



30th CONVOCATION

OCTOBER 30, 2024



CEME- AN INTRODUCTION

College of E&ME (CEME) is the largest constituent college of NUST, spread over 128 acres with 3000 students and 200 faculty members. CEME is a premier engineering institution of the country with 4 engineering programs catering the needs and demands of modern era through meticulously designed curriculum and modern training programs/ facilities. CEME prepares its graduates to meet the challenges of the real world by transforming them so that they can shoulder leadership responsibilities. CEME students have a long list of laurels at international and national level, which include Asia Pacific Awards,



Hult Prize and many more. All 4 engineering programs of CEME have been accredited by Washington Accord due to highly qualified faculty, state of the art laboratories, high end curriculum and training programs. CEME alumni are serving at many prestigious positions both at international and national level. Active and vibrant alumni body, spirited student societies, sports and training facilities distinguish CEME from other institutions and enable us to contribute towards social and technical needs of the country.

ACADEMIC DEPARTMENTS

DEPARTMENT OF ELECTRICAL ENGINEERING

Department of Electrical Engineering (DEE) offers programs both at undergraduate and postgraduate levels. The undergraduate program is based on fundamental and advanced applications related to electrical engineering with an emphasis on circuit design, electronics, electromagnetics, antennas, microwave engineering, communication, artificial intelligence and autonomous systems. The department started its BE Electrical Engineering program in 1981, while the MS program was initiated in 1986, the PhD program for Electrical Engineering started in 2000. Total 2003 students have graduated till now and currently 451 are enrolled in BE (EE) program. In post-graduate programs,



total of 512 students have graduated and currently 77 are enrolled in MS program, whereas 30 students have graduated and 16 are enrolled in various streams of PhD in Electrical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

The Department of Mechanical Engineering at College of E&ME was established in 1984. The Department offers BE, MS and PhD degrees in Mechanical Engineering. In MS program, the students have an option to select subjects of their interest from major areas of Design & Manufacturing, Thermo-fluids, Controls and Computational Mechanics. The Department has 21 faculty members, more than 70% of whom are PhDs from reputed international universities. The areas of specialization of faculty members range from Design & Manufacturing to Thermo-fluids and Computational Mechanics. To-date, 1849 BE, 329 MS and 11 PhD students have graduated from the Department. Furthermore, 528 BE, 92 MS and 6 PhD students are currently enrolled in the Department. The department has successfully collaborated with international



universities such as The University of Manchester, UK and Southampton University, UK by securing funding after fierce worldwide competition. Similarly, the Department has a rich history of collaboration with local industry, defense as well as commercial. Students of the Department have not only participated but won accolades in international and local competitions like Shell Eco Marathon in Malaysia and Singapore; Future Flight Design Competition in Turkey; Design Build and Fly Contest at GIKI Pakistan.

DEPARTMENT OF COMPUTER & SOFTWARE ENGINEERING

Computer & Software Engineering (C&SE) is a blend of computer hardware and software design of devices and systems for a broad spectrum of applications in communication system, multimedia systems, medical equipment, e-healthcare, defense system, agriculture and industrial automation etc. DC&SE started its UG program in April 1996 and PG wef 2001 including BECE, MSCE, MSSE, MSAI, PhD CE and PhD SE. DC&SE has been among pioneers of outcome based learning in Pakistan via getting its program accredited by Washington Accord. DC&SE consists of 23 full time academic staff from various discipline of computer engineering including computer architecture, programming, hardware based designs, wireless network and mobile communication, computer networks, digital signal/image processing, data science and embedded system design. DC&SE has so far produced 1677 BE, 897 MS and 48 PhDs. DC&SE has highest number of research publications in any engineering department of NUST. DC&SE has collaborated with various academic research and industrial partners and MOUs have been signed with DICE Analytics Pvt.



Ltd, IBM, M/S Trillium Pakistan Pvt. Ltd etc. DC&SE faculty is also involved in various funded projects in order to transform research and student projects into valuable products to help its society. DC&SE faculty has licensed out 19 IPs related to 04 products to industry with help of NUST technology transfer office. The faculty of DC&SE have published different text books which are being taught at multiple international universities. The faculty and student from the department have won numerous national and international awards including Microsoft imagine cup, Falling walls, APITCA, P@SHA, COMPEEC, BITA, NYS, Softech, NECON, Moblink science fair etc. DC&SE has also been organizing a national level project competition with the title of COMPEEC since 2001.

DEPARTMENT OF MECHATRONICS ENGINEERING

Department of Mechatronics Engineering (DMTS), is a pioneer department that introduced Mechatronics Engineering in Pakistan in the year 1998. It started the MS and PhD program in 2005. The department has been host to National Engineering Robotics Contest which is the biggest robotics contest of Pakistan being held annually since 2003. In 2014 the department has the honor of becoming one of Pakistan's first four OBE accredited programs under Washington Accord. In 2014 the department established the Faiz PLC Lab in collaboration with industry EESINT Pvt Ltd, to give out indus trial training on PLC, SCADA and HMI. In 2018, the department became host to the secretariat of the National Centre of Robotics and Automation. Under this centre, two labs have also been established at College of EME. The department has



been hosting IEEE International Conference on Robotic and Automation in Industry (ICRAI). The department consists of 20 full time highly qualified academic staff. The faculty is dedicated towards imparting best quality teaching and research to its students. The faculty has brought in a total funding of 487 Mn PKR over the years. DMTS has so far produced 1376 UG and 177 PG students. The students of the department have participated and won many National and International events.

DEPARTMENT OF ENGINEERING MANAGEMENT

Department of Engineering Management at the College of E&ME provides an opportunity to graduate engineers of all disciplines to prepare themselves with latest principles and techniques of management preparing them adequately to shoulder the responsibilities of technical leadership positions in today's technology driven organizations. The department envisions to drive productivity through management in the society and therefore follows a purpose tailored curriculum aided by collaborative arrangements. These engineers are then candidates for the positions of Chief Executive Officer (CEO), Chief Operating Officers (COOs), Chief Technical Officers (CTOs), and other Technical Management positions in high tech service and industrial



organizations. Their services are utilized by national & international public / private enterprises and defense organizations to conduct their functions efficiently and effectively. The department started its Master program in 2006 while PhD program was introduced in the year 2009. So far 16 PhD and 364 MS scholars have completed their degrees. The department holds one MS and 8 PhD qualified faculty.

DEPARTMENT OF BASIC SCIENCES & HUMANITIES

The Department of Basic Sciences & Humanities (DBS&H) is dedicated to equipping students with a solid understanding of core scientific principles and essential mathematical tools, while fostering well-rounded personal development. Established in 1993 to support engineering disciplines, DBS&H has expanded its mission by launching its first postgraduate programs in 2023, offering a pioneering MS and PhD in Applied Mathematics. This unique program prepares graduates for successful careers in today's industrial and business sectors by promoting collaborative research between technology-driven fields and mathematics. DBS&H is proud of its



accomplished faculty, which includes 18 members, 14 of whom hold PhDs. With over 550 international publications and more than 14,000 citations.

ASME - EFX 2024

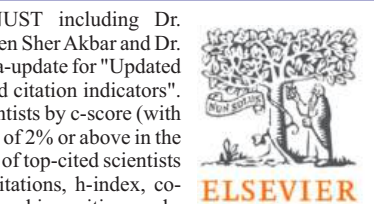
DME organized National Level Competition, ASME EFX, organized by CEME ASME Students Chapter in collaboration with ASME International. It hosted the 1st ever Auto Show of CEME. Student section was awarded the "Section Achievement Award" for our outstanding accomplishments during 2023-24. This prestigious award granted to very few selected student sections out of over 270 worldwide. We are proud to be among them, recognized for our dedication to following procedures, maintaining

communication with ASME International, and offering valuable programs and activities to support our community.



ELSEVIER RANKING

4 faculty member/scientist ex CoEME-NUST including Dr. Muhammad Yasin, Dr. Hassan Elahi, Dr. Noreen Sher Akbar and Dr. Imran Akhtar are featured in August 2024 data-update for "Updated science-wide author databases of standardized citation indicators". The selection is based on the top 100,000 scientists by c-score (with and without self-citations) or a percentile rank of 2% or above in the sub-field. This is a publicly available database of top-cited scientists that provides standardized information on citations, h-index, co-authorship, citations to papers in different authorship positions and a composite indicator (c-score).



NERC 2024

The last two decades have seen tremendous activity in the field of robotics. In order to promote robotics in Pakistan, the Department of Mechatronics Engineering, NUST College of Electrical and Mechanical Engineering has been holding National Engineering Robotics Contest (NERC) since 2003 (https://nerc.ceme.nust.edu.pk). This year 20th edition of this competition washed from 09th

to 13th July in which more than 250 teams participated from all over Pakistan. The five days event had twelve categories including Indigenous robots, Modular robots for schools and universities, Ready-to-Race for schools and universities, Robowars, Sumowars and Aero Line-of-Sight and Aero FPV for schools and universities.

JUDGE AT ZINDAGI PRIZE

NS Sanaullah Afzal was the youngest Judge amongst all C level judges and was honored to achieve award from CEO Noman Azhar, Zindagi. It was regional competition held at HITECH University. Due to his consistent follow up with startup investors and head hunters, NS Sanaullah Afzal was proud to be called for this great appreciation.



HIGHLIGHTS 2024

STUDENTS GRADUATING

Department	UG	MS	PhD
Electrical Engineering	113	36	1
Mechanical Engineering	117	6	-
Computer Engineering	86	43	3
Mechatronics Engineering	68	17	-
Engineering Management	-	27	-

NATIONAL CENTRE OF ROBOTICS AND AUTOMATION (NCRA)

The National Centre of Robotics and Automation (NCRA) is a PSDP project worth 1.295 Bn under the umbrella of HEC. is a consortium of 11 labs established in 13 Universities of Pakistan Centred at College of E&ME. Among major objectives are national capacity development R&D, Problem Solving through technology commercialization and licensing, shared services to academia, startups and industrial partners and Human Resource Development in Robotics and Automation. The secretariat of NCRA manages the 11 labs established in 13 Universities across Pakistan, the centre has labs established at College of E&ME, FAST NUCES, Air University, LUMS, ITU, MUE, MUST, NEDUET, UET Taxila, UET Peshawar, UET Lahore, UCP Lahore and BUTEM. The secretariat also hosts the IEEE International Conference on Robotics and Automation and Annual Robotics Startup challenge. In addition to the lab 9 x Research fund projects are also supported by NCRA in various Universities across Pakistan. College of E&ME host two labs i.e Robot Design and Development Lab and



Robot Maker Lab. The Robot Design and Development Lab is working in the domain of Unmanned systems, Biomedical Robotics and Agri Robotics and serves as a fusion Centre where real world (preferably local) problems are picked, given to a multidisciplinary team, and lead till commercialization. The lab has also participated in establishing the "National Drone Policy" with the Ministry of Science and Technology which was presented to the Prime Minister of Pakistan on 21st December 2021. The lab provides design services and manufacturing services in terms of dual layer PCB making, 3D printing, injections molding, CNC etc.

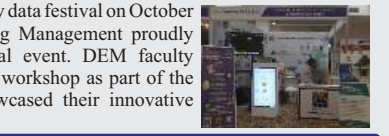
PAKISTAN STARTUP CUP-2022

ClassNotes is a startup founded by Ozaal Zesha (CEO), BE Mechatronics Engineering Class of 2016, CEME and Mashaal Iqbal Masha Allah (Founding Member & Head of Content), BE Computer Engineering, Class of 2024, CEME were finalists in Pakistan Startup Cup - a nationwide competition between startup business models. So far more than 900 startups have benefited from coaching, business preparation activities and mentoring. This year, narrowing down to the Top 21 business ideas, final pitches were held on July 20-22, 2022, at Marriott Islamabad.



NUST CoEME AT DATAFEST 2024

The Pakistan Bureau of Statistics hosted a two-day data festival on October 21st and 22nd. The Department of Engineering Management proudly represented NUST at this prestigious, national event. DEM faculty members conducted an insightful and engaging workshop as part of the data festival. The students of DEM also showcased their innovative research projects.



GETINNOVATIVE

GetInnovative, co-funded by the European Union, hosted Industry 4.0 & IoT Based Project Competition in UET Taxila this year. In which, 40+ teams have taken a part in four categories (AI, Automation, Robotics, and IoT). DC&SE team GEMZON has taken part in the AI category. Team GEMZON dominated all projects and got 1st position in all domains.



IMUN

In 2020, Fatima Ahmed was selected as Pakistan's Ambassador to the International Model United Nations (IMUN) Conferences, where 64 countries participated. As a Pakistan's ambassador, she represented Pakistan on a global platform, enhancing the country's image and leading a team from across the nation.



TAMGHA-E-IMTIAZ

Dr Usman Qamar, Tenured Professor at NUST College of Electrical & Mechanical (CEME) has been conferred Tamgha-e-Imtiaz (AI & Data Science) by Govt of Pakistan. He will receive this on 23 Mar 2025. This award is in recognition of Prof. Usman Qamar's contributions towards AI and Data Science in the field of engineering.



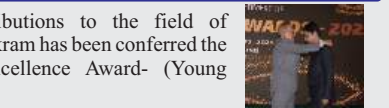
WORLD YOUTH FESTIVAL 2024 RUSSIA

Muhammad Ibrahim DE-MTS 45 A had the distinct honor of representing Pakistan at the prestigious World Youth Festival hosted in Russia, where he was among the elite group of only 8 students selected nationwide. His journey to this global platform was marked by a rigorous selection process, including an MCQ test focusing on science and technology, followed by an in-depth online interview exploring aspects of Russian culture. From February 28th to March 8th 2024, he immersed himself in this enriching experience, fully sponsored by the Russian Government.



PEC EXCELLENCE AWARD

In recognition of his meritorious contributions to the field of Engineering, Prof. Dr. Muhammad Usman Akram has been conferred the Pakistan Engineering Council (PEC) Excellence Award- (Young Technopreneur) by the President of Pakistan.



DIGITAL PAKISTAN LAB (DPL)

DPL is a specialty lab at CEME working under Planning Commission's Vision 2025, working with its partner labs under National Center in Big Data and Cloud Computing (NCBC) at LUMS. Its Core Projects & Application Areas include Industry 4.0, Cloud Computing, Efficient Energy Systems (ACES) and E-Healthcare.



CENTER OF INNOVATION AND ENTREPRENEURSHIP (ICE)

CEME has established a Center of Innovation and Entrepreneurship (ICE) that focuses on Preparing Healthy Future Disruptive Leaders, doing Society Relevant Research & Innovation, Developing Entrepreneurial Eco-system and Building Happy Families and Societies. The center is well known for its workshops on Next Generation Sequencing (NGS) and Stress Capital Workshops (SCW).



AIRTECH 24

Air Tech '24 is designed to be the largest Technical Olympiad of Pakistan. It encourages the practical implementation of engineering and applied sciences through a range of technical events in the fields of mechatronics, mechanical, electrical, computer sciences & applied sciences. Muhammad Umer Sajid is the Winner of AIRTECH 24 Roboline competition held at Air university Islamabad.



DYNAMO DAREDEVIL

Team "Dynamo Daredevil" emerged victorious in the 2024 cricket tournament, competing against two other teams. The winning squad comprised Ansa (44 Mts), Khadija Zahra (44 CE), Rozeena Ashraf (44 EE), Rimsha Mubarak (44 EE), and Areej Fatima (44 EE). Their impressive teamwork and skills led them to clinch the championship title in this exciting competition.



HULT PRIZE

Hult prize 2024 (held on 20th February) is an international event conducted in NUST EME. 13 teams participated in round one from which 5 teams got selected for the second round and the winning team "SUGAR GREEN" comprised of Aqsa Shabbir and Hiba Farhan from 44-EE-A were the winners.

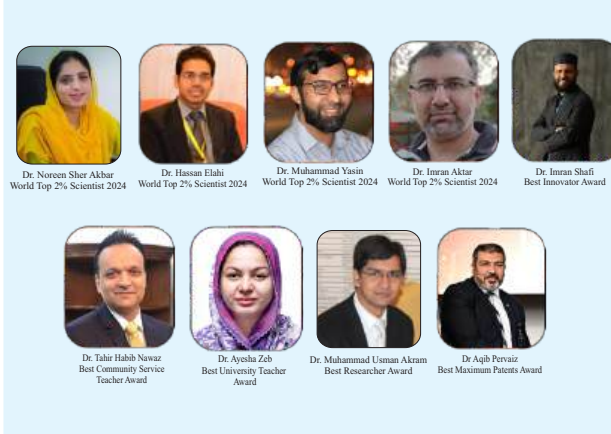


NUSTAG

A team from NUST Automotive Group led by Dr Raja Amer Azim, secured 1st position in Shell Pakistan organized, national level Shell Eco-Marathon (SEM) event in the 'Gasoline - Urban Concept' category. The event was held in Oct 2021



FACULTY AWARDS 2024



MEDALISTS 2024

