

Newspaper Clips

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विश्व रिकार्ड भारत के नाम

वर्ष 2015 में विज्ञान के क्षेत्र में भारत की एक बड़ी उपलब्धि सबसे बड़े प्रैक्टिकल साइंस लेशन के लिए गिनीज बुक में नाम दर्ज कराना रहा।

दिसंबर में आईआईटी दिल्ली में भारत अंतर्राष्ट्रीय विज्ञान महोत्सव के तहत दिल्ली और राष्ट्रीय राजधानी क्षेत्र से 2,000 स्कूली छात्रों ने यह रिकार्ड



बनाया। प्रायोगिक विज्ञान पाठ के रूप में दर्ज हुआ यह विश्व रिकार्ड आयरिश स्कूल के 1,339 विद्यार्थियों के एक समूह द्वारा निर्धारित श्रेणी में बनाए गए विश्व रिकार्ड को तोड़कर बनाया गया।

गिनीज बुक ने अपनी वेबसाइट में उल्लेख किया है कि इस सबसे बड़े प्रायोगिक विज्ञान पाठ में 2000 छात्रों ने भाग लिया था और यह सम्मान 7 दिसंबर को दिल्ली, भारत में विज्ञान भारती (भारत) ने प्राप्त किया। इसमें

शामिल प्रतिभागियों ने उत्प्रेरक पर आधारित इस पाठ के तहत प्रयोगों को पूरा करने के लिए छोटी-छोटी टीम में काम किया।

65 मिनट लंबे इस कार्यक्रम में सरकारी और निजी दोनों स्कूलों से 40 स्कूलों से 9वीं से 12वीं कक्षा के 2000 स्कूली छात्रों ने भाग लिया। हर स्कूल से 50 बच्चे शामिल हुए थे। केरल में कॉचि विज्ञान एवं प्रौद्योगिकी विश्वविद्यालय के प्रो. के. गिरीश कुमार ने प्रयोगों की अवधारणा तैयार की और सत्र का आयोजन करने वाली

टीम का नेतृत्व किया।

एक्सपेरिमेंट को एक प्रमुख विशेषता एलिफेंट टूथपेस्ट एक्सपेरिमेंट था, जिसमें आयोडीन की मौजूदगी में हाइड्रोजन पेरॉक्साइड को केटालिटिक डिक्पांजशन कराया गया।

तीजतन काफी मात्रा में ऑक्सीजन बाहर निकला और इतना अधिक झाग निकला जितना एक बड़े टूथपेस्ट को निचोड़ने पर निकलता है। अन्य प्रयोग में हाइड्रोजन पेरॉक्साइड द्वारा मिथिलिन ब्यू का वेरंग होना

शामिल था।

यह आयोजन तीन स्वतंत्र निरीक्षकों- दिल्ली के वरिष्ठ पुलिस आयुक्त धर्मेन्द्र कुमार, असम राज्य विज्ञान एवं प्रौद्योगिकी परिषद के निदेशक अरुण कुमार मिश्रा और मैसूर विश्वविद्यालय के पूर्व कुलपति प्रो. अखिल अहमद की निगरानी में संचालित किया गया।

इसके अलावा 40 प्रबंधक भी थे, जिनका कार्य यह सुनिश्चित करना था कि छात्रों ने प्रयोग को सफलतापूर्वक पूरा किया है।

बुनियाद के इस अंक में जो सूचनाएँ हैं, जो लेख-आलेख या विश्लेषण हैं उनके तथ्य कई जरियाँ से संग्रहित हैं। समाचार एजेंसियों से लेकर प्रतियोगी परीक्षाओं के मॉडल पेपर, पुस्तकों, पत्रिकाओं से तथ्या को जांचा गया है। हमारी कोशिश है कि पूरी तरह से सही तथ्य आपके सामने आएँ। फिर भी अगर उनमें आपको कहीं कोई गलती दिखे या किसी प्रूफ गलती से एकदम उलट अर्थ निकलता लगे और संशय बने तो कृपया उसे अपने स्तर पर जरूर जांचें।

-सपादक

Times Of India ND 31/12/2015 P-10

Shun Free Basics: IIT, IISc profs to Trai

'Facebook's Plan Violates Net Neutrality'

Somdatta.Basu@timesgroup.com

Kolkata: As many as 104 professors from the country's premier tech institutions like the IITs, IISc and Chennai Mathematics Institute issued a joint statement on Wednesday rejecting the Free Basics proposal floated by Facebook saying it was "misleading and flawed".

