

ISSUE NO. 3

AUG 2022

THE TECHNOMAG

INNOVATING THE WORLD OF ENGINEERING
THE FUTURE, ONE DESIGN AT A TIME

HIGHLIGHTS

- ARTICLES
- ALUMNI SECTION
- EVENTS BY ACE
- ROMANTICISING THE BRANCH

SCIENCE CAN AMUSE AND FASCINATE US
ALL, BUT IT IS ENGINEERING THAT
CHANGES THE WORLD

ASSOCIATION OF CIVIL ENGINEERS
HARCOURT BUTLER TECHNICAL UNIVERSITY



THE TECHNOMAG

A Magazine from Association of Civil Engineers

DEPARTMENT OF CIVIL ENGINEERING
HARCOURT BUTLER TECHNICAL
UNIVERSITY, KANPUR

TECHNOMAG

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CONVOCATION



FROM

HEAD OF CIVIL ENGINEERING DEPARTMENT



DR. DIPTEEK PARMAR **PROFESSOR & HEAD CIVIL ENGINEERING DEPARTMENT, HBTU**

Esteemed Readers,

With great delight, I extend a hearty welcome to each discerning reader of The Technicon, our department's prestigious magazine, proudly presented under the esteemed banner of the Association of Civil Engineers (ACE) at HBTU Kanpur.

As the custodian of our department's academic pursuits, I am profoundly moved by the unwavering dedication and fervor exhibited by both our esteemed faculty and exceptional students in propelling the domain of civil engineering to soaring heights. The Technicon stands as a beacon, illuminating our collective achievements, pioneering research, and avant-garde projects that epitomize the ethos of innovation and progress coursing through our department's veins.

Within the intricate tapestry of The Technicon's pages lies a trove of knowledge waiting to be explored, a testament to our commitment to fostering a culture of erudition, collaboration, and ingenuity. Each article, meticulously crafted project spotlight, and illuminating interview serves as a testament to the rich tapestry of expertise and the unwavering pursuit of excellence that defines our department.

I extend my heartfelt gratitude to the diligent editorial team, the visionary contributors, and all those who labor tirelessly behind the scenes in crafting each edition of The Technicon. Your dedication and unyielding commitment are the bedrock upon which our magazine's eminence rests.

As we embark on this latest odyssey through the pages of The Technicon, I implore each reader to embark upon this literary voyage with an open mind and a fervent spirit of inquiry. May the narratives contained within these hallowed pages kindle the flames of passion for civil engineering and serve as a clarion call to push the boundaries of innovation ever further.

In closing, I extend my deepest appreciation to each of you for your steadfast support and unwavering commitment to our department's journey. Together, let us continue to scale the lofty peaks of achievement and set new benchmarks for excellence.

With warm regards

ASSOCIATION OF CIVIL ENGINEERING
HARCOURT BUTLER TECHNICAL UNIVERSITY



FROM

THE CONVENER'S DESK

DR. KAVITA TANDON **CONVENER, ASSOCIATION OF CIVIL ENGINEERS, HBTU**

Greetings from the Association of Civil Engineers (ACE) at HBTU Kanpur!

As we embark on a journey through the latest edition of our esteemed magazine, "The Technomag," it fills me with boundless joy to unveil the recent strides and forthcoming adventures of our society. First and foremost, I extend my heartfelt appreciation to our esteemed members, whose unwavering dedication serves as the bedrock of ACE's success. Your steadfast commitment to the field of civil engineering is not only commendable but also inspirational.

In our relentless pursuit of knowledge and practical expertise, ACE is thrilled to announce a series of upcoming events that promise to be nothing short of extraordinary. From captivating guest lectures by industry luminaries to immersive workshops and exhilarating field trips, our aim is to provide enriching experiences that complement our academic endeavors. Keep a vigilant eye on our communication channels for further details, and ensure to mark your calendars!

Moreover, ACE flourishes on the collaborative efforts of our members. Your invaluable ideas and suggestions serve as the catalyst for our society's growth and evolution. I earnestly encourage you to share your thoughts with us openly – together, we can sculpt a dynamic community that fosters both learning and innovation.

