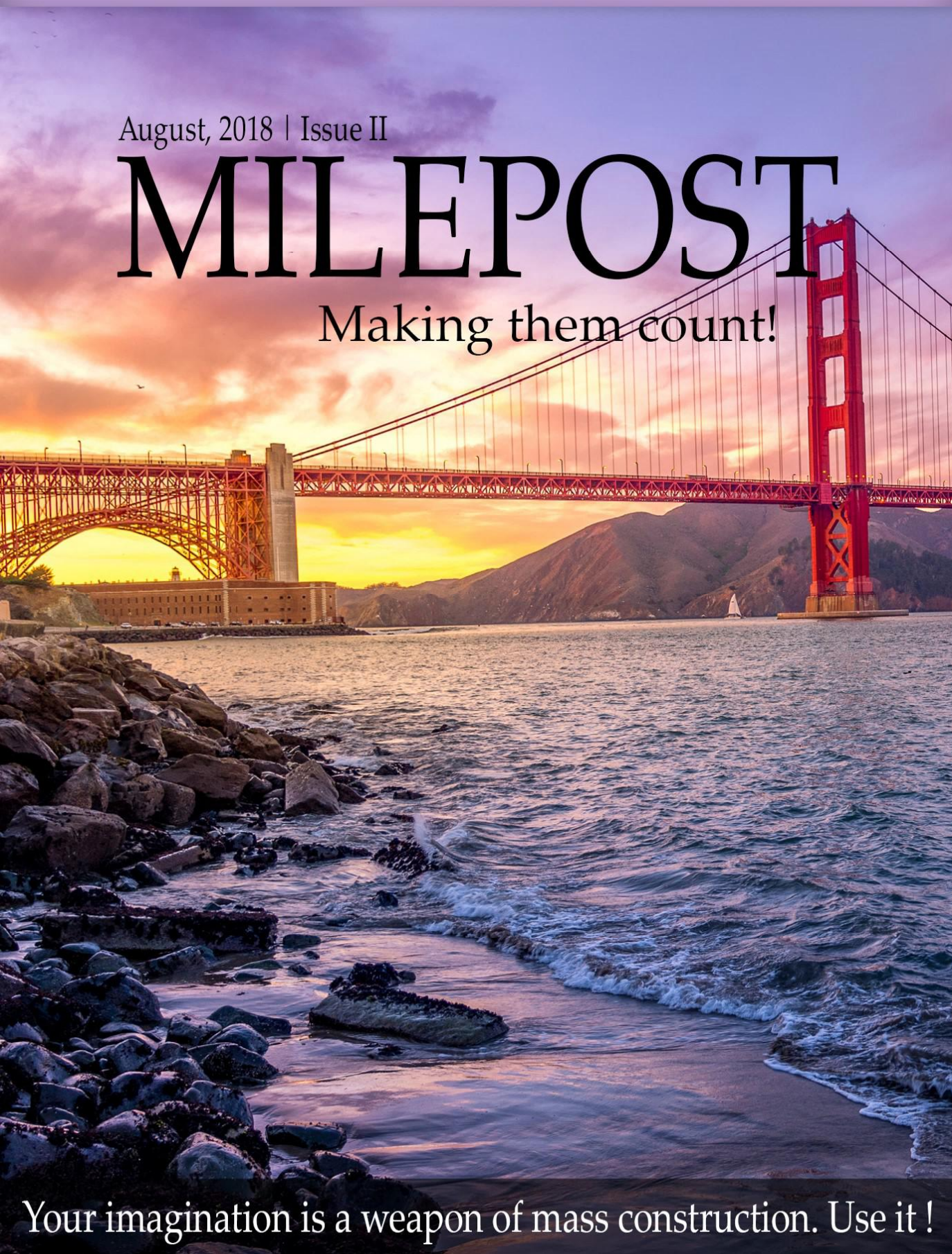
Civil and Environmetal Engineering | IITP



August, 2018 | Issue II

MILEPOST

Making them count!

Your imagination is a weapon of mass construction. Use it !

Published by the Association of Civil Engineers (ACE), Department of Civil and Environmental Engineering at IIT Patna, MilePost is an annual magazine that seeks to highlight the happenings of Civil Engineering community throughout the year.

Team MilePost

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Head's Message

It gives me immense pleasure to present the second edition of 'MilePost', the annual magazine of the Department of Civil and Environmental Engineering, Indian Institute of Technology Patna brought out by the Association of Civil Engineers (ACE). The Department is constantly striving for the all-round development of the students through its endless efforts, and the 'MilePost' is one such endeavor. Inspiring innovation and nurturing creativity are the major purposes of bringing out this magazine. An annual magazine of the Department is an authentic record of various activities undertaken by the Department throughout the year. This also provides an insight into the creativities and achievements of our students, staff and faculty members. As we are committed, this magazine is proving to be a medium to provide proper acknowledgment of all these efforts and contributions for 'Making them count'. Even a cursory glance at the contents of the magazine is enough to showcase that the Department is progressing by leaps and bounds, not only in academics and research but also in extra-curricular activities.

The past year was full of various activities in academic, co-curricular, extra-curricular as well as research and developments. The most significant development includes the creation of the Centre of Earthquake Engineering Research (CEER) under the aegis of the Department with the funds from the Members of Parliament Local Area Development Scheme (MPLADS). Through various activities, the CEER is devoted to fostering a sense of shared commitment among the diverse communities dedicated to earthquake risk management, promoting research, facilitating the exchange of information among members. Another significant achievement I would like to highlight is that the excellent placement record of our students in the last year through the Training and Placement Cell, which is incidentally headed by a young and energetic faculty member from the Department.

I would like to express my heartfelt appreciation to the Team ACE, who graciously and generously provided words of wisdom to share with our readers by working day in and day out. It is our great good fortune to enjoy such incredible support from the Editorial Team for bringing out the second edition of the magazine. I would like to thank the Editorial Team specifically for introducing new segments like Expert Advice, Alumni Diaries, etc. I sincerely hope that this tradition of bringing out an annual magazine of the Department will be carried forward in the future with the same vigor. It is my sincere appeal to the readers to support this noble journey by providing your valuable suggestions and feedback for improvisation.

Happy Reading!

Subrata Hait
(Dr. Subrata Hait, HoD, CEE)

Faculty-In-Charge, ACE's Message

It gives me immense pleasure and pride to announce the release of the second issue of departmental magazine, MilePost. Publication of such magazines are extremely valuable on academic campuses in enhancing, developing and honing the writing and editorial skills amongst the literary-minded students. DCEE's MilePost is going to give the same pleasure to all the brilliant minds who traverse through the portals of this temple of learning.

Association of Civil Engineers (ACE) has always been an active medium to bridge the gap between faculties and students. The enthusiasm of the committee has bought good harmony among faculties and students, which will eventually take the department to a new level. The interest and dedication the members showed, has to be commended because of whose efforts ACE remains one of the most active clubs in IIT Patna. Right from its inception ACE has organized many technical and cultural events every year which kept encouraging the whole Civil fraternity at IIT Patna. In academic year 2018-19, ACE is planning to add more activities and events such as technical fest at national level and technical activity groups. Such a holistic environment has to be provided to every student so that they can recognize their interest and ACE gives its complete effort to make students aware of the kind of research and technology innovations happening in the current field.

We (ACE) are extremely determined to help Department of Civil and Environmental Engineering at IIT PATNA cross new land marks and reach greater heights. I am glad to welcome students with more interest in bringing the article with more bright concepts and innovative ideas in the next issue.

Vaibhav

(Dr. Vaibhav Singhal, FIC-ACE)

Team's Note

Dear Readers,

The much awaited second edition of MilePost has finally landed after months of desire, positive attitude, and persistence. The journey started with a dormant idea of providing a mirror to the department's expedition and as said and done, MilePost Issue I emerged to be a successful venture into the same. The immensely encouraging feedback for the first edition fuelled the current team to enhance the magazine towards achieving a mark of quality.

MilePost Issue II has a decent overview of the department ranging from its laboratory facilities, department's achievements, publications, sponsored projects and intra-departmental activities undertaken in the period of June 2017 to July 2018. It also features interviews of Dr. Hemant B. Kaushik and Dr. Amarnath Hegde while they provided expert advice with respect to higher education and placements respectively. This issue also explores the intricacies when the sky had fallen down in the case of various bridge failures with specific reference to the Varanasi and Vivekananda bridge. It becomes even more relatable while we have the torchbearers of the institution share their experience as graduate students, industrial personnel, interns etc.

We strongly believe that these efforts of publication of the magazine are extremely valuable in academic institutions to improve the literary mindedness of the students and also help in nurturing and honing the editorial skills within us. We shall be ever indebted to the faculty of the department who have found this activity worthwhile and supported us throughout the journey. Their expert comments and feedback have helped us improve the magazine from a professional point of view.

Given our firm belief in the ideology of no failures but feedback, we welcome all your suggestions and feedback, which can be mailed to the email ID of the undersigned.

Happy Reading !!!

Sincere Regards,
Team ACE

Departmental Profile

"Innovating sustainable solutions and technology catering to the general infrastructural needs of the country and the eastern region in specific."

Welcome to the Department of Civil and Environmental (DCEE) at the Indian Institute of Technology Patna (IIT Patna). The Department comprises of five independent disciplines, namely, Structural Engineering, Geotechnical Engineering, Transportation Engineering, Water Resources Engineering, and Environmental Engineering. DCEE is one of the new departments established in 2013 that offers a four-year course (Bachelor's degree) and two-year course (Master's degree) in Civil Engineering. The department also provides doctoral programmes on emerging research areas (viz., Structural Engineering, Geotechnical Engineering, Railway Engineering, Water Resources Engineering, and Environmental Engineering).

At DCEE, students are inspired to actively indulge and participate in a learning process that extends beyond the four walls of the classroom. The course structure encourages students to pursue their interests in both the industrial and research field. The department has setup an excellent platform for involvement and support for basic and advanced research projects. The department actively provides technical advisory support through a wide range of R&D projects and experienced consultancy to organizations.

The development and rise of DCEE has been exponential. Five years since its induction it has made a definite mark in the field of Civil and Environmental Engineering. There has been significant progress in various research endeavours. Many members of our Civil fraternity have been bestowed with numerous awards and recognitions for their work. The DCEE of IIT Patna is now considered as one of the highest authorities on consultation regarding industrial projects.

The DCEE has taken a huge step forward by establishing a Centre for Earthquake Engineering Research (CEER). The first course on "Earthquake Resistant Design based on recently revised seismic course" saw a huge participation from both the industry and other Educational Institutes.

The fraternity of DCEE hopes to continue its stride forward making a mark on the industry and further help in improving the lifestyle of our society.

Lab Facilites

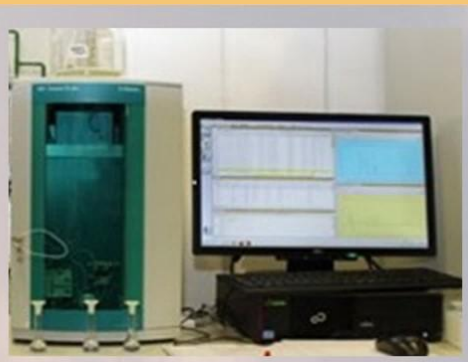
"Knowledge is of no value unless you put it into practice."

WATER RESOURCES LABORATORY

Water Resources laboratory is one of the most esteemed and dynamic centers for education and research in the Department of Civil and Environmental Engineering. The department envisions establishing itself as one of the best research platforms in the field of groundwater resource management, saltwater intrusion modeling, sediment transport analysis and many more. Hydraulics and water resource laboratory is equipped with most of the sophisticated modern instruments such as visualization seepage velocity, flow through pipe network, rainfall simulator etc. The department also facilitates computational fluid dynamics laboratory including high-performance computing system. Groundwater Modeling System (GMS), Mike Hydro (Integrated 1D & 2D flood modelling) with 25 user licenses, Arc GIS v.10.5.1 are also installed in the laboratory to conduct advanced research in this field.

ENVIRONMENTAL ENGINEERING LABORATORY

The Environmental Engineering laboratory offers students hands-on exposure to EPA approved water and wastewater quality testing procedures as is normally done at a water and wastewater treatment plant. It is equipped with Inductively Coupled Plasma Mass Spectrometry, Atomic Absorption Spectrometer, UV spectrophotometers, Ion chromatography, turbidimeter, COD reactors, BOD incubators, bacterial incubators, pH meters, conductivity meters, dissolved oxygen probe, and other equipment dedicated to water and wastewater quality analysis.

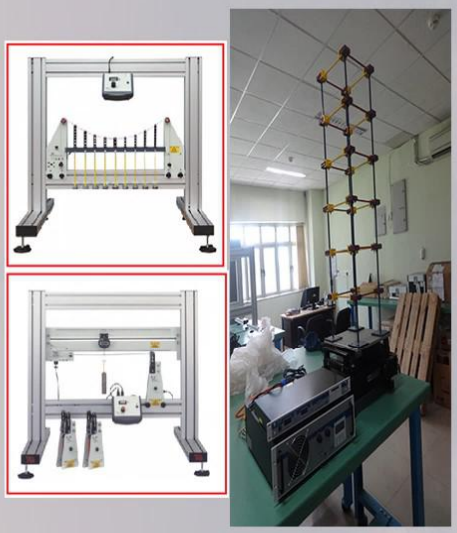


TRANSPORTATION ENGINEERING LABORATORY

The Transportation Engineering Laboratory at IIT Patna is equipped with modern instruments and facilities to carry out both simple and sophisticated experiments which support research and teaching activities in the transportation field. While various road construction instruments help in constructing pavements, with the help of software-based instruments we are able to analyse the traffic on the pavement. Trazer Suite, Radar Gun, Bitumen Extractor, Marshall Stability Test are some of the major instruments in the laboratory.

STRUCTURAL ENGINEERING & CONCRETE TECHNOLOGY LABORATORY

Welcome to the Structural Engineering Laboratories, Department of Civil Engineering at IIT Patna! These laboratories are established for conducting experiments on small-to-large scale specimens as well as carrying out analytical research using high-computing systems. The research areas include structural engineering, smart structures, structural dynamics, earthquake engineering, and construction technology and management. The primary aim is to foster experimental studies on model/prototype of structural elements and assemblies under various static and dynamic loading conditions and the analysis of load-deformation behaviour of structures including their post-peak strength and deformability up to the failure. These laboratories are being continuously modernized to accomplish research needs in the advanced field of structural engineering. Experimental setups like Reaction frames, UTM, Electro-dynamic shaker and accelerometers are available in this laboratory.



GEOTECHNICAL ENGINEERING LABORATORY

The Geotechnical Engineering Laboratory supports research, teaching and consultancy activities in the geotechnical field to develop cost-effective and sustainable Geotechnical infrastructure. It is well equipped with the most fundamental to the most sophisticated analytical instruments and facilities to carry out cost-effective ground improvement and foundation work. The laboratory equipments are available for determining the index properties like specific gravity, moisture content, density and consistency limits namely, liquid, plastic and shrinkage limits of soil and the engineering properties like permeability, consolidation, compressibility, shear strength and bearing capacity of soil. Some of the available apparatus are CPT, SPT & Plate load test (static & dynamic).

SOIL DYNAMICS LABORATORY

Soil dynamics lab works to develop safe, cost-effective and sustainable design solutions for the earthquake resistant Geotechnical structure in and around the region. This lab is supported by the Geotechnical lab and can be effectively used to study the dynamic deformation characteristics of the soil which are used to calculate the seismic response of the soil, earth structures and soil structure interaction effects by carrying out soil microzonation, soil liquefaction and amplification studies. The lab is fully equipped with software tools like Geo-studio and Geo-techpedia and apparatus like Shake table to aid its research activities. Laboratory determination of soil properties can be used in addition to confirm the results of field measurements.

RAILWAY ENGINEERING LABORATORY

The Railway Engineering Laboratory works with a vision of developing the required design standards for constructing high-speed rail tracks in India. It is equipped with the state-of-the-art large-scale direct shear and large-scale pullout apparatus that are explicitly designed to study the behaviour of various rail track foundation interfaces under track operating conditions. The other goals of the laboratory are to assess the stability of the existing rail tracks and suggest suitable low-cost remedial solutions to allow the movement of semi high-speed trains and devise strategies to recycle the degraded ballast to reduce further quarrying of rock.

GEOMATICS ENGINEERING LABORATORY

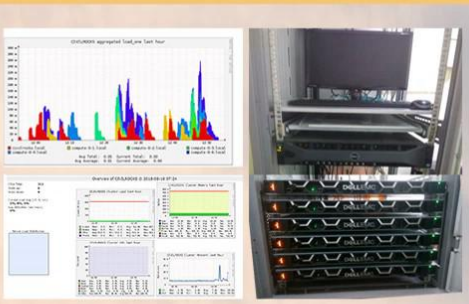
The aim of the Geomatics lab is to strengthen field-based applications of Remote Sensing and Geographical Information Systems (GIS) by making use of latest Information and Communication Technology (ICT) and also contributing to the interpretation, planning, monitoring, evaluation of projects implemented and provide decision support systems to the planners and policy makers. Its main aim is the precise transfer of points on the ground once the planning and mapping are done. Some instruments of the lab are DGPS (Differential Global Positioning System), Total station, Distometer, Planimeter etc.

CAD LABORATORY

The CAD laboratory of DCEE is the hub of all the necessary and required Computational facilities. Equipped with 14 high-tech computer systems (16GB RAM, Intel(R) Core(TM) i7-7700 CPU @ 3.60GHz), the CAD lab is one of the most well-furnished labs of IIT Patna. The systems have various licensed fundamental civil engineering softwares such as STAAD-Pro & STAAD-Foundation, ABAQUS 6.12, AutoCAD 2015, Matlab R2016a, SAP2000v16, GeoStudio, LISCAD, Plaxis 2D & 3D, FLAC 3D & 2D.

HIGH PERFORMANCE COMPUTING @ Water Resources Laboratory

A brand new entry into the department is the HPC (High Performance Computing) system which is a high-end functionality procured for parallel computing facility. It has 5 compute nodes and 1 master node with a capacity of 312 CPU. Glimpses of the server can be found alongside.



Experimental setup to find unsymmetrical bending and shear centre

Shake table

Automatic compactor

Static triaxial test apparatus

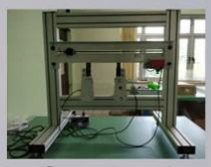
SM200 cutting mill

Bending Moments in a Portal Frame

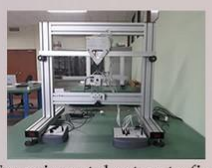
Atomic Absorption Spectrometer

Digital Compression Testing Machine (300 T).

Bernoulli Apparatus


Continous and Indeterminate Beam

Rotor


Experimental setup to find bending stress in beam

Reaction frame

Pin jointed framework (truss system)

Peristaltic Pump

Centrifuge 5804

Nano particle tracking analyser

ICPMS

Total organic carbon analyser

UV Visible Spectrophotometer

Bitumen extractor

Fraction Collector

Universal Testing Machine

Marshall's stability apparatus

Euler Buckling of a Column

Disclaimer : This is not an extensive coverage of all the instruments. For more specific details regarding each laboratory, Contact the following Junior Technical Superintendents :

Kailash Kumar Poddar (Structural) - kailashkumar@iitp.ac.in
Nurul Hasan (Geotechnical) - nurul@iitp.ac.in
Deepak Singh (Environemental) - sdeepak@iitp.ac.in
Amit Shankar Sant (Water Resources) - amishankar@iitp.ac.in
Shailendra Kumar Singh (Transportation) - shail@iitp.ac.in

Department of Civil and Environmental Engineering Welcomes two new Faculty Members!

Dr. Vishal Deshpande

Dr. Vishal Deshpande did his bachelors in Civil Engineering from Samrat Ashok Technological Institute Vidisha in the year 2008. Thereafter, he completed his M. Tech. from Indian Institute of Technology Guwahati in the year 2010. During Masters, he worked on the mathematical modelling of Instantaneous Unit Hydrograph (IUH). After that, he was involved in his Doctoral research in Indian Institute of Technology Guwahati, where he studied hydrodynamics of seepage affected alluvial channels. Upon completion of his PhD in 2015, he worked as a research fellow to study the resistance characteristics of alluvial channels with mobile bed vegetation in Indian Institute of Technology Guwahati for more than 1.5 years. In October 2016, Dr. Deshpande was awarded the prestigious Kreitman Fellowship to carry out postdoctoral research at the Ben-Gurion University of the Negev, Beer Sheva, Israel. There he worked for 1 year in a research project funded by the Israeli Science Foundation (ISF) to investigate the turbulent flow structures and sediment transport during flash flood events in an ephemeral river channel.

Dr. Sudhir Varma

Dr. Sudhir Varma has joined the Department of Civil and Environmental Engineering as Assistant Professor in August 2018. His research interests include characterization of pavement materials, constitutive modelling of pavements, asphalt mix design, non-destructive testing on pavements and durability and performance of asphalt mixes. Dr. Sudhir Varma did his bachelors in Civil Engineering from University of Mumbai in the year 2008. Thereafter, he completed his M.Tech. from Indian Institute of Technology Kanpur in 2011. During his Masters, he worked on mathematical modelling of yielding mechanism in granular materials used in pavement construction. After completing his masters, he received Michigan State University Engineering fellowship to pursue PhD in Pavement Engineering. During his Doctoral research in Michigan State University he worked on research funded by agencies such as Federal Highway Administration, Michigan Department of Transportation, and Michigan Department of Environmental Quality. Upon completion of his PhD in 2015, he worked as Assistant Pavement Expert in ANAS S.p.A International, technical consultant on road infrastructure to The State of Qatar Government. He worked with ANAS S.p.A International for 3 years, conducting forensic investigations, pavement material performance evaluation, mix design, pavement design and developing design guidelines.

Awards & Achievements

Work of **Mr. Mahipal, Mr. Hasan Ahmed Faisal** and **Dr. Raychoudhury**, selected for Gandhian Young Technological Innovation (GYTI) Award/Appreciation 2018

Dr. Amarnath Hegde has been selected for the prestigious "IEI YOUNG ENGINEERS AWARD 2017-2018" in Civil Engineering discipline.

Best Paper Award to Mr. Rohan Kumar Choudhary in ETWREE'17
Title of the paper: Vermicomposting of primary clarified tannery sludge employing Eisenia fetida
Author: Rohan Kumar Choudhary, Ankita Swati and Subrata Hait

Bharat Vikas Award 2017: Dr. Subrata Hait was conferred with the Bharat Vikas Award 2017 for his contribution in the field of solid and hazardous waste management.

Dr. Om Prakash has won the Best Paper Award of the session in ASRES International conference on Modeling, Analysis and Optimization (MAO - 2018) at Amsterdam, Netherlands.

Dr. Subrata Hait has been awarded 'Outstanding Scientist in Environmental Engineering' Award for the year 2018

From the Achiever's Desk

Dr. Trishikhi Raychoudhury
Assistant Professor
Department of
Civil & Environmental Engineering
Indian Institute Of Technology Patna

GANDHIAN YOUNG TECHNOLOGICAL INNOVATION AWARD

Mr. Mahipal Inaniyan
M.Tech (Env. Engg.)
Batch of 2018

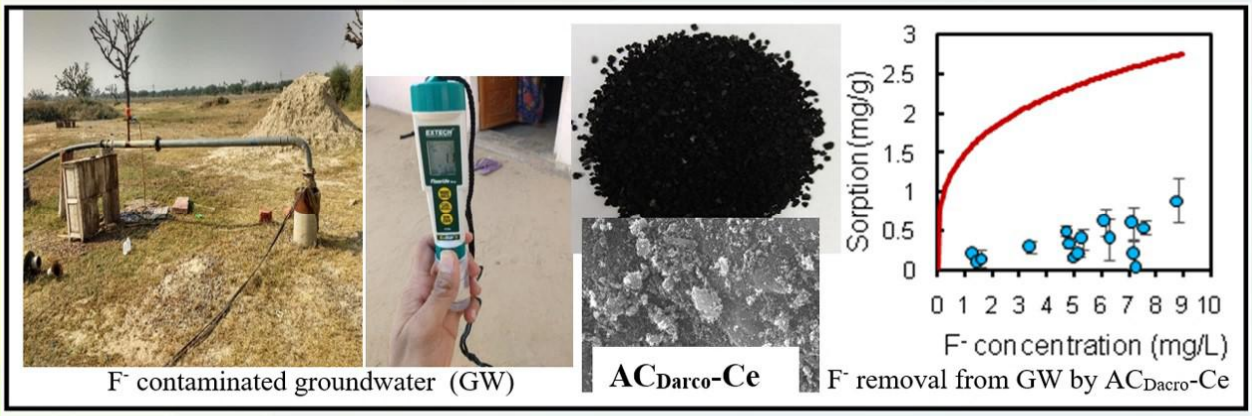
Mr. Hasan Ahmed Faisal
B.Tech (Civil Engg.)
Batch of 2017

The research work conducted in Dr. Raychoudhury's Research Group on **'Cerium impregnated activated carbon composite as a filtering material for fluoride removal from groundwater'** which was carried out by Mr. Mahipal, and Mr. Hasan Ahmed Faisal has received the **Gandhian Young Technological Innovation (GYTI) Appreciation Award, 2018**. Mr. Mahipal presented his work in Rashtrapati Bhavan, New Delhi followed by the award ceremony in March 2018.

Fluoride contamination in the groundwater is a well-known problem worldwide. The maximum permissible limit of fluoride in drinking water is 1.5 mg/L. The issue has reached an alarming concern in many states of India. Rajasthan, Telangana, and Gujarat have more than 50 % district affected with high fluoride contamination in groundwater. The occurrence of excess fluoride in some eastern states of India such as Bihar, Assam, West Bengal is also reported in recent time. To address this issue, several studies have focused on different technologies such as adsorption, reverse osmosis, ion exchange and electrocoagulation. However, still, there is a need to investigate efficient, compact and environmental friendly technology for removal of fluoride from groundwater.

The study conducted within the research group is mainly focused on synthesizing and application of cerium metal impregnated granular activated carbon (charcoal) based novel composite as an adsorbent for fluoride removal. The main advantage of this material is that it has high adsorption capacity for fluoride and, the composite material can be used directly as the packing material in the filter column.

Given the high mechanical resistance of granular activated carbon, the composite can be installed in the filter column, which can make the technology more compact and cost-effective. Our study shows that around 4.5 gm of the composite can treat up to 722 mL of water in the filter column.



F⁻ contaminated groundwater (GW) | AC_{Darco}-Ce | F⁻ removal from GW by AC_{Dacro}-Ce

At present, the main challenges are that the efficiency of the material is not very good under fluoride contaminated natural groundwater condition. The material is tried with sample collected from several locations in India. We identified that the groundwater contaminated with fluoride is also rich in alkalinity with high pH. High alkalinity and pH are the main factors inhibiting fluoride removal efficiency by the composite in groundwater. Thus, there is a scope to work further on how to bring down the alkalinity and pH of the groundwater without altering other physicochemical characteristics of water, so that the composite can work efficiently. Alternatively, someone can also explore synthesizing other novel material that can work under those adverse conditions.

It is self-evident that the research has significant social impact related to fluoride contamination and safe drinking water. In addition to fluoride, arsenic and heavy metals, emerging contaminants are few vital water quality issues on which the group is working on. We believe that it is equally important to look for possible environmental implication of any proposed novel technology to achieve a sustainable solution. Thus, the research in the group is oriented towards that direction.

Contact email: trishikhi@ iitp.ac.in; trishirc@gmail.com

Research Highlights

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Ongoing Sponsored Projects

Title	Microzonation of Jaipur City Based on Shear Wave Velocity
Principal Investigator	Dr. Pradipta Chakrabortty
Sponsoring Agency	Department of Science & Technology, Govt. of India
Title	Varied Profiling of Bio-macromolecules for Energy and Byproduct Assessment Employing Electrochemical Tools
Principal Investigator	Dr. Subrata Hait
Sponsoring Agency	SERB, DST, GoI
Title	Development of Ganga Grams under Namami Gange Programme with Support of Technical Institutions
Principal Investigator	Dr. Subrata Hait
Sponsoring Agency	MHRD & NMCG, MoWRRD&GR
Title	Development of Structural Health Monitoring Technique for Existing Bridges in Bihar: A Pilot Study
Principal Investigator	Dr. Vaibhav Singhal and Dr. Koushik Roy
Sponsoring Agency	Bihar Rajya Pul Nirman Nigam, Govt. of Bihar
Title	Arsenic immobilization by in-situ synthesis of iron-based adsorbent under reducing environment within porous media
Principal Investigator	Dr. Trishikhi Raychoudhury
Sponsoring Agency	DST-WTI (Water Technology Initiative)
Title	Evaluate the fate and transport and implication of engineered nanoparticle retention in porous media
Principal Investigator	Dr. Trishikhi Raychoudhury
Sponsoring Agency	DST-SERB (Start-up Research Grant)
Title	Seismic response, damage and vulnerability of structures in Patna for future earthquakes.
Principal Investigator	Dr. Avik Samanta
Sponsoring Agency	SERB, DST, GoI

Invited Talks & Lectures

Dr. Saikat Sarkar
Visiting Assistant Professor IIT Bhubaneswar
"A discrete formulation for macroscopic modelling"

Dr. Debojyoti Pandit
Postdoctoral researcher, IIT Madras
"A general framwork for large deflection of beams using moment-curvature based models"

Dr. Nimisha Joshi
Postdoctoral researcher, University of Manchester, U.K.
'Nanoparticles: applications, mobility and their environmental impact'

Dr. Bachu Anilkumar
Sr. Project Officer, ITS Lab, DCE, IIT Madras
"Use of Vehicle Location Data for Advanced Public Transportation Systems Applications"

Dr. Siddhartha Sengupta
Associate Professor, CEE, BIT Mesra
"Influence of Strain Rate and Compactive Effort on Strength of Oil Contaminated Cohesive Soil"

Dr. Babloo Chaudhary
Postdoctoral Researcher, Kyoto University, Japan
"Resilient Foundation Model against Earthquake and Tsunami"

The CEER Chapter

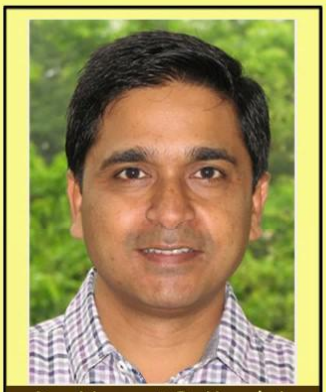
'Centre for Earthquake Engineering Research'

DCEE added a new feather to its research by setting up a Centre for Earthquake Engineering Research (CEER). Marking the formation of the same, a short course on "Earthquake Resistant Design based on recently revised Seismic Codes" had been conducted from 5th-7th April, 2018. Earthquakes have caused vast devastation of infrastructure systems and facilities and have exposed the deficiencies in the existing design and construction practices. The aim of the course was to abreast the participants with fundamentals of seismic design procedures for multi-storied reinforced concrete buildings. At the end of the course, the participants took back an overall understanding about the seismic design concepts, procedure and current code of practices, understood the impact of the recently revised Indian seismic code IS 1893 and IS 13920 on the design of RC building and a better appreciation of various construction details with respect to seismic response. The resource faculty for the same have been Dr. Hemant B Kaushik, Dr. Vaibhav Singhal, Dr. Koushik Roy, Dr. Avik Samanta, Dr. Amarnath Hegde, Dr. Pradipta Chakrabortty, Dr. Ritwik Ghoshal, Dr. Ramakrishna Bag. The course has witnessed participants both from the industry and various Educational Institutions.

Course Convenor
Dr. VAIBHAV SINGHAL
Assistant Professor

Course Co-Convenor
Dr. KOUSHIK ROY
Assistant Professor

Learning from his Experience...



Dr. Hemant B. Kaushik
Associate Professor
Department of Civil Engineering
Indian Institute of Technology
Guwahati

Dr. Hemant B. Kaushik is a very renowned professor working in the area of the Earthquake Resistant Design, Non-Linear Behaviour of Structures, Retrofitting, Earthquake Damage Surveys etc. He has been awarded the INAE Young Associate and also the INAE Young Engineer Award. He is the Associate Scribe of "Earthquake Engineering Practice" a quarterly periodical published by National Information Center of Earthquake Engineering at Indian Institute of Technology Kanpur, India. While he has many more accolades to his name we have been lucky to meet him while he delivered lectures during the short course conducted by CEER at IIT Patna. Following is a sneak peek into his ideologies.

What are your views on the construction of our campus?

› I have been to this new campus two or three times now and one thing that I see is that it has developed exponentially in quite a small period of time. The construction is amazing and the campus has a lot of space. I would tell that this campus is still in its developing stage. Given that this is one of the recently established IITs, it's still very greatly developed. I don't think that the fewer number of faculties and researches conducted will be a problem as in the coming years as a greater number of B.Tech, M.Tech and Ph.D students will join in.

You have done a specialization in Structural Engineering. Can you please tell us the reason for opting the same?

› To be very honest with you, Civil Engineering was not my dream branch. In fact, I did not want to do engineering at all. Due to some reasons, I had to opt for engineering and thus landed into this world of Civil Engineering. I have completed both my B.E and M.Tech from my hometown, Nagpur. While in my M.Tech days, I met my Ph.D supervisor and got very impressed by him during his lectures and I decided to do something similar to what he had done i.e. Structural Engineering.

Could you please narrate your experience as a Project Engineer at M/S Hindustan Builders.

› After B.Tech, to be very frank, I did not understand much about Civil Engineering. In my days there were not many facilities like Industrial visits, Practical Labs, and Hands-on working experience. So, I decided to work on an Industrial site to know more about how actually things worked out there. I learnt a lot about various topics. In other words, the things that I did not learn throughout my B.Tech, I learnt them in these two years while working on Industrial sites. Let me tell you, those two years were very difficult for me as a Civil engineer on site and that was when I decided to pursue higher studies.

What is your take on the current scenario, where students opt for a Management degree or go for the Civil Services?

› According to me, every student must decide on their own about their careers after B.Tech. If the candidate is interested in doing MBA or give a try to IAS or IES exams, then they must do it with full dedication, but he/she must not forget that B.Tech being their primary degree cannot be neglected. So, firstly, one must make sure that he/she does well in their primary degree and then start studying for future career options rather than neglecting their engineering education.

What are your views about the industrial visits conducted during the 4 years of undergraduate education?

› Industrial visits are of utmost importance for students of every branch. As I said earlier, practice teaches a student what books cannot. Students of IIT Patna are blessed because IIT Patna is a developing campus and thus has lots of construction sites in progress. So, you students don't need to visit any other construction sites.

What are the areas in Civil engineering that need a lot more research?

› There are many areas that haven't been touched yet. This is because of lack of practical knowledge of the students. There is a huge gap between what is taught theoretically and what actually happens on sites.

How do you see the future of Structural Engineering and other unaddressed departments of Civil Engineering in India?

› If you go by the Government Sanction these days, they have a huge plan for smart cities, modern transportation systems, rural development and what not! So, you guys have a great future ahead.

At last, what advice would you like to give to the future generation of Engineers in India?

› Patience and perseverance play a key role in the success of a person's life. What this generation lacks is patience. In my days, when there was a great demand for computer science engineers, other graduates were not highly paid. At the start, even though I wasn't paid very handsomely, my main motive was to learn rather than to earn. Moreover i preffered a workplace was right in my hometown. But if you compare today's situation with our days, you will see that now-a-days everybody is looking out for a high starting salary. In Civil engineering, your starting salary might be low than other department's engineers but let me tell you, with experience the salary gets higher and you start earning more than others. Experience is what makes a Civil Engineer good.

"Choose a job you love, and you will never have to work a day in your life."

CAUTION : FLYOVER AHEAD!

In a country where infrastructure needs to be built and renewed every year, it is becoming a major challenge to award contracts to companies for small projects where durability is the key. As we take a closer look at all the major bridge failures in the last 10 years, the investigations recursively pointed out two major reasons. One being the use of cheap and substandard construction materials and the other is wilful negligence on the part of both the civic units and the construction companies and to some extent, inadequacies in designing the structures. In this context, we categorically explore the aforementioned causes and scrutify them in relation to two major bridge failures in the recent past (The Vivekananda bridge failure in Kolkata and The Varanasi Bridge collapse).

The Vivekananda Bridge

On March 31st 2016, 'The City of Joy' witnessed its worst accident in the decade with the collapse of the Vivekananda bridge over the busiest commercial district in the country, killing over 26. The construction of the bridge, commissioned in 2009 was supposed to be finished by the end of 2010. While it overshot its deadlines numerous times, when the bridge collapsed, it was only 56% complete. A preliminary enquiry appointed by the state found that the section which collapsed was poorly designed. But later investigations led by a team from IIT-Kharagpur found that not only the section, but the entire 2.2Km long bridge was executed on a design, that had not been vetted by the appointed independent expert (In this case, Jadavpur university). Not only that, but findings show that the impact value of the steel used was a mere 9.33J, whereas the requisite value was 25J. Even after the submitted findings suggested that the bridge is to be razed, as salvaging it would not be viable, the bridge still stands today, constantly posing a threat to the safety of citizens.

The Varanasi Bridge

The recent collapse of a railway-over-bridge over a heavily congested road in Varanasi which left over 15 dead, yet again lays the bare skeletons of negligence that plague the public construction sector.

A few months before, the 2,261 metre long bridge collapsed, an unusual directive was sent to the UPSBC (a state owned PWD offshoot with 183 ongoing projects worth over ₹5,500 Crores), to have the project expedited and completed a full 6 months before the deadline. Considering the way that Government companies function, this was unusual, but considering that the elections were just a year away, it wasn't. Primary investigations revealed that, the girders that collapsed were not secured with cross beams that were meant to lock them, neither was the heavy traffic flow on the road diverted, nor were any personnel placed to divert the vehicles. It was learnt that not less than 5 letters were sent by the Traffic Police to UPSBC, requesting assistance in managing the traffic flow, but this later turned into a blame game, with the Company retaliating that they had written several complaint letters themselves (requesting that the local vendors be shifted, and the traffic be controlled). The point of collapse has a railway station on one side and a bus-stop on another, the constant tremors caused the girder to slip out of place, and when a crane working on a nearby pier created a tremor after hitting a section of the girders, the beams holding the girders buckled, and the section slide traversely and fell directly on the traffic below.

Conclusions

While there haven't been any generalised studies on bridge failures in the country, available data shows that there are at least 7 structural collapses in the country every day, and all things considered, that's really a big number! As far as legal proceedings are concerned, it's under study in both the cases. A complete chargesheet is yet pending with the police in the Vivekananda bridge case and in The Varanasi bridge failure, it has been limited to firing Civic officials and filing a preliminary report. No headway is expected in either of them, as the cases usually end up getting buried under loads of pending cases in the courts. With no blacklisting of the companies responsible, they continue to take up projects with as much negligence as they start with. Until an end is brought to executive interference in the working of the PWDs, a fair and transparent system is designed for awarding contracts and underperforming companies are blacklisted, there can be no hope for a true change in the situation.

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2) https://thewire.in/cities/kolkata-flyover-ivrcl-kmda-steel and others.....

The Placement Farrago unreeled...

Dr. Amarnath Hegde
Professor In-charge
Training and Placement Cell
Indian Institute of Technology
Patna

Dr. Amarnath Hegde is currently an Assistant Professor in the Department of Civil Engineering, IIT Patna. His research interests are Ground Improvement, Computational Geotechnics, Geosynthetics and Rock Mechanics and Tunneling. Being a young and dynamic person, he is an ideal to many of his students. Team ACE shall always be indebted to him for the kind of encouragement he has been providing us all through the years. His appointment as the Professor In-Charge, Training and Placement Cell in 2017 has brought about an immense change in the placement scenario of the Institute. The magazine turns more resourceful as we feature his expert advice pertaining to placements.

How would you rate this year's placement season as compared to previous years?

› This year's placement was better than any other year in the history of IIT PATNA. Almost 90% of the students are already placed. If you compare with the last year it was around 70 to 75% and the number of companies visited is almost doubled. So, this year's placement has been the best so far.

What do you think should be the structure of the TPC for better and more efficient functioning?

› Well, more and more student volunteers are required. It is run by students, for the students. More the number of volunteers, better will be the placement. It depends upon the efficiency of the volunteers. The professor in charge, faculty in charge, office staff, placement officers, all of them are here just to facilitate but the companies are contacted by the student head volunteers. Hence the student volunteers play an important role in increasing the efficiency of the placement cell.

What were the major obstacles you faced throughout the year and how did you overcome them?

› Till the previous year there was a lack of staff in the TPC office. So, this year we recruited the key positions for the Training and Placement Cell. The placement season starts in the month of September but we made sure that we had started contacting all the companies since April. Another major obstacle was the remote location of our campus (30 Km away from Patna). Adding to the same, unfortunately Patna is not as reputed and developed compared to other cities like Bombay, Hyderabad, Delhi etc. To overcome this challenge, we started providing amenities and free accommodation to the visiting companies. We extended the best hospitality from our side to ensure the return of those companies in the upcoming years as well.

Do you have any special plans for this year's placement session?

› My target is to reach at 100%. First of all, we will repeat the procedure that we did last year. But

this year we have planned to increase the placement percentage of M.Tech students as well. Previous year it was around 60%, it can be considered good but I aim to make the M.Tech placement percentage at par with the B.Tech placements.

What are the skills that the industry is looking for in the candidates currently? Is it any different in context to the Civil Engineering industry?

› This is the most common question of every aspirant. While attitude plays a pivotal role, the student has to be technically sound and possess good communication skills so as to be able to stand a chance in the interview. Even internships play an important role in your placement, but the relevancy of those internships to your academics is very important because I have seen some students who do irrelevant internships, which doesn't turn out to be much fruitful. Civil engineering core companies prefer candidates having internships, adequate field knowledge, basic aptitude and those who are able to relate their studies to the real world. Whenever you are free, go to a construction site, ask questions to the engineer present. During placement, not only your CPI but also your technical on-field knowledge, whether or not you can apply classroom knowledge in real life situations, is judged. If you have a very good internship in a related field, you will definitely have an upper hand.

How far is the industry considerate of research internships which students do?

› To be honest, companies prefer industrial internships over research internships. Basically, research internships in IITs help you in your further studies after graduation. So, if you are interested in doing Masters or Ph.D, then research internships do help you in getting an upper hand. But sometimes companies do appreciate these research internships.

What are some general reasons a student gets rejected by a company?

› Students get rejected for many reasons. The main reason being that students create fake biodatas. They mention that they have done an internship (which they haven't) in their CV. When it goes to the HR and he gets into the details, he immediately knows whether the candidate is lying or not. So please try not to fake any detail in your CV. Another reason for candidates being rejected is their poor communication skills. Being well prepared, relaxed and good communication skills can help you better your chances at an interview.

What were the major trends (if any) you have witnessed with respect to the companies recruiting?

› The thumb rule of companies is to look for a candidate with a good CPI. Your CPI governs most of your CV. If you have a good CPI of 7.5 and above, you have a good chance of getting placed. Higher the CPI, better are your chances of getting selected even if you have certain mistakes in your interview. Those mistakes are overlooked if you have good academic grades. Another important factor is your attitude. Besides having a good CPI, students having self-confidence and a great attitude generally get placed easily.

Is there any advice you would like to offer for the next batch of students gearing up for placements?

› My sincere advice to the students is to start early for placement. The newer IITs have their placement session in the month of September, which is three months earlier than the older IITs. So, the students in older IITs get an entire semester to prepare for their placement interview but that's not the case with us. So, I would suggest that your internship and placement preparations should go parallelly.

How has your experience been as a PIC of Training and Placement Cell? What is your favorite part of your current job and what did you dislike about it?

› Honestly, it was a very challenging task as the position is no less than a hot seat. There are lot of expectations from this post. Everybody comes to an IIT with a mindset that they will get placed easily. But unfortunately, that's not the case. The TPC has to strive for the increase in placement percentage. As you know, last year's placements were not good enough. So, our team had to work very hard to ensure that this year's placements go well. While the overall performance of TPC was quite satisfactory, the post in specific was a great experience altogether.

Alumni Diaries

Amolika Sinha
Batch of 2017
Ph.D @ UNSW SYDNEY

Hey mates!
A couple of months back, "MilePost" managing committee approached me to write a small article which answers a set of questions to share my experience as a student of civil engineering. After procrastinating for a few weeks on what to write for Milepost, one day smoke rose from the keyboard when I realized that the muddle was not what to write but why to write and how to write (Ted talk by Simon Sinek to blame. A must watch). Why do I want to write this?

I want to share the answers to the questions and doubts, which I had when I was a bewildered younger self. Unlike the definition of engineers by Wikipedia, unfortunately, in our country, we all want to be an IITian who will grab a hefty package in a huge IT firm and Civil engineering seems to be the wrong direction to go. Most of the people start trying hard to change their branches in their very first semester but making decisions based on packages is a huge No! Don't restrain yourself with what you are taught in the class. Put into practice what you learn. Being from the first batch of Civil engineering I had loads of doubts and insecurities. I still look back when I managed to bag the internship at the University of New South Wales (UNSW). The immense support of department faculty and the colossal amount of efforts was finally showing results. During my internship, I met another professor who asked me about my Inter IIT T-shirt, stating that he was also an Inter IIT player a few decades back. Karma played again! This erudite professor is my current supervisor. The lesson of the story is to engage yourself in co-curricular activities. Don't limit yourself with just classes and CGPA (Although getting a good CGPA should be your priority).

The biggest advantage you have, being a part of the Civil Engineering Department in IIT Patna, is the immense co-operation. Approach the faculties, Innovation centre, Entrepreneurship Club and ask them to help with your next big idea. IIT Patna is relatively new and the resources are not stellar, and the problem even amplifies if you are a female. But making the best out of what we have, should be our aim.

Currently, I am a PhD student at the UNSW, working on a topic, which I didn't know is a part of civil engineering in my freshman year during graduation. I opted for a direct PhD because I want to learn selectively and out of curiosity. Also, you get funded and scholarships in PhD (let's be brutally honest the most valuable thing after time is money). While I was opting for PhD I majorly considered 3 things, supervisor and research topic, university's reputation and resources, and the country (Visa conditions and cost of living). Doing a masters is also a good option, but everything boils down to one thing. Why do you want to do this?

Unequivocally, IIT Patna shaped me as a person. I met a few of the deftest and humble professors, family-like friends and a lot of inimical people too. The journey was not at all smooth. There were a lot of blunders, faux pas and triumphs but in the end, there were no regrets. Every time you get berated and criticized for your acts, remember what Dumbledore states "There will be a time when we must choose between what is easy and what is right." Never choose what is easy and every time you feel that the easy path is tempting recollect what The Joker (Heath Ledger) says " I believe that whatever doesn't kill you simply makes you stronger."

Pranav Suresh

Batch of 2018

M.S. @. Stanford University

There is this popular acronym for life "BCD", they say that between the B - Birth and D - Death all there are, are the Cs - Choices. In this article, I attempt to write on one such choice of mine of deciding to study further after my undergrad. Civil engineering is too broad to master in our undergrads and to develop focused skills and expertise in a specified aspect for Civil engineering, a master's course is necessary. The aspect of civil engineering I have chosen to specialize on is Construction Management. Rather than writing about the processes involved, I have tried to jot down some key ideas for those looking to or thinking of, pursuing their post-graduation.

For me, personally, the idea of doing Masters was well cemented into my mind even before I started my undergrad. My dream, as I tried to articulate as I kid, was "I want to build BIG structures (with a broad smile on my face and arms extended as far apart I could)" and I just knew that I had to be a Construction Manager for that. With age, although the articulation of the thought matured, the dream remained the same with more sophisticated detailing additions as and when I could grasp them. It was, and is, my dream to BUILD and BUILD BIG. With that thought and some luck in filling up OMR sheets, I ended up at IIT Patna. The four years at IITP transformed me completely as a person and words cannot bring to life the time that was most pivotal in helping me realize my dreams. That is, however, a story for another time.

Coming back now to the topic, my advice to those applying abroad is – "It is YOU and not your scores that matter". It is paramount that everyone understands that you are a mere essay and a set of numbers amongst several thousand others. So, while skimming through you catch interest only being yourself. Also, it is words and only WORDS, that sculpt you and your personality. And again, it is the WORDS that make or break your chances. So, the one takeaway to those applying abroad is learning to use WORDS, learn to tell YOUR STORY in words. That, and only THAT will get you in.

Finally, to every student who is reading this "Enjoy life at IITP dude". Unfortunately, we cannot rewind or fast-forward to change things, so present is a present, enjoy it, live it. Do what you love and love what you do. Please do not spend your precious time on campus never venturing out of your rooms or being a bookworm in the library or just chilling out with no concern for your careers. Please use the time to chisel yourself into a multi-faceted personality ready for the journey of life in the world outside. Finally, never forget to be a good human being.

The ambience for Futures First was great, especially among the non IT students. It was the first company to visit for recruitment for a non-coding job profile. Students were watching YouTube videos for past interview experiences, solving aptitude tests, learning mathematical tricks for calculations for the preparations. The process started with a presentation by the HR members of the company. After that we had an online aptitude test of 49 questions in 35 minutes that was basically a speed and accuracy test with some questions also based on the memory. Afterwards, they selected about 15-20 students out of 97 students for next round. The next rounds were HR rounds. We went to the waiting room where we were given a 5-6 pages booklet containing many questions like 'What are your strength and weakness', 'What is biggest disappointment and accomplishments', 'Why do you want to do this job', etc. Now one by one we were being called by the HR (one on one). Excitation was at its max. I knew that the interview will be stressful so I was fully prepared and confident. My attitude was like "Hoga to thik h nhi to dekha jaega !! ". In the 1st HR round, the interviewer started with basic question about my background, from my CV and the above mentioned booklet. Followed by that he asked me some numerical puzzle which I was unable to answer in given time. So he started putting me down on that thing but I remained confident throughout. Finally he asked me to leave the room. Both the interviewers were basically trying their best to demotivate the candidate. All the candidates were saying "bahut buri le rahe h yrr !!"

After the first round, Now I have to go to the another HR who was supposedly more arrogant and rude which later came out to be true !! He asked me some general HR questions like why do you want to join FF and not any civil job company instead of good pointers, why should I hire you and no the other guy etc. He asked me some situational based questions. He was basically checking whether I have good EQ & IQ, risk taking ability, etc. The interview went on for about 20-25 minutes and then he asked me to leave. After an hour the results were out and I and my other batchmate Gopal got selected. Just after that news, celebration started on both his and mine floor. Around 30-35 friends came to the floor with full of energy and were ready to take my Grand GPL. The celebration went on for more than hour. Later I received well wishes from my family members and friends for my first job. I can't express their feelings in words. I think confidence and a smiling face had made my day.

Akshay Patni

Batch of 2018

Futures First

Intern Diaries

Sumit Kumar Nandan, Research
Professor:- Dr. R.D Garg
Place:- , IIT Roorkee
Duration:- 2 months
" Semi-automated extraction of various objects from high resolution satellite images using MATLAB "

Rahul Jain, Research
Professor:- Dr. Kevin Han
Place:- North Carolina State University
Duration:-3 months
Stipend:- 5000 USD
" Automation in Construction Industries "

Shivpreet Sharma, Research
Professor:- Dr.Neelima Satyam
Place:- , IIT Indore
Duration:- 2 months
" Discrete Element modelling(DEM) and collapse analysis of jointed rock slopes "

Vishal Verma, Research
Professor:- Dr. Abhishek Kumar
Place:- IIT Guwahati
Duration:-2 months
"Determination of initial earth model based on single channel recording to facilitate inversion of field records based on MASW"

Satyaki Barman, Research
Professor:- Prof. Dharamveer Singh
Place :- IIT Bombay
Duration:- 2 months
“Hot and Cold mix designs using Gyratory and Marshall Compaction methods”

Abhinav Gyan, Research
Professor:- Ashish Verma
Place:- IISc Bangalore
Duration:- 2 months
Stipend:- 10000/- per month
“Determination of pedestrian’s personal space in mass religious gatherings- A case study of Kumbhmela”

G. Sahi Darsini, IASc-NASI-INSA-SRF
Professor:- Dr. Tarun Rambha
Place:- IISc Bangalore
Duration:-2 months
Stipend:- 10000/- per month
" Cab Routing and Sharing Algorithms"

Abhinav Sharma, Research
Professor:- Dr. Dharamveer Singh
Place:- IIT Bombay
Duration:-2 months
" Enhancing the performance of bitumen modification techniques by using carbon nanometals "

Rakshit Maheshwari, Research
Professor:- Dr. Dharamveer singh
Place:- IIT Bombay
Duration:-50 days
“ I worked on the rap material that is used for binding aggregates for pavement purposes ”

Vishwajeet Nishad, Research
Professor:- Dr. Dharamveer Singh
Place:- IIT Bombay
Duration:-2 months
"Improvement of the durability properties of bitumen"

Shristi Shreya Singh, Research
Professor:- Dr. Bhanu Prakash Vellanki
Place:- IIT Roorkee
Duration:- 42 Days
Stipend:- 2500/-
“Determining the more dominant method of ozonation at pH 3.7 and 11 and at a range of temperatures in context of Ganga Mathura river ”

Rakesh Raushan, Industrial
Place:- Biharsharif-Mokama section NH-82
Duration:- 45 days
“Underwent basic training at a construction of highway like physical property of of soil sand in lab, test done at site , billing and planning management”

Events and Culture

Freshers Welcome and Open House 2017

" The journey of thousand miles begins with a single step "

The formal freshers' induction into the department began with 'NEEV'. The event saw enthusiastic juniors showing off their talents with card tricks and singing. The year '17 freshmen introduced themselves to the members of the society, speaking about their interests and their future goals. The professors warmly welcomed the freshmen and made the freshers aware of the workings of the department and ACE. The introduction session was followed by fun mini-games designed to help the fraternity to take a break from their hectic academic routines. This brought out some light-hearted and memorable moments with both the students and faculty taking part. Following this, came the much anticipated open-house session where the freshmen and other students eagerly put forward their queries. The topics of discussion ranged from queries on campus life to future career prospects and these were entertained with equal enthusiasm from the professors. The session served its purpose by giving the freshmen an opportunity to meet and interact with the entire fraternity of Civil Engineers on campus and helped strengthen the bonds between them.

A workshop on *'SketchUp'* was conducted during the beginning of semester which was to give a good start to all the freshers out there with inquisitive brains wanting to try something new. This year ACE plans to conduct more such sessions on Civil Engineering Softwares like MATLAB, Risa 2D etc.

Interaction Sessions

Regular interaction and brainstorming are organised by the students of Department of Civil and Environmental Engineering. In these sessions various doubts of students are solved through a healthy discussion on topics ranging from the Internships to career doubts. This is found to help the students immensely and has made them to make some wise choices in their initial academic years.

Teacher's Day celebrated with gusto!

IIT Patna's Civil engineering department celebrated the Teacher's day, the birth anniversary of the second President of India, Dr. Sarvepalli Radhakrishnan, with great enthusiasm. The entire department gathered in the departmental block to celebrate this day. All the faculty members, B.Tech, M.Tech and Ph.D students gathered, in the evening, where the ceremony was initiated by cutting a cake in the fond memory of Dr. Radhakrishnan. The cake cutting was followed by several fun events like Civil Charades in which the audience were to guess the technical names of a Civil related term from the inacted clues. This was followed by a Civil Quiz for the students. Not only the students but also the faculty members actively participated in these events. After this, the Head of the Department addressed the gathering and in the end, the students presented all the faculty members with gifts as a token of appreciation, ending the day in a good note.

"A teacher affects eternity; he can never tell where his influence stops"

Intra-departmental sports

The Civil engineering fraternity believes in extending relationships beyond the four walls of a classroom. This is the main idea behind organising extra-curricular activities such as the Civil Football League, Civil Cricket League and Civil Table Tennis league. This promotes a healthy relationship between the faculty members and students. This event saw enthusiastic participation from all the years alike. Teams were formed involving all the years and were led by the professors. It was a huge success and produced many unforgettable moments.

SITE VISIT

We at ACE firmly believe in imparting education through hands-on engagement and a practical approach to real life situations that students may encounter. To add-on to the vast amount of knowledge the students receive in classrooms, ACE has made it a priority to conduct site-visits on and off the campus as this helps inculcate a strong practical approach from the students. Dr. Vaibhav Singhal guided this years' site visits, helping and enlightening the students with their seasoned experience and understanding of the workings of a construction site. Our fast-growing campus, with numerous ongoing projects served as the ideal field for these site visits.

FAREWELL 2018 : "We will miss you!"

Farewells are always tough, but just like Arsenal bid goodbye to its beloved Wenger, we, the members of the civil engineering fraternity also shared this special moment of mixed feelings with our dear seniors as we bid them goodbye and wished them success and luck for their future. The Farewell 2018 made us disheartened as we saw our seniors leave, but at the same time, it also cheered us that they will be the ones who would bear the bright torch of the Civil and Environmental Engineering department of IIT Patna and convey its potential to the world out there and pave our way into the future. So, putting aside the sad feelings, the department gave a grand Farewell to the passing out batch of 2018 with a smiling face and created moments which would definitely bring a smile on their face when they will think about them later.

THE TEAM (ACE 2017-2018)

Nipoon Gupta (Overall Student Coordinator)
Mohit Singh (Event Coordinator)
Satyam Mishra (Website Coordinator)
G Sahi Darsini (Sub Coordinator)
Satyaki Barman (Sub Coordinator)
Suraj Singh (Event Manager)
Abhinav Sharma (Event Manager)
Vishwajeet Nishad (Event Manager)
Abhinav Gyan (Website Sub coordinator)
Rohit Kumar (Website Sub Coordinator)

THE TEAM (ACE 2018-2019)

G Sahi Darsini (Overall Student Coordinator)
Satyaki Barman (Event Coordinator)
Suraj Singh (Alumni Affairs Coordinator)
Daksh Bhatnagar (Sub Coordinator)
Yash Rawal (Sub Coordinator)
Kaushal Jangir (Event Manager)
Pranav Shirke (Event Manager)
Rakesh Raushan (Event Manager)
Aman Kumar (Website Sub coordinator)
Shivam Prakash (Website Sub Coordinator)

MILEPOST

Making them count!

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Dr. Vaibhav Singhal

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