



IAStructE

news letter

Newsletter of the Indian Association of Structural Engineers
May 2019

Message from the President



Dear Members,

The month of May begins on an auspicious note. 'May-Day', which has a long and varied history, dating back millennia, is celebrated as an International Workers' Day, which grew out of the 19th-century movement for labor rights and an eight-hour work day in the United States.

The governing council of IAStructE had their special GC meeting on May-Day (1st May), where the road map for the next two years of IAStructE discussed and all the office-bearers and professional committee chair-persons were elected for 2019-20. Various activities of the council will now gain momentum as we move ahead with our ambitious plans of actions.

This month was also very special for the country as the general loksabha elections to constitute the 17th Lok Sabha was held in seven phases. The people of India have given another 5 years to the ruling party to build new India. Coming days is likely to see a huge investment on infrastructure and therefore the demand for competent structural engineers is going to get a boost.

This month, country also witnessed the ferocity of Cyclone Fani, which has been classified as an 'extremely severe' cyclone (ESC). The cyclones are classified as 'severe' (MSW of 48-63 knots), 'very severe' (MSW of 64-89 knots), 'extremely severe' (MSW of 90-119 knots) and 'super cyclonic storm' (MSW of 120 knots or more). One knot is equal to 1.8 kmph. This is the 10th such cyclone to hit India in the month of May in past 52 years. Data from the India Meteorological Department (IMD) show that the last time an extremely severe cyclone hit India in May was in 2004. The other years when such cyclones were witnessed in May are: 1968, 1976, 1979, 1982, 1997, 1999 and 2001.

Meanwhile the refresher course on "Building Sustainable Structures: Green Concepts", started on 18th May 2019 and 5 lectures delivered in this month. We hope to continue our effort to organise such courses in future as well.

Thanks and Regards

(Alok Bhowmick)

IAStructE Publication Committee

Chairman : Er. Manoj Mittal
Members : Er. Alok Bhowmick
Er. (Dr) S. Chatterjee
Er. (Dr) Abhay Gupta
Er. A. K. Sharma
Prof. Pradeep K. Ramancharala
Er. Rajiv Ahuja
Er. Amandeep Garg
Er. Anal Seth

Newsletter Editorial Team

Chief Editor : Er. Anal Sheth
Editorial team members : Er. Manoj Mittal
Er. Bhavin Shah
Er. Rajiv Ahuja
Er. Maulesh Shah

Newsletter Contents

- ✚ Technical lectures and workshops
- ✚ Refresher Courses
- ✚ Forthcoming events
- ✚ IAStructE Journal: Call for articles
- ✚ Call for newsletter advertisement
- ✚ Featured Article
- ✚ New IAStructE members
- ✚ About IAStructE
- ✚ Membership Information

Technical Presentation on Chemical resin anchors



The Technical Presentation by Mr Paul Bravery of Fosroc Chemicals (India) Private Limited on the topic "Chemical Resin Anchors" held on 17th May 2019 at New Delhi. He presented the new range of resin anchors for Post Installed Anchors (an upcoming concept) and highlighted the latest European standards, fire testing, seismic testing, LEED approval and VOC testing. Mr Paul also briefed about the bespoke software for designing fixings and reinforcement. Dr. A. K. Mullick, Former Director General, National Council for Cement and Building Materials was the Chief Guest. Dr. Talakokula Visalakshi, Honorary Secretary IAStructE briefed about the IAStructE during the event. The event was organised by Fosroc Chemicals (India) Pvt Ltd with the active support of Indian Association of Structural Engineers & Indian Concrete Institute (New Delhi Centre).

Technical Lecture on Life of Structure: Service Life and Durability Design of Concrete



Technical Lecture by Dr. Bishwajit Bhattacharjee, Professor, Department of Civil Engineering, IIT Delhi on the topic “Life of Structure : Service Life And Durability Design of Concrete” was organized on 23rd May 2019 at New Delhi.

Refresher Course on “Building Sustainable Structures: Green Concepts” (Ongoing)



The Refresher Course on “Building Sustainable Structures: Green Concepts” has been launched on 18th May 2019 at Bennett University, Greater Noida. The course is organized by IAStructE in collaboration with Bennett University and sponsored by AEON Integrated Building Design Consultants LLP. The course will continue till 29th June 2019. The lectures are being held on every Saturday morning from 09:30 AM to 01:45 PM. The course was inaugurated by Mr Sanjay Pant, Director & Head, Civil Engg. Department BIS. Dr Talakokula Visalakshi and Mr Deepak Bansal, IAStructE GC members are the Course Coordinators. 31 delegates have registered for participating in the course. Till now the following speakers have made their presentations:

- Mr. Manoj Mittal, Consulting Civil & Structural Engineer & Immediate Past President IAStructE
- Mr. Sanjay Pant, Director & Head Civil Engg., Bureau of Indian Standards
- Prof. Shashank Bishnoi, Associate Professor, Civil Engg. Department, IIT Delhi
- Prof. Suresh Bhalla, Professor, Civil Engg. Department, IIT Delhi
- Dr. T. Visalakshi, Professor & Head, Civil Engg. Dept. Bennett University

One day workshop on Finite element method using ANSYS, Ahmedabad



The Faculty of Technology at CEPT University in association with the Indian Association of Structural Engineers (Gujarat State Center) organized a one day workshop on Finite element method on 11th May 2019, Saturday. The workshop was attended by students and academicians of various universities in Gujarat. The workshop started with an introduction of the finite element method by Prof. Anal Sheth followed by a session on how to carry out structural analysis using ANSYS software by Mr. Harsh Maniar, an ANSYS expert and IIT graduate. The workshop also covered a research based

case study on structural analysis of corrugated web plate girders using ANSYS by Prof. Apurva Dave. Out of the 30 participants who registered, many were unable to attend the session and many have requested advanced workshop with hands-on sessions. This will be organized as paid workshop on demand and members will be intimidated of the schedule shortly.

Forthcoming events

Socio technical interaction initiative by Gujarat state centre

The Gujarat State Centre has initiated a participatory approach for the civil and structural engineering fraternity by taking up organization of short, curated and theme based sessions by participants. These events will be held every month beginning June 2019 and enable regular gathering and interaction among the fraternity. In each event, maximum of five member speakers group will be selected based on a common theme so that participants can be pre-informed on the discussion topic. The socio technical event will be organized at CEPT University, Ahmedabad to begin with and may also be carried out in other cities in India gradually. The interested speakers may fill this form <https://forms.gle/XHoMWQqk398P8zvU6>.

Call for articles

The Chairman and other members of the SED Editorial Board invite article contributions for the quarterly journal of the Indian Association of Structural Engineers, the Structural Engineering Digest.

Write to iastructe@gmail.com for

- ✚ Journal subscription
- ✚ Article Submission
- ✚ Sponsored Advertisement

Deadline for submission of next issue:
1st July 2019

Submission template and ethics statement can be availed by emailing iastructe@gmail.com.

Call for advertisement in Newsletter

The association invites sponsored advertisement for the IAstructE newsletter. The rates for advertisement in the IAstructE monthly Newsletter are as follows:

Half page Rs. 7,000/- per issue, 10% rebate for quarterly, 20% rebate for half yearly and 30% rebate for yearly booking.

Full page Rs. 10,000 per issue, 10% rebate for quarterly, 20% rebate for half yearly and 30% rebate for yearly booking.

(Kindly note that the GST @ 18% shall be payable on reverse charge)

Featured Article : Infrastructure Woes and our Woeful Response

(This was first published in Moneylife (moneylife.in))

The most memorable character for me in 'Alice's Adventures in Wonderland' was the whimsical ruler, the Queen of Hearts. Her much-loved phrase which she would repeat ad nauseam was "Off with his head!" / "Off with their heads!". I was reminded of her when I read in the morning news report of May 12 2019 that based on an IIT Bombay report, the Western Railway had ordered another bridge to be demolished, this time a foot over bridge (FOB) at the busy Dadar station. The alacrity with which this decision has been taken demonstrates extreme nervousness on part of the railways administration post the partial collapse of the FOB at Chhatrapati Shivaji Terminus (CST) on March 14, 2019 and its reluctance to take a more considered line of action, including a peer review. I wonder if the possible fallout of this decree to demolish the Dadar FOB has been adequately examined, because while the memory of the CST FOB collapse is still fresh in the minds of the state apparatus, it appears that the stampede of September 29 2017 in which 23 people lost their lives has vanished from our collective memory. The demolition of this wide overbridge at Dadar has the potential to cause chaos in the event of two trains arriving at a platform in quick succession as the other parallel bridges are challenged by bottlenecks caused by narrow landings. I would be sceptical about a disaster scenario simulation and testing having been carried out before such a far-reaching decision was taken. And there is certainly no regard to the inconvenience likely to be suffered by commuters, harried as they already are by the simultaneous construction of the metro line, road repairs and road excavations to lay numerous pipes and cables. The city has not yet recovered from IIT Bombay's earlier edict to demolish the Delisle bridge at Parel and continues to reel from the loss of millions of rupees due to perennial traffic snarls at Parel, arguably Mumbai's new financial hub.

It would be fair to ask what exactly constitutes an "IIT" report, for it to be taken as the holy bible by the administration. For the government, an IIT is a magic wand-wielding institute, a one-stop solution for all the government's woes when it does not know what to do with a dilapidated building in the monsoon or is facing a PIL on account of its stock of poorly maintained infrastructure-bridges, hospitals, schools, colleges or when it wants to draft the building codes for the country (a look at the code committees of the Bureau of Indian Standards would be illuminating) or for vetting new construction. (Many cities in the country have made being a faculty member of an IIT a very lucrative affair by mandating that all buildings within their jurisdiction exceeding stipulated height or size must necessarily be vetted by an IIT or equivalent). IITs can at times churn out reports with astonishing speed, much to the delight of the government. Imagine, a faculty member of an IIT Bombay can be tasked with study and submission of status report of 447 bridges across Mumbai within six months. Unsurprisingly, we have two bridges in the commercial capital of the second most populous country demolished on the directions of an IIT Bombay report. When in doubt, as the queen says, "Off with his head!"

Having been a Visiting Professor at one of the older IITs for three years and worked for over two decades with numerous IIT professors, I have seen firsthand that IIT reports are not that of the institute but of an individual faculty member. It is not inconceivable to get completely opposing reports for a structure from different faculty members of the same IIT. That, an IIT professor once proudly said to me, speaks well of the independent and fearless mindset of the IIT professor. While that may be true, in some areas, especially in matters of physics and mechanics, one would wish that an addition of two plus two would unfailingly yield the same result of four, especially when the stakes are high. There is nothing "institutional" about reports from Indian Institutes of Technology, unlike the institutional mechanisms that are followed in larger engineering organisations- government or private. In such organisations, a well-defined system exists in terms of supervision, oversight and signoff at many levels. There is room for discussion and debate and the final report that is released has usually passed multiple reviews which the organisation has to take full ownership of. Not so in an IIT project. The work is done by the individual faculty member and is seldom subject to review (unless expressly stated by client) by a second faculty member. Hence the report of an IIT is oftentimes quite simply the opinion of a single IIT professor. More importantly, a professional organisation (public or private) is legally

liable for the design or report. But IITs do not feel the need to stand up to public scrutiny. Here's what is put up by IIT Bhubaneswar on its website. "The Institute undertakes to carry out the project as conscientiously as conditions allow, but accepts no economic responsibility should the work not lead to expected results. The Institute accepts the project on condition that the Client renounces all right to claim damages for losses sustained directly or indirectly in consequence of the work done by the Institute." Such a disclaimer should be sufficient for any client to scurry for cover. And yet for project after project, the government will turn exclusively to the IITs for advice on new projects, disaster management, health of public infrastructure and much else.

Whatever happened to the Railways cadre of engineers, the IRSE, considered to be one of the oldest and most elite of all Indian engineering cadres that manages the department of civil engineering in the Indian Railways? It is a shame that the Indian railways which had one of the most comprehensive systems for inspection and maintenance (the granular "Indian Railways Way and Works Manual" was first published in 1967 and has seen numerous upgrades along the way) has capitulated to the downward spiral in our institutions and has now subcontracted its duties of inspection and audit to small time consultants or one-man armies of the IITs. What does the railways have to say for itself when one of its own bridges (Dadar FOB) constructed in 1993 and which has barely reached midlife, is now deemed to be so heavily corroded as to be unfit to carry intended loads?

It is unusual to demolish bridges which are lifelines of a city without arranging an alternate travel path. New replacement bridges for the Bay bridge between Oakland and San Francisco, California, or the Tappan Zee bridge in New York or even the Vashi bridge in Mumbai were commissioned before the old bridge was demolished. It is astounding to any structural engineer as to why a steel bridge which is relatively much simpler to retrofit could not have been strengthened adequately for it to last until a new bridge was built and traffic shifted to it before commencing its demolition. It is also a sad statement on another of Mumbai's institutions, the Heritage committee of Mumbai which did not lean in and protect an important heritage structure of Mumbai. DeLisle bridge was a steel bridge fabricated in England and shipped piece by piece to Mumbai in 1918. And it is a damning statement on the apathy of Mumbai's structural engineers that they did not intervene and imagine an innovative retrofit for the bridge.

We need to reflect if as a society we have even a modicum of a scientific temperament left in us. Following the partial collapse of the floor slab system of the foot over bridge at the Chhatrapati Shivaji Terminus railway station, the municipal corporation overnight dismantled the main girders of the bridge which were in perfectly good condition, behaving like bumbling police in detective films who mindlessly destroy or contaminate all evidence at the scene of the crime. So we have an inquiry based on an absent bridge and absent files (the drawings file of the bridge has gone missing). The hapless auditor of the bridge was a company started by a professor of one of the oldest government engineering colleges in Mumbai. So at one end we have implementation of a non-peer-reviewed decision to demolish the DeLisle bridge and at the other end a dangerous safety affirmation of a seriously compromised foot overbridge at CSMT.

We need to have more systems and processes in place. Atul Gawande in his book "Checklist" sings paeans to the detailed system of checklists prevalent in the construction industry. If only he knew the reality in India. It serves no one, least of all the financial capital of India to use IITs or some favoured consultant(s) as a fig leaf to rubber stamp and whitewash systemic problems in infrastructure. Crumbling infrastructure is a global problem but nowhere is it treated with such nonchalance as in India. It is not necessary for the municipal corporation or the railways to get into defensive mode after each failure. And it is self-defeating to see every failure as an occasion to guillotine some municipal engineer or use a structural consultant as scapegoat. It would serve the municipal corporation better if it could get into a proper enquiry mode to understand causes of failure and then create a road map for avoiding similar situations in the future. Conversely, every time we have a bridge deemed unfit for use by a consultant, we need to have a committee review this and see the cost-benefit ratio to carry out repairs to extend its life until a replacement bridge is in place rather than simply demolishing it without a Plan B in place. The culture of cronyism in selection of consultants and contractors needs to be done away with, if we have the intention of improving the infrastructure of the city.

And pray, what would it take for the railways to shake the dust off its own maintenance manuals and regain its lost glory of excellence in engineering?



The article is authored by Alpa Sheth. She is the managing director of VMS Consultants Pvt Ltd, a firm with over 50 years standing in structural engineering industry. She holds a post-graduate degree from University of California, Berkeley, US. MsSheth has been AICTE-INAE distinguished visiting professor at IIT Madras and chairperson of the Academic Council at Kamla Raheja Vidyaniidhi Institute for Architecture, Mumbai. Ms Sheth is Chairperson of BIS Sub-Committee for Drafting of Tall Buildings Code for (BIS) Special Structures Sectional Committee (CED 38) and had co-drafted the recently released Code on Concrete Tall Buildings for India.

Ms Sheth is co-founder and managing Trustee of Structural Engineers Forum of India -SEFI (www.sefindia.org) which has emerged as the leading national platform for more than 22,500 structural engineers to share their engineering problems, concerns and experiences and improve the built habitat.

New IAStructE members

FELLOW” Grade Members

M/S No	Name	Designation, Organization	City
F-447	Mr. Sandeep Donald Shah	Managing Director, Taylor Devices India Pvt Ltd	Gurgaon
F-448	Mr. P. G. Venkatram	Chief Executive, L&T Infrastructure Engineering Ltd	Chennai
F-449	Mr. Vipul Kumar Agarwal	Sr. Structural Engineer, McDermott International	Gurgaon
F-450	Mr. Rajiv Goel	Managing Director, Earthcon Systems (I) Pvt Ltd	New Delhi
F-451	Mr. Tanmoy Chatterji	General Manager, Simplex Infrastructures Ltd	New Delhi

“MEMBER” Grade Members

M/S No	Name	Designation, Organization	City
M-272	Mr. Reyaz Ahmad	Project Manager, COWI India Pvt Ltd	New Delhi

“ASSOCIATE MEMBER” Grade Members

M/S No	Name	Designation, Organization	City
AM-280	Mr. Sharang Vaman Totekar	Sub-Consultant(Design) Consortium Consultants	Goa
AM-281	Mr. Yaman	Structural Engineer, R. R. Designintellect	Gurgaon
AM-282	Mr. Manigandan H.	Asst. Engg. Manager, L&T Construction	Vellore

“STUDENT MEMBER” Grade Members

M/S No	Name	Designation, Organization	City
SM-378	Mr. Pankaj Goyal	Amity School of Engineering & Technology	Noida
SM-379	Mr. Vivek Kumar	Amity School of Engineering & Technology	Noida
SM-380	Mr. Rahul Kumar	SGT University	Gurgaon
SM-381	Mr. Ashirbad Satapathy	BITS Pilani	Rajasthan

About IAStructE

The Indian Association of Structural Engineers (IAStructE) is the national apex body of structural engineers in India established with the objective to cater to the overall professional needs of structural engineers. The association has become the source of expertise and information concerning all issues that involve structural engineering and public safety within the built environment. It has no commercial aim or objective. IAStructE is purely a professional learned society with the prime objective of supporting and protecting the profession of structural engineering by upholding professional standards and acting as a mouthpiece for structural engineers. IAStructE endeavors to ensure that its members develop the necessary skill in structural engineering and work to the highest standards by maintaining a commitment to professional ethics and standards within structural engineering. IAStructE strives for continued technical excellence; advancing safety and innovation across the built environment. It also strives to make available to the Government, Public Sector and Private Sector - a credible source of well qualified and experienced Structural Engineers. A nationwide database of Structural Engineers has been compiled and is being constantly updated. IAStructE undertakes a broad range of technical activities which are aimed at information sharing and capacity building. The association provides opportunity for all the members to develop various skills in structural engineering and helps members to be at the forefront of structural engineering practice. Towards achievement of its aims and objectives, IAStructE is engaged in organizing the following: CPD Courses for Professionals at all levels Refresher Courses for Fresh Graduate Engineers, Student's orientation program, Seminars/Workshops, Technical Lectures by Experts, Technical Discussions on Contentious Issues. IAStructE is currently operating from four regional centers. These regional centers located in the Eastern, Western, Northern and Southern parts of the country effectively cater to the professional needs of members residing/practicing all over the country.

How to become a member?

Membership form and details are available at <http://www.iastructe.co.in/membership-form.html>

For membership information and other details contact the Indian Association of Structural Engineers Secretariat.

Membership Benefits

Membership of IAStructE is a sought after professional accreditation. Your membership of IAStructE can help you enhance your intellectual, academic, technical and professional status. It provides inter connectivity to the fellow professionals and the fraternity. Some of the benefits of membership is provided below:

- ✚ Complimentary magazine subscription: All members (except Student Members) receive a complimentary subscription to the Institution's flagship publication 'Structural Engineering Digest' (SED). Published quarterly, each issue allows members to remain connected to the association through the provision of technical papers, Industry and Institution News, Featured articles, Professional Guidance on everyday matters affecting the practicing structural engineers. [Released]
- ✚ Access to all Technical Lectures, organized every month, at no charge
- ✚ Access to Technical Discussions held regularly
- ✚ Access to the association's library (Including e-library)
- ✚ Discounts in attending Seminars and Workshops organized by the association
- ✚ Full on-line access to the current volume and entire e-archive of journal "Structural Engineering Digest (SED)", Refresher Course Materials, Technical Lectures E-Newsletters and other Technical Resources of the Association.
- ✚ Opportunity to network with professional structural engineers of eminence and to meet potential employers in the association.
- ✚ Opportunities for professional development

IAStructE Secretariat

Indian Association of Structural Engineers
K-69A , Basement, Kalkaji, New Delhi 110019
Tel: (011) 45794829 ; Email: iastructe@gmail.com; Website: www.iastructe.co.in
Face book: <https://www.facebook.com/IAStructE-1702347580065625/>