As we traverse through these exhilarating times, I implore each and every member to sustain active engagement with ACE. Follow us on our social media platforms, engage in our discussions, and become an indispensable part of shaping the future landscape of civil engineering at HBTU Kanpur.

In conclusion, I extend my heartfelt gratitude to each one of you for your unwavering support and boundless enthusiasm. Let us continue to forge bridges – both metaphorically and tangibly – as we embark on this enriching journey together.

Warmest regards,



ASSOCIATION OF CIVIL ENGINEERS
HARCOURT BUTLER TECHNICAL UNIVERSITY

NEW FACES OF THE DEPARTMENT



Dr. Rajiv Ganguly

Ph.D from Trinity College, Dublin,
Specialization: Environmental Engineering, Air
Quality Modelling, Waste Management

Mrs. Kajol Priya

Specialization: Structural Engineering, Structural Health
Monitoring, Concrete Structures



Ms. Shivani Koshtha

Specialization: Environmental Engineering and Management,

Mr. Jai Prakash Nayak

Specialization: Environmental Engineering River water quality
assessment & modelling, Environmental Flow assessment & Solid
waste management



Mr. Manish Kumar

Specialization: Structural Engineering, Structural Dynamics

Dr. Kavita Tandon

Specialization: Geotechnical Engineering, Soil Dynamics, Machine
Foundation, Earthquake Geotechnical Engineering



AWARDS IN CED



Prof. Dipteek Parmar

Prof. Dipteek Parmar has been awarded the **Best Discussion Paper Award in the Journal of Hydrologic Engineering, American Society of Civil Engineering** of year 2021



Dr. Rajiv Ganguly

Dr. Rajiv Ganguly has been awarded the **Outstanding Reviewer Award in the Journal of Hazardous, Toxic and Radioactive Waste, American Society of Civil Engineering** of year 2021



Prof. Pradeep Kumar

Pro. Pradeep Kumar has been awarded the **Scroll of the Honour award of the Institution of Engineers** of the year 2020



Prof. Sunil Kumar

Prof. Sunil Kumar and Dr. Rajiv Ganguly have crossed **1000 Google scholar citations**



articles

RELATED TO CIVIL ENGINEERING



THE TECHNOMAG

ASSOCIATION OF CIVIL ENGINEERS
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AMAZING FACTS

The joy of engineering is to find a straight line on a double logarithmic diagram.

- Thomas Koenig

IT DATES BACK TO ANCIENT EGYPT

The first engineer in recorded history was an Egyptian named Imhotep. He is thought to have designed a cut-stone, step pyramid for pharaoh Djoser in 2700 BC. Later the Romans mastered civil engineering design by building aqueducts to carry water from distant sources into towns. Chinese emperors built the Great Wall of China to protect their territory. In medieval Europe there were two major groups of civil engineers; guilds and military engineers who were hired by kings or feudal lords to build castles and fortifications.

THE TERM CIVIL ENGINEERING WAS BORN IN 1770

In 1770, to differentiate himself from military engineers, John Smeaton was first to proclaim that he and what he did was, in fact, civil engineering. As the accepted father of civil engineering, he experimented with different kinds of concrete mixes (using Portland cement) which have significantly influenced the use of building materials in construction today.

IT'S NOT ALL ABOVE GROUND

When many people think of Civil Engineering, they think of roads, bridges, and buildings. But a large portion of civil engineering is underground. This includes water pipes and sewerage networks., for example, but also the foundations of buildings which can sometimes stretch many meters underground.

English civil engineer of the 19th century, Isambard Kingdom Brunel, was one of the first civil engineers to consider constructing a railway tunnel underneath a river which opened up many more possibilities for travel, and advanced the science of tunnel construction.



DR. KAVITA TANDON

ENGINEERING MARVELS

ATAL SETU: LONGEST BRIDGE OF INDIA

Location: Mumbai; Length: 21.8 km

Atal Setu is the longest bridge and the longest sea bridge in India. It is a 6-lane bridge with about 16.5 km of length over sea and about 5.5 km of length on land. PM Narendra Modi recently inaugurated the bridge, which is set to reduce travel time from Mumbai to Pune, Goa and South India.