The professors fear Free Basics will allow a private entity to define for Indian Internet users what is 'basic', give it access to personal content created and used by millions of Indians, and control the price of content.

"Technical people should also speak out against the misleading claims. Counter-arguments are required. This was the main reason for us to issue the statement," Niloy Ganguly, professor of computer sci-

LINE OF NO CONTROL

SANDEEP ADHWARYU



ence and engineering at IIT-Kharagpur, told TOI.

"Beneath the veil of altruism wrapped around it in TV

and other media advertisements, we find that the first obvious flaw in the proposal is that Facebook assumes con-

trol of defining what a 'basic' service is," Ganguly said.

It violates one of the core architectural principles of In-

Trai extends final date for comments till January 7

Telecom regulator Trai on Wednesday extended the last date for receiving comments on its paper on differential data pricing — a key aspect of the raging debate on net neutrality — by about a week to January 7. The date has been extended at a time when social network Facebook has launched a massive campaign in support of its Free Basics service, which has been dubbed in various quarters as violative of net neutrality. "We have extended it to January 7 mainly due to request from telecom industry bodies," Trai chairman R S Sharma said. The deadline for comments on the paper was earlier scheduled to end on Tuesday. PTI

ternet design which is net neutrality, they said.

For the full report, log on to www.timesofindia.com

**Times Of India ND
31/12/2015 P-10**

50 IIT-Kanpur students face termination for poor marks

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Kanpur: As many as 50 students of different postgraduate and PhD programmes have been recommended for termination by the authorities of IIT-Kanpur. These students have failed to meet the minimum academic standards of attaining cumulative point index of 6 out of a maximum 10.

The students have placed a mercy appeal before the institute's authorities.

According to sources, in a meeting of the senate postgraduate committee held on Tuesday, 10 students out of 50 were recommended for termination and the remaining 40 were recommended for reconsideration. The final fate of these students would be sealed by the academic senate of IIT-Kanpur which will meet on January 1.

A senior faculty member said, "Termination of students from UG and PG courses is routine and happens twice a year at the end of each semester."

HIGHER EDUCATION

After churn, change of guard on the cards

ARANYA SHANKAR

LOOKING BACK

It was a turbulent year for higher education, with all three central universities in the capital facing their share of controversies.

While Delhi University (DU) saw uncertainty over the implementation of the Choice Based Credit System (CBCS), then Vice Chancellor Dinesh Singh was issued a show-cause notice with regard to the implementation of the Four-Year Undergraduate Programme (FYUP).

Singh, who retired in October, was the first VC in the history of the university to have been issued such a notice.

It was also the year when the BJP-backed Akhil Bharatiya Vidyarthi Parishad (ABVP) won a post in Jawaharlal Nehru

University Students' Union (JNUSU) central panel, after 14 years. Saurabh Sharma from the ABVP became the joint-secretary, defeating the nearest candidate of the Left-leaning All India Student's Association (AISA) by a narrow margin of 28 votes.

The ABVP swept the Delhi University Students' Union (DUSU) polls a second consecutive time.

The AAP's student wing, the Chhatra Yuva Sangharsh Samiti (CYSS), failed to win a single seat, despite a high-profile campaign.

St Stephen's College principal Valson Thampu made headlines all through the year, first by banning a college e-zine for publishing an interview with him without his permission, then for allegedly shielding a faculty member accused of sexual harassment, and finally, by proposing sweeping changes in the college constitution which will give more power to the Church of North India to intervene in ad-

ministrative matters.

The cancellation of the non-NET fellowship for research scholars, coupled with the central government committing higher education to WTO-GATS, saw the build-up of the Occupy UGC movement led by the JNUSU.

Students were detained and also faced police lathicharge during the sustained protest.

LOOKING FORWARD

The appointment of a new JNU Vice Chancellor, with incumbent SK Sopory scheduled to retire in January, and a new VC for Delhi University.

Thampu too is scheduled to retire, on February 28, and St Stephen's College has started scouting for his replacement.

A Governing Body (GB) meeting around the same time will take the final call on passing the controversial draft constitution, which has already been passed by them once.

Science and politics of vehicular pollution

Why are our policy makers and scientists ignoring public health risks from combustion sources and raising dust over dust pollution to blind policy focus?



ANUMITA ROYCHOWDHURY

While monitoring and tracking air pollution levels let us not miss the woods for the trees - the ultimate objective of air quality management is to reduce the burden of disease in our cities

It is odd how our air quality regulators track air pollution without linking the purpose of this exercise with health impacts. Wind-blown dust from roads or elsewhere becomes a bigger problem for them as studies on air pollution sources show dust as the dominant source of particulate matter. It is not clear to them why some sources require priority action to reduce disease burden even while dousing the dust. Our policy makers do not calibrate and weigh the relative risk of air pollution sources in terms of public health impacts. This is because our Air Act, 1986 that governs air quality management in the country, does not have public health mitigation as its central focus. The word "health" does not even figure in this piece of legislation. Therefore, the air quality regulators remain clueless about interpreting pollution inventory studies for policy action as they do not integrate relative health risks of emissions from different pollution sources to decide the stringency of action.

Globally, this is set to change as emerging scientific studies show that while action on all pollution sources is needed to meet the clean air target, it is also important to prioritise sources that have more serious health impacts. The leading health and scientific institutions like the World Health Organisation (WHO) and the National Academy of Science have placed a high priority on determining which constituents and components of PM2.5 mass are most responsible for health effects. The WHO has said way back in 2007 that such an analysis is needed to allow more targeted mitigation to reduce the burden of disease due to air pollution. But Indian regulators and a great part of its scientific community have not paid attention to this science and have remained trapped in the dust vs fossil fuel emissions spat.

Clinching global evidence: Coal and diesel bigger rogues than dust

The global science on air pollution is more matured today that helps policy makers to decode the public health impacts of pollutants coming from different sources to help refine and prioritise action. A significant study by the leading air pollution and health sci-



Representational Image

entists under the aegis of Health Effect Institute, Boston, published in Environmental Health Perspective recently, has assessed health impacts of particulates from different pollution sources and found that particles from coal and diesel are more harmful. This has opened up a whole new genre of scientific investigation to make air pollution mitigation more relevant to public health.

Clinching evidence has come from this large-scale study that has evaluated 445,860 adults in 100 US cities for 22 years for vital status and cause of deaths. They have evaluated the impact of particulate matter coming from different pollution sources in aggravating ischemic heart disease by ascribing hazard ratio to PM2.5 depending on its source. Their dramatic finding is that long-term exposure to PM2.5 coming from fossil fuel combustion including coal burning and diesel traffic, increase ischemic heart disease related deaths. They have concluded that PM2.5 related deaths can vary according to the source of pollution and the largest

control of ischemic heart disease is possible through strong control on reducing PM2.5 coming from fossil fuel combustion exposure. In the US alone nearly 1 in 5 ischemic heart disease deaths are associated with PM2.5 exposure.

The study has not found any risk for ischemic heart disease from wind-blown dust and fine crustal particles. Such association has also not been found with biomass burning that otherwise exacerbates respiratory disease.

This study is categorical in its observation that association between ischemic heart disease deaths per one microgram per cubic metre increase in coal or diesel combustion related PM2.5 is higher than those associated with one microgram per cubic metre increase in total PM2.5 mass concentration in the air. The sulphates and trace metals in coal and diesel particles make them more harmful. Sulphate, formed from sulphur dioxide in the air, contributes to the toxicity of PM2.5. Secondary sulphate particle causes the largest excess deaths from heart ailments.

Overall, PM2.5 from combustion source has higher cardiovascular toxicity per unit mass of exposure than other particles, -- much more than those of soil and biomass origin. They cause higher oxidative stress on the cardiovascular system. Trace metal and sulphur contribute to the enhanced toxicity of these sources.

PM2.5 from diesel vehicles that has a high share of elemental carbon, nickel, vanadium etc and also contribute to secondary nitrate particles make PM2.5 from diesel traffic more harmful for high risk of ischemic heart disease. This group of scientists have also found that diesel emissions increase the risk of ischemic heart disease more than the emissions from other vehicles.

Implications for Indian cities

The emerging global evidence have serious implications for India where the Global Burden of Disease (GBD) estimates has shown that out of total premature deaths caused by air pollution related diseases -- 627,000 a year, half of them are due to heart diseases. Heart diseases

emissions of PM2.5, they are also the high emitters of gases -- sulphur dioxide and nitrogen oxides that also contribute towards the formation of secondary particulate matter in the air. If the secondary particulates are taken into account then the combustion sources are the greatest emitters in the city with serious public health impacts. In fact, for the first time, the IIT Kanpur study has put the spotlight on secondary particles in Delhi. This has brought out the role of the gases from vehicles, power plants, and industry that transform in the air to form particles and contribute to particulate pollution. Nitrogen oxides convert to nitrate particles and sulphur dioxide into sulphates and push up the PM2.5 load in the air. This can be controlled only if primary gases from vehicles and stacks are reduced drastically. The Health Effect Institute study has already shown how these pollutants contribute to the overall toxicity of PM2.5 and adds to the cardiovascular stress. Moreover, the IIT Kanpur study has found a high level of toxic carcinogenic gases like PAH (Polycyclic aromatic hydrocarbon) that is from vehicles and burning and adds to cancer risk in the city.

Let us be clear. It is not at all unusual for road dust and crustal dust to dominate any particulate matter inventory in any city of the world. Even in the US, the EPA inventory shows that the road dust share is much higher than the contribution from the vehicles, power plants and industry. Yet those countries have not resorted to only vacuum cleaning of roads but have implemented the most stringent emissions standards for combustion sources -- vehicles, power plants and industry, to reduce public health risk.

Understanding this science to prioritise stringent control measures is critical to reducing public health risk in our city. While monitoring and tracking air pollution levels let us not miss the woods for the trees -- the ultimate objective of air quality management is to reduce the burden of disease in our cities.

(The author is Executive Director, Centre for Science and Environment. Views expressed are strictly personal)

2015: A mixed bag for Smriti Irani led HRD Ministry

<http://economictimes.indiatimes.com/news/politics-and-nation/2015-a-mixed-bag-for-smriti-irani-led-hrd-ministry/articleshow/50376890.cms>

NEW DELHI: The Human Resource Development (HRD) Ministry had an eventful 2015 with new initiatives like setting in motion the process to formulate a new education policy amid allegations of saffronisation of education and some controversial resignations.

As the year began, the ministry began deliberations on creating the education policy. Former Cabinet Secretary T S R Subramanian was appointed chairperson of a committee to draft the policy.

During the year, the move to implement a choice-based credit system which will make migrating seamlessly from one university to another easier also gathered pace.

The ministry also set up a committee to probe into alleged administrative irregularities against Visva Bharati University Vice-Chancellor Sushanta Duttagupta. The committee found Duttagupta guilty of some of the charges after which the HRD ministry wrote to the President seeking his removal.

However, the President wrote back with a query whether denying the vice chancellor a "hearing in person" on allegations levelled against him was legally tenable.

Another major controversy that hit the ministry was in March, when it came to light that eminent nuclear scientist Anil Kakodkar had resigned as chairman of the board of governors of IIT Bombay, apparently because of differences with the HRD Minister Smriti Irani over selection of some IIT directors.

Kakodkar, however, agreed to complete his tenure which was supposed to come to an end in May, after Irani, had a long telephonic conversation with him.

Another body which saw resignations in the year was the Indian Council of Historical research where first Gopinath Ravindran quit as its member secretary. Later, its chief Y Sudershan Rao, who was appointed by the present government, too resigned citing personal reasons.

During the year the HRD ministry launched several initiatives like GIAN (Global Initiative of Academic Networks), which would bring foreign faculty to Indian institutes, and National Institutional Ranking Framework (NIRF), which would rank Indian educational institutions.

However, its draft IIM bill attracted criticism and fears that it would affect the institutes' autonomy after which the ministry decided to hold wider consultations.

During the year, the HRD ministry also put a lid on a controversy that erupted last year by entering into an agreement as per which German will be taught in Kendriya Vidyalyayas as an additional foreign language while modern Indian languages will be taught in Germany.

The ministry was also in news as various members close to the RSS and BJP got important positions in bodies like the Indian Council for Historical Research, CAGE and National Book Trust.

On some occasions, Irani even expressed her views on such allegations. Speaking at an event in June, she dismissed the charge that education under the present government was being saffronised.

"I never ask students about religion as we do not discriminate the right of a student to education on the basis of caste or religion," she said.

On another occasion, she took a jibe at critics alleging saffronisation of education and said the country's inherent strength in education, ancient concept and values is hailed and applauded abroad but is described as "saffron" back in the country.

Irani also found herself in a spot when her remarks that women in the country are not told what to wear, whom to meet and where to go, drew voices of dissent from an audience she was addressing.

The Indian Institute of Technology (IIT) Madras also was at the centre of a row over derecognition of a students' group, many of them Dalits, following a complaint that it was critical of Prime Minister Narendra Modi, triggering protests from Congress and AAP.

The ministry also constituted a 13-member expert panel headed by former Chief Election Commissioner N Gopalswami to deliberate on issues related to Sanskrit as part of its attempt to promote the language.

There was also a wide debate on the no detention policy in schools and many state government too expressed unhappiness with it.

Another controversy that took place during the year was over the reported UGC move to close the non-NET fellowships which the HRD ministry said would not happen.

Sailing through a controversial tenure, Delhi University Vice Chancellor Dinesh Singh demitted office during the year.

A committee constituted by the IIT council recommended major changes in entrance examination structure for these prestigious institutes including setting up of a national testing service, which would hold tests on the basis of which around four lakh students would be shortlisted for Joint Entrance Examination (JEE).

Number of PhD scholars at IIT-Madras rises to 270

<http://timesofindia.indiatimes.com/home/education/news/Number-of-PhD-scholars-at-IIT-Madras-rises-to-270/articleshow/50383462.cms>

CHENNAI: The number of PhD scholars at IIT-Madras increased over the past few years, IIT-M director Bhaskar Ramamurthi has said.

"At one point, we had only 50 to 60 PhD scholars dominated by Chemistry. But last year we had about 220 PhDs and this year, we have 270. I am sure the numbers may increase to even 400 in three years," Ramamurthi said while speaking at the alumni reunion on Monday.

The number of women PhD scholars also has increased. While the ratio of male and female PhD students at IITs has usually not been on par, the numbers now stand at 30%, something much beyond the 10 or 12 women scholars who were present in a batch a few decades ago. "This would consequently lead to a higher representation of female numbers in the faculty which again stands at 12%," he said.

"The female representation in the undergraduate programmes is 12% but the number of women in engineering colleges outside IIT is quite high. There is no particular in-depth understanding as to why there is this imbalance at IIT, whether it is to do with the entrance tests or with the choices of students to study elsewhere," he said.

Ramamurthi also addressed the issue of the mushrooming of IITs across the country that was raised by the alumni members. "The sheer branding of IIT was not enough to sustain the quality but if it if the new IITs are seeded by older IIT systems, they can definitely fit well into the IIT culture," he said.

IIT-M conferred the distinguished alumnus awards on 12 members from across the academia and industry sectors.

Nearly 300 alumni members from across batches were present at the reunion.

IIM-Indore expels one, suspends 10 for drug abuse

Hindustan Times (Indore)

INDORE: One student has been expelled from IIM-Indore and ten suspended for an entire term in connection with a case of the drug abuse at IIM-Indore on Wednesday.

Authorities of the management school took action after the student and hostel welfare committee submitted its report to Rishikesh T Krishnan, director, IIM-I, with evidences found during a surprise check at the hostel in early December.

In a statement issued by IIMIndore, the institute mentioned that IIM Indore is committed to making every effort to keep the campus free of drugs. Narcotic substances were found in rooms of some students during surprise checks at some hostels regarding which, appropriate action has been taken.

The statement highlighted that the IIM-I administration has wrote a letter addressing parents whose wards have been involved in drug abuse cases, seeking their support in counselling the students. The body has also set up an inquiry to probe the source of drug in the institute. Students found consuming or storing narcotics within campus premises will be handed over to police, the statement added.

PMO pushes for pvt varsities free of any government control

Hindustan Times (Kolkata)

NEW DELHI: Higher education in India could turn a new leaf with the Prime Minister's Office (PMO) asking the human resource development ministry to fast-track a plan to set up 10 private autonomous universities for research and innovation.

The move could pave the way for world-class private institutions to come up in the country.

These institutes, unlike the current lot of private universities regulated by the University Grant Commission, will be free of government control and have their own curriculum and fees. They will have full autonomy in hiring faculty members and all other aspects of administration, sources said.

On the lines of Stanford and Princeton universities in the US, these institutes will provide students modern infrastructure for research and innovation in different fields, including information technology, medicine, agriculture and biotechnology. "The directive from the PMO is being deliberated in the ministry and we could soon come out with a framework to set up such universities," an HRD ministry official said.

But another official said there was no clarity on how this could be achieved. "If these are set up through an Act of Parliament such as institutes of national importance, including AIIMs, IITs or NITs, the government will have to pass separate bills for each university. Again, if they come into existence by modifying the UGC Act, they will have to follow the regulatory body's guidelines," he said.

The proof of the pudding would be known, according to former UGC member MM Ansari, when private players come on board because building and maintaining state-of-the-art education facilities involve huge investment while "the return is uncertain".

At present, there are four categories of universities --- central, state, deemed and private --- set up through government legislations and regulated by UGC guidelines. While central universities have been formed through

an Act passed by Parliament, deemed universities are recognised by the UGC if they fulfill certain conditions. State and private universities are formed by state legislations.

Institutes of national importance, established through a central Act, enjoy autonomy but the HRD ministry has overall control over them.

The UGC would have no say on private universities to be set up under the directive of the PMO, sources said.

A similar attempt by the UPA government to bring the Universities for Research and Innovation Bill in 2012 could not succeed. It was rejected by the standing committee.

AMU shelves campus plans

Basant Kumar Mohanty

http://www.telegraphindia.com/1151231/jsp/nation/story_61358.jsp#.VoTTO-alhWU

New Delhi, Dec. 30: Aligarh Muslim University (AMU) has had to shelve plans to open centres in Pune and Bhopal as the Centre has decided not to allow any central university to open off-campus.

Union HRD minister Smriti Irani has said that no central university would henceforth be allowed to open such centres anywhere.

"It has been decided at the national level that none of the central universities will open out of campus because opening such off-campus is a financial burden," Smriti was quoted as having told an October 14 meeting of her ministry whose minutes have been accessed by **The Telegraph**.

AMU executive council member Wasim Ahmed said the varsity had in 2007-08 planned centres at Murshidabad in Bengal, Malappuram in Kerala, Kishanganj in Bihar, Pune in Maharashtra and Bhopal in Madhya Pradesh.

The Murshidabad, Malappuram and Kishanganj centres were approved in 2008, with the rest left for later as Madhya Pradesh and Maharashtra were not ready. "The university has been talking to the governments of Madhya Pradesh and Maharashtra for land and other facilities. Now these plans stand shelved in view of the government's decision not to allow any off-campus," Ahmed said.

The Malappuram and Murshidabad centres run B.Ed, MBA, BA and LLB courses while the one at Kishanganj offers B.Ed and MBA. The Pune and Bhopal centres would have offered similar programmes, Ahmed said.

Javid Akhtar, the co-ordinator for the AMU centres, said Maharashtra had sought an additional centre in Aurangabad, but the Madhya Pradesh government had not shown much interest. "No decision has been taken on Maharashtra's requests. The existing centres already face a funds crunch," Akhtar said.

Smriti recently told the Lok Sabha the UGC had allocated Rs 136 crore for the Kishanganj campus but released Rs 10 crore. The centre had started B.Ed without approval of the National Council of Teacher Education - the regulatory body for such courses - because of which the funds had been delayed, she said.

The bar on off-campus comes at a time the HRD ministry received several petitions against the AMU's decision to open centres. A faculty member said the university act did not allow such far-away centres, allowing such hubs only within 25km of the AMU mosque in Aligarh.

But coordinator Akhtar rejected suggestions of illegality. He said the act empowered the university to establish centres for "furtherance of its objectives" with the approval of the Visitor - the President - and the existing ones had been opened with such clearance.

Former UGC secretary R.K. Chauhan supported the government's decision. "Big institutions like central universities will not be able to manage off-campus. Each will become a full-fledged university. A vice-chancellor sitting on the main campus cannot manage them."

Techfest 2015-16 | All the highlights from IIT Bombay

IIT Bombay's Techfest, touted as Asia's largest science and technology festival, taken over by robots.

By [Abhijit Dey](#) 30 - Dec - 2015

<http://www.digit.in/general/techfest-2015-16-all-the-highlights-from-iit-bombay-28438.html>



It was that time of the year when science and technology nerds from across the country gathered at one place to witness and participate in an event which has never disappointed through the years. Techfest 2015-16, organised at IIT Bombay, saw a staggering footfall of about 1,65,000 enthusiasts in a span of just three days. This huge participation owes to the interesting lineup of events, lectures, panel discussions and competitions conducted at the institute. Dr. K. Radhakrishnan, former chairman of ISRO, comprehensively spoke about the success story of ISRO and all the advancements from the recent space missions, mainly about Chandrayaan and Mangalyaan. A refreshing lecture was delivered by Nobel Laureate in Physics, Prof. Serge Haroche, who talked about his work on atomic physics and quantum optics. Apart from the lectures, the exhibitions also caught our attention, especially the Jinn Bot from Switzerland and the two bots from Bangladesh, Chondrobot and the All Terrain Rescue and Relief Robot.



Prof. Serge Haroche, Noble Laureate in Physics

Students, professors, kids accompanied with their parents etc., the event saw everyone queuing up at the gate forming an endless line, clearly stating the popularity of the festival right on the first day. Unlike the previous year, crowd management was well taken care of since walking past venues was a breeze and no deadlocks were visible.

Sitting through long lectures was never our thing, but Dr. K. Radhakrishnan's presentation about ISRO was quite enlightening about the challenges faced by the scientists back at ISRO. The audience threw several questions related to the ongoing research. and it can be said that the entire lecture must have been successful in sparking off an interest for the young impressionable minds to consider a career at ISRO. Another interesting lecture was given by Prof. Serge Haroche, who was awarded the Nobel Prize in Physics back in 2012 for his work on atomic physics and proving quantum decoherence. Other notable lectures included Bob Frankton who co-creator of VisiCalc, the first spreadsheet program; Dr. Jayant Narlikar, astrophysicist and also a famous author; Nik Powell, co-founder of the Virgin Group; and Eric Klinker, President and CEO of BitTorrent.



Dr. K. Radhakrishnan, former chairman of ISRO

The search for the best showcase of innovation wasn't easy. There were too many exhibitions and setups spread around the campus, which was huge. Just to put things into perspective, we've attached a screenshot from Google Fit to show you the distance we covered in a single day.

Phew!

Participants witnessed an array of interesting bots including the Jinn Bot that could apparently recognise emotions; a set of autonomous robots called the Dutch Nao Team from Netherlands, capable of playing football; and the Chondrobot which was an automated robot with mining capabilities for the lunar environment.

The competitions at the Techfest attracts the most participants at the festival and this time they went big on the audience as well. We didn't spend much time on waiting at every competition, but some of them were so good, we spent time a considerable amount of time watching. Robowars saw a huge audience cheering and supporting the menacing bots, where most of them had contraptions to destroy the opponent. The Full Throttle event saw participants build their own IC cars to drive around a race course beside other participants, which was again an amazing event to watch. Another noteworthy event was the drone competition where participants had to build a drone and fly it through an obstacle course. This competition tested both, the maneuverability of the drone and the skills of the operator flying the drone.



Soccer playing robot from the Dutch Nao Team

At the end of the day, everyone had the opportunity to marvel at artists incorporating technology into their performances. The most remarkable among the lot has to be Afishal who displayed an interesting set on visual DJ drums; Alexis Arts had an amazing illusion act; and finally, Kate Chruscicka, performed a brilliant aerial act of playing an electric violin.



Wall-e Robot at International Exhibitions

[Techfest 2015](#)-16 once again showed there are no bounds when it comes to building things. This was clearly evident in the competitions such as Robowars, considering the methods they had installed on their bots to strike down their opponents. Although it was exhausting, we had a great time entering booths and talking to young students, even school kids motivated to contribute something in the field of technology with their creations. We will surely be looking forward to next year's edition of Techfest, hoