alumni that can be beneficial for them, CSS student aspirants and NUST.



Mr. Fawad Amir (MCS Class of 1998), Director of Finance, AGP



Ms. Kiran Zahra, SEecs Class of 2009, Assistant Commissioner Inland Revenue, FBR



Mr. Shahid Habib Khan, C E&ME Class of 2008, Assistant Director Ministry of Foreign Affairs

School Reunions

School of Natural Sciences

NUST School of Natural Sciences (SNS) held its alumni reunion on February 13, 2020. 14 Alumni attended the festivities and had mentoring sessions with current students. Dr. Firdos Khan, the Alumni Focal Person at SNS, welcomed the alumni and discussed multiple ways for them to stay connected with their school.



School of Civil and Environmental Engineering

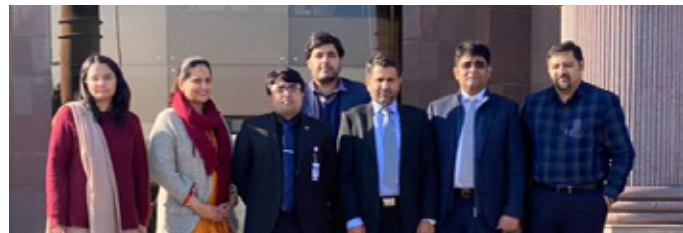
Continuing with the aim of starting the year with interaction with our graduates, the NUST SCEE arranged Alumni Union on February 14, 2020. It was attended by around 90 alumni from the affiliate departments namely SCEE, IESE, IGIS, NIT.



Visits

Senior alumni from USA, UK, KSA & Lahore

Dr Immad Qureshi, Graduate of 2004 from AMC [UK], Mr. Saud Sarwar, Graduate of 2005 from CEME [KSA] and Mr Suleman Shaukat, Graduate of 2005 from CEME [Lahore] have been in touch with NUST for various projects and visited on January 9, 2020. Dr Imad Qureshi is an emergency medicine specialist who facilitated a one-day crash course for faculty, staff, hostel wardens, and security personnel of NUST on 1st Respondent training. Mr Saud and Mr Suleman met with Pro-Rector RIC to discuss avenues for collaboration with regard to providing software solutions to NUST as part of the Educational Support Programme. Meanwhile our Alumnus Mr Saad Siddique, MCS Class of 2012, who is currently working as a Big Data Engineer and Architect at Land O'Lakes Inc USA, visited NUST on February 26, 2020.



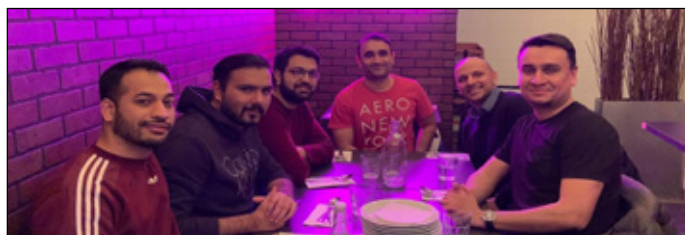
Meetups



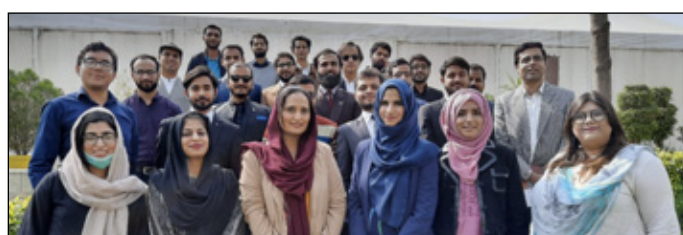
Mr. Sajid Raza (SCEE Class of 2014), Mr. Salman (EME Class of 2015), Dr Riaz Ahmad, Director Quality Assurance NUST. Brussels, Belgium - January 29, 2020.



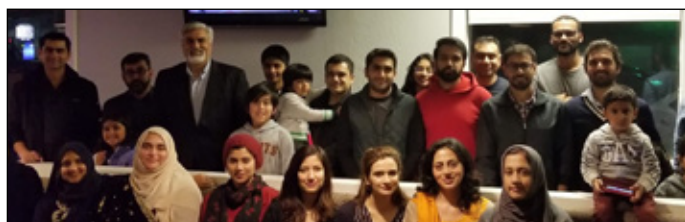
Mr Jawad Ahmad Khan (PNEC), Mr Ammar Waheed (NBS), Mr Inam Ullah Siddiqui (PNEC), Mr Khurram Javed (NBS), Mr. Hammad Saleem (PNEC), Mr. Faraz Mustafa (PNEC), Mr. Mubeen Shahid(NBS), and Mr. Faheem Azam (NBS). Karachi- January 29, 2020.



NUST SEECS Alumni from Class BIT 4, BISCE 2, BISCE 3, BISCE 4, BISCE 5. Toronto, Canada- February 1, 2020



NUST Alumni meet and greet took place on the sidelines of the NUST job fair 2020 and was attended by 22 Alumni from multiple industries currently working in Multan. Multan - March 12, 2020.



Raheel Bodla, Babar Qaisrani, Rafi Imran Amjad, Affan Ali Syed, Adnan Raza, Nasrullah khatri, Raamael Arif Mahmood, Usama Puri & Naveen Ali. USA Silicon Valley February 24, 2020.



Around 40 alumni from different fields of work participated, from graduation year as diverse as early 2000 to 2019. Ms. Maria Qadri, Director Advancement along with Ms. Rubab Asif Manager Alumni Affairs, also joined the meetup. Lahore - November 4, 2020.

Talks



Ali Imam

Mr Ali Imam, MCS Class of 2007, visited NUST on March 5, 2020. He recently completed his MBA from The Chicago Booth University School of Business and has joined Amazon as Senior Program Manager. Ali delivered a talk to students on "Emergent Technologies & Career Advancement". Later, he called on Dr Asif Raza, Pro-Rector Academics, to discuss the possibility of joint research between NUST and Amazon.



Dr Immad Qureshi

A first respondent training titled "Empower yourself -First Intervention Training" by Dr Immad Qureshi (Army Medical College Class of 2004 "Millennium Entry") Fellow of the Royal College of Emergency Medicine, UK was held on, 9 January 2020. The highly interactive training was attended by approximately 85 members of faculty and support staff.



Usama Aftab Toor and Usama Farooq Rana

Usama Aftab Toor, CEME Class of 2014, who has done his Masters from Taxes A&M University, and Usama Farooq Rana CEME Class of 2014, who later went to Imperial College London for his M.Sc. in Artificial Intelligence and is now pursuing PhD Research at Imperial College in the area of deep learning visited the CEME to share their experiences and expertise with the young NUSTians on January 8, 2020.



Haider Agha

Mr Haider Agha, USPCASE-EN Class of 2018, currently working as Data Engineer at Teradata, visited his School on January 29, 2020. His session focussed on the importance of research work and how it can benefit students in their long-term careers.



Tooba Imtiaz

Ms Tooba Imtiaz, a SEECS alumna who is currently an MS Electrical Engineering student at Korean Advanced Institute of Science and Technology, South Korea held two sessions at SEECS on opportunities in KAIST and on the academic and research life at KAIST, on January 2, 2020.



Kashif Hasnat

Kashif Hasnat, CEME Class of 2008, Senior Manager at A.T. Kearney USA visited NUST to deliver a talk on January 22, 2020. His session focused on an International Career in Management Consulting and how to apply for higher education in the USA.

NAA Elections 2020: Insights into a Democratic Milestone

The moment that nominations drew to a close and voting commenced, we recorded history. Contestants representing NUST's constituents sprang from different industries and countries. From the very start, the 2020 Election was notably holistic, equitable, and diverse. It wasn't just the candidates who reached breakthroughs: the voters lived up to the spirit of true democracy by raising their voices and exercising their right to vote for the new face of the NUST Alumni Association. This just goes to show that the Associations that were formulated truly reflect the aspirations, objectives, and hopes of our global NUSTian alumni family.

Finally, 17 Constituent Alumni Associations were formulated and 97 members were elected. As new turning points in candidacy, voting, and representation were achieved, we have no doubt that these 17 Associations directing the alumni future will secure even greater horizons in alumni leadership and service.

REVEALING NUST ALUMNI ASSOCIATION GOVERNING BOARD

 Uzair Hashmi President ASAB AA	 Adnan Maqsood President CAE AA	 Dr Noman Naseer President CEME AA	 M Fahim Akram President MCE AA	 Omar Ramay President MCS AA
 Mubashir Fida President NBS AA	 S Imdad Imam Jafri President PNEC AA	 M Asad Ullah Khan President RCMS AA	 SAQIB ALI President RIMMS AA	 Danyal Ahmed President S3H AA
 Maryam Jamal Gilani President SADA AA	 Daniyal Hasan President SCEM AA	 Dr Sohail sarwar President SEECs AA	 Adil Oun President SCEE AA	
 Nasir Javaid Nasir President SMME AA	 Rida Aleem President SNS AA	 Usman Salahuddin President USPCASE AA		

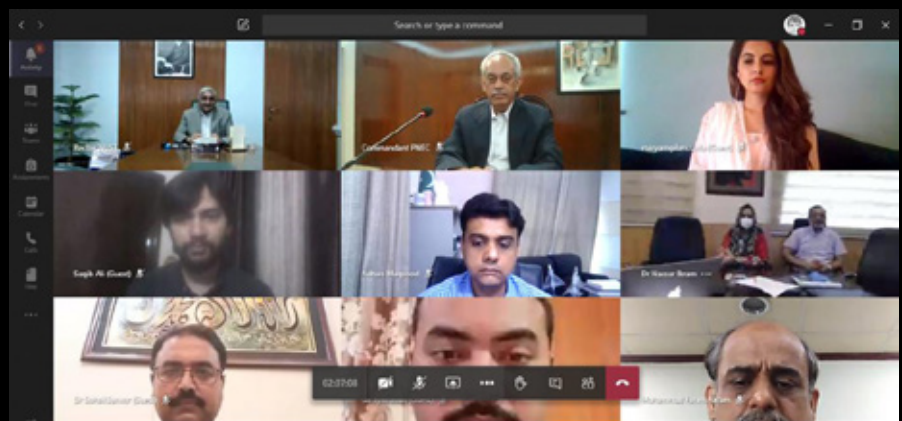
NAA Executive Council

The NUST Alumni Association Executive Council 2020-22 is presided by Dr Sohail Sarwar (President SEECs). The finances of this prestigious association are being dealt with by Danyal Ahmed (President S3H), the treasurer. The four Vice Presidents and their respective portfolios are as follows:

- i. Adil Oun (President SCEE) as VP Engagement
- ii. Omar Ramay (President MCS) as VP Endowment
- iii. Nasir Javaid Nasir (President SMME) as VP Placement
- iv. Saqib Ali (President RIMMS) as VP Research & Innovation

Oath-taking: NUST Alumni Association General Assembly 2020-2022

As many as 97 elected members, formulating the alumni bodies of 17 NUST constituent Schools/ Colleges and logging in from 7 different countries, were sworn in by Patron NAA / Rector NUST, Lt Gen Naweed Zaman, HI(M)(Retd) on June 26, 2019.



First NAA Governing Board Meeting with Patron NAA

The first meeting of the NUST Alumni Association (NAA) Governing Board with Lt Gen Naweed Zaman HI (M), (Retd), Rector NUST and Patron NAA, was held on October 15, 2020. The meeting was attended by Presidents of all NUST constituent Alumni Associations, senior management and faculty of NUST.

In his welcome remarks, Rector NUST congratulated the Presidents on being elected as the voice of 38000+ NUSTians from 64 countries of the world. He said that the election of the NAA and alumni structure at the grass-roots level is fundamental to constructing a fresh identity of NUST and strategically developing institutional arms for future industry engagements.



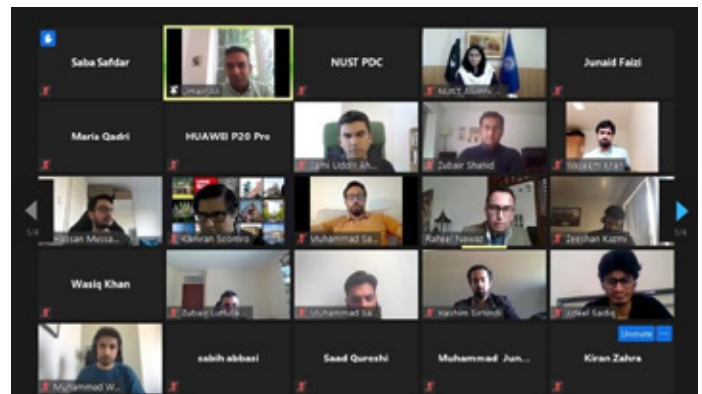
Profiling Dr Sohail Sarwar-President NUST Alumni Association

Dr. Sohail Sarwar (SEECs Class of 2009) has more than 14 years of experience in public/private sectors. Currently, he is working as Dy Project Director in Public Strategy Organization and leading AI enabling initiatives. He has done his Masters (Fully Funded) from NUST School of Electrical Engineering and Computer Science and later completed his Ph.D. (Fully Funded) with a specialisation in Artificial Intelligence and Semantic Technologies. His doctoral research was carried out at the Technical University of Madrid, Spain. To his credit, there are more than 30 publications in reputed journals/transactions. Currently, he is working on projects with PIEAS, Bahria University, NUST SEECs, GC University nationally, and with London South Bank University England, UPM Spain, and Kyunghee University Korea internationally.



Alumni Europe Convention

Bringing together high-achieving alumni from diverse academic and professional fields in its folds, the NUST Alumni Virtual Convention-Europe 2020 was held on September 13, 2020. As many as 164 alumni from 19 countries of Europe representing 15 constituent Schools/Colleges of NUST attended the convention. The main feature of the event was a seven-member panel moderated by Dr Raheel Nawaz, NUST-MCS Class of 1999. These members shared their ideas on structuring the NUST Alumni Europe Chapter and maximising alumni impact.



Alumni in the Spotlight

Dr Azeem Sarwar

Post Doc: University of Maryland College Park, USA (2013)

PhD: University of Illinois at Urbana-Champaign, USA (2009)

BSc Engineering (CEME Class of 2000)

Dr Azeem Sarwar since he graduated from NUST has been one of the outstanding professionals in the USA. Currently, he is a chief data scientist at General Motors Michigan, USA. Some of his accomplishments are described below:

- Boss Kettering - 2020 - GM's highest technical award granted for innovation that carries significant commercial value.
- Distinction: Boss Kettering - 2019 - GM's highest technical award granted for innovation that carries significant commercial value.
- JD Power Initial Quality Award - Best in Segment - Cadillac CT5
- IEEE Best Paper Award at the 2018 PHM conference
- Technical Reviewer for Conferences, Journals, Program Chair
- Leading efforts for disaster relief and STEM education for underprivileged children.
- CEME's Pride, 2019: Presented by Commandant College of E&ME for being one of the three students, and first-ever, to graduate with a CGPA of 4.0 in the history of E&ME college.
- Champaign-Urbana International Humanitarian Award 2010, City of Champaign - Awarded to Pakistani Graduate Students Association (Founding President and Board member).
- Canadian Commonwealth Scholarship 2002.



Dr Muhammad Shahbaz

PostDoc: Stanford University, USA (Present)

PhD: Princeton University, USA (2018)

BSc Engineering (CEME Class of 2008)

- Dr Shahbaz is a Kevin C. and Suzanne L. Kahn New Frontiers Assistant Professor in Computer Science at Purdue University, starting Spring 2021.
- Currently, he is a postdoc in the Electrical Engineering Department at Stanford University. His research focuses on the design and development of domain-specific abstractions, compilers, and architectures for emerging workloads (including machine learning and self-driving networks).
- Before joining Princeton University, Shahbaz worked as a Research Assistant at Georgia Tech and the University of Cambridge, Computer Laboratory.
- Shahbaz has built open-source systems, including Pisces, SDX, and NetFPGA-10G, that are widely used in industry and academia.
- He received the Facebook Research Award, ACM SOSR Systems Award, APNet Best Paper Award, Internet2 Innovation Award, and Outstanding Graduate Teaching Assistant Award.



The best and the brightest have walked out of these gates, embarking on their incredible journeys, going from newer learning experiences to bigger career moves. Wherever they are, they remain forever connected to their alma mater, cherishing their lifelong affiliations and eternal friendships.

#whereitallbegan

Dr Zafar Gillani (SEECs Class of 2009)

PhD: University of Cambridge, UK (2018)

BSIT SEECs Class of 2010

An overwhelming number of NUST graduates have inspired the world with their trailblazing accomplishments. Brief profiles of a few of them are as follows:

- A decade ago, Zafar Gilani led the procession of his BSIT class at NUST SEECs Convocation 2010, where he received the Rector's Gold Medal for best departmental degree project. He was a student of BIT-7 and graduated in 2009.
- Since then Zafar has lived, worked, and studied in 7 countries and has been to another 21 across the globe.
- He completed his Ph.D. in 2018 from the University of Cambridge, specialising in Machine Learning, Big Data, and Computational Social Science.
- He also led the doctoral procession at the convocation in Cambridge and is a member of the Cambridge Senate House.
- To his name, there are more than 20 published research papers in top rated peer-reviewed conferences as well as journals, 3 dissertations, and a Cloud Computing book for John Wiley & Sons.
- Currently, he is an Adjunct Assistant Professor at the University of Hong Kong, helping them voluntarily to solve the air quality crisis; a Researcher at the Queen Mary University of London; and a Senior Expert for AI and Deep Learning at Enzen UK.

**Zohan Hasan Tariq** (SCME Class of 2017)

BS-Chemical Engineering

- Zohan Hasan Tariq, an alumnus of NUST SCME Class of 2017, has obtained a perfect score of 340/340 in the GRE. The GRE is required by universities in the United States, Canada, and several other nations for admission to graduate-level programs. Hundreds of thousands of individuals all over the world take the GRE annually, but only a rare few obtain a perfect score, and Zohan has done so in his first attempt.
- During his time at NUST, Zohan was active in the debates circuit, leading the SCME team to win Best Delegation at GIMUN 2014, chairing at NIMUN, and ultimately serving as President of NUST Debating Society in his junior year.

**Muhammad Talha Amir**

CEME Class of 2006 (DE 24)

Mr Muhammad Talha was working as a Senior Drilling Engineer at Polish Oil and Gas Company PGNiG. He passed away on September 9, 2020.

OBITUARY**Yahya Sethi**

CEME Class of 2002

Yahya Sethi was serving as Director Sales at Redline Communications. He passed away on November 12, 2020.

May the departed souls rest in eternal peace!



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