The Mumbai Trans Harbour Link (MTHL), also known as the Atal Bihari Vajpayee Sewri Nhava Sheva Atal Setu, will be open for public commute from Saturday. MTHL, India's longest sea bridge covering 21.8 km out of which 16.5 km is over the sea, is expected to see the movement of more than 70,000 vehicles every day.

Unveiling the six-lane Atal Setu on Friday, Prime Minister Narendra Modi said: "The inauguration of Atal Setu shows India's infrastructural prowess and underscores the country's trajectory towards a 'Viksit Bharat'. This project employed around 17,000 labourers and 1,500 engineers while also creating employment opportunities in the transport and construction industries."



ENGINEERING MARVELS

PAMBAN BRIDGE

Nestled in the southern reaches of Tamil Nadu, the Pamban Bridge emerges from the tranquil waters of the Palk Strait, a symbol of both engineering prowess and historical legacy. For over a century, this majestic railway bridge has stood as a testament to human ingenuity, connecting the mainland to the sacred shores of Rameswaram Island.

Constructed in 1914 during the colonial era, the Pamban Bridge was a pioneering feat of engineering, heralding India's first sea bridge. Its significance was immediate and profound, providing a vital artery for trade, transportation, and pilgrimage to Rameswaram, revered by millions for its spiritual sanctity.

What distinguishes the Pamban Bridge is its architectural elegance. A Scherzer-type rolling bascule bridge, it spans 2.3 kilometers, adorned with 143 spans that stretch across the shimmering strait. Its central section, a marvel of mechanical innovation, can be raised to accommodate passing ships, a choreographed dance of engineering precision.

Yet, the Pamban Bridge is more than mere infrastructure. It is a lifeline, binding communities and cultures across the expanse of the strait. For generations, it has been the conduit through which pilgrims seek solace in Rameswaram's temples, fishermen cast their nets, and traders ply their goods.

In the annals of history, the Pamban Bridge has weathered the tides of time. Renovated and modernized in 2007 by the Indian Railways, it stands as a testament to resilience and adaptation, fortified to meet the demands of a rapidly evolving world.

But beyond its functional utility, the Pamban Bridge is a sight to behold, drawing tourists and travelers from far and wide. The spectacle of its raised central section, against the backdrop of azure waters and azure skies, is a symphony of engineering and aesthetics, a timeless ode to human endeavor.

As the sun sets on the horizon, casting a golden glow upon the waters below, the Pamban Bridge stands as a silent sentinel, a bridge between the past and the present, the known and the unknown. It is a reminder of the indomitable spirit of human ambition and the enduring legacy of connectivity that spans across generations.

In the heart of Tamil Nadu, amidst the ebb and flow of the Palk Strait, the Pamban Bridge stands as a beacon of progress, unity, and hope, beckoning all who cross its path to marvel at the wonders of the human imagination.



ENGINEERING SCIENCES AWARD - 2021

SHANTI SWAROOP BHATNAGAR AWARD:



The Shanti Swarup Bhatnagar Award in Engineering Sciences is one of the most prestigious recognitions bestowed upon scientists and engineers in India. Named after the eminent Indian scientist, the award is administered by the Council of Scientific and Industrial Research (CSIR) to honor individuals who have made outstanding contributions to the field of engineering.

Established in 1958, the award aims to celebrate excellence in scientific research and technological innovation across various disciplines within engineering. It recognizes individuals who have demonstrated exceptional skill, creativity, and dedication in advancing engineering knowledge and solving complex real-world problems.

Recipients of the Shanti Swarup Bhatnagar Award in Engineering Sciences are selected through a rigorous process, with emphasis placed on the originality, impact, and significance of their contributions to the field. The award not only serves as a mark of distinction for the awardees but also highlights the critical role of engineering in driving societal progress and economic development.

Over the years, the Shanti Swarup Bhatnagar Award in Engineering Sciences has been instrumental in honoring trailblazing engineers whose work has had a transformative impact on diverse domains, including aerospace, civil engineering, computer science, electronics, and materials science, among others.

By recognizing and celebrating excellence in engineering research, the award inspires future generations of scientists and engineers to push the boundaries of knowledge and innovation, thereby contributing to India's scientific and technological advancement on the global stage.

ENGINEERING SCIENCES AWARD - 2021



Dr. Debdeep Mukhopadhyay was honored with the prestigious Engineering Sciences Award for the year 2021 in recognition of his exceptional contributions to the field of engineering. Dr. Mukhopadhyay is a distinguished researcher and academician whose work has significantly impacted the domain of cybersecurity, particularly in the realm of hardware security and cryptographic engineering.

As a faculty member at the Indian Institute of Technology (IIT), Kharagpur, Dr. Mukhopadhyay has made pioneering advancements in the development of secure hardware and cryptographic protocols, critical for safeguarding sensitive information in today's interconnected digital world. His research has focused on addressing vulnerabilities in hardware systems, such as integrated circuits and microprocessors, to mitigate the risks of cyberattacks and data breaches.

Dr. Mukhopadhyay's expertise lies at the intersection of computer science, electronics, and mathematics, where he has devised novel algorithms and methodologies to enhance the security of electronic devices and communication networks. His work has not only expanded the frontiers of knowledge in engineering sciences but also has practical implications for industries ranging from cybersecurity to digital communications and beyond.

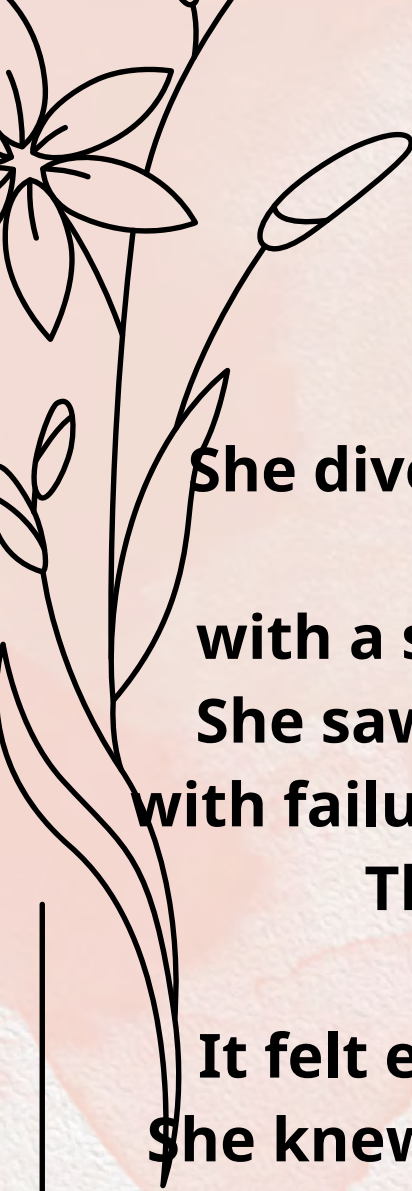
Through his research, publications, and academic leadership, Dr. Mukhopadhyay has earned widespread acclaim both nationally and internationally. His contributions have not only bolstered India's standing in the field of engineering but have also positioned him as a leading figure in the global discourse on cybersecurity and hardware security.

Dr. Mukhopadhyay's receipt of the Engineering Sciences Award underscores his profound impact on the field and serves as a testament to his relentless pursuit of excellence in engineering research and innovation.

STUDENT CORNER



READING IS THE WINDOW
TO THE WORLD



Melancholy

**She dived in the ocean of loneliness and
despair,
with a sweeping darkness, heavy in air.
She saw the shore where waves collide,
with failure and secrets hidden deep inside.
There was still a ray of light.**

So what?

**It felt easy to sink more than anything.
She knew the consequences of her dreams
any dreams awakened will be hushed...
those growing hopes will be brushed.
Saddened memories etched her that time
She vanished...
what remained were the echoes of distant
chime.**

-Anhsita Shukla

2nd BTech CE

कोठारी बंधु

कि मैंकैसेभलू जाऊं उन्हें
बो दो कोठारी भाई थे,
जि न्होंनेराम मदिं दिर की खाति र
अपनी जवानी मेंप्राण गवं ाए थे,
कोलकाता के थेदोनों सपतू
२२ साल की उम्र थी,
अपनेसपनों की डगर मोड
उन्होंनेजवानी मेंप्राणों की बाजी लगायी थी,

नि कल पड़ेथेघर सेवो
कि मदिं दिर वहींबनाएंगे,
और चाहेसीना छलनी हो जाए
मगर भगबा वहींभहराएंगें,

कि मैंकैसेभलू जाऊं उन्हें
बो दो कोठारी भाई थे,
जि न्होंनेराम मदिं दिर की खाति र
अपनी जवानी मेंप्राण गवं ाए थे,
दश्ुमन भाग रहेथेकि सी तरह जान बचाकर
और दोनों सपतू आगेबढ़ रहेथेसीना तानकर,
इसी भीषण लड़ाई मेंघायल हो रहेलोग थे
तभी दोनों बंधं ुबीच सेनि कल कर पहुंचेमस्जि द के पास थे,

कि मैंकैसेभलू जाऊं उन्हें
बो दो कोठारी भाई थे,
जि न्होंनेराम मदिं दिर की खाति र
अपनी जवानी मेंप्राण गवं ाए थे,

कि देखतेदेखतेपहुंच गए वो मस्जि द के पार
और झट सेऊपर पहुंचकर फहरा दि या सनातन धर्म की सान,
इसी बीच दश्ुमन की गोली उनके सीनेसेटकराई थी
तभी दोनों बंधं ओु के मखु सेनि कल पड़ी चीख थी

-Nishant Rajput

1st BTech CE

Events @ ACE

Association of Civil Engineers
PRESENTS



TECHNOBUZZ
21st MAY 2022

BIG PRIZES | FUN QUIZ | TECHNICAL QUIZ

Do you have what it takes to be the ultimate quiz champion? Then, gather your friends and join us for the win at UAC Civil Department. This is your chance to show off your knowledge and take part in a friendly competition.

DEPARTMENT OF CIVIL ENGINEERING
LECTURE HALL COMPLEX

@ACE_HBTU

Association of Civil Engineers
presents



GRADUATION PARTY
CLASS OF 2023

28 MAY CED LAWN
2023
4 PM - 6 PM

Department of Civil Engineering

#ACE_HBTU

2021-22

Association of Civil Engineers
PRESENTS

SKILLENZIA
ONLINE EVENT

Show your captivating photographs and presenting posters on structural designs or construction methods

CONTEST DEADLINE
24TH JAN

WINNERS ANNOUNCED
26TH JAN

EXCITING GOALS FOR WINNER

Upload your Entries on Google Form given below.

GIVE US YOUR SKILLS



Presents

DEBAT-athon



ALL YEAR
16TH MARCH, 2024

10:00 AM TO 3:00 PM | SEMINAR HALL, CED

PHOTO GALLERY



★ CIVIL ENGINEERING
TOPPER

CONVOCAATION 2022



Akanksha Verma

Aman Kumar



Jigyasa Sharma

#civil
engineers

MEET THE TEAM



Convener- Dr. Kavita Tandon



President - Ankit Singh



Vice President - Atishay Jain



General Secretary
Soniya Chowdhary



Design Secretary
Ashish Ahirwar



T&P Representative
Tushar Garg



Sports Secretary
Nikhil Yadav



Literary Secretary
Pushendra



Cultural Secretary
Khushi

MEET THE TEAM

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Abhishek Srivastava

SOCIAL MEDIA ASSOCIATE

Anshita Shukla

CULTURAL ASSOCIATE

Deependra Arya

LITERARY ASSOCIATE

Suraj Tripathi

SPORTS ASSOCIATE

Aryan Yadav

PUBLIC RELATION ASSOCIATE

Khushi Singh



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कानपुर

1921-2021

TECHNOMAG

ANNUAL MAGAZINE 2022

VOL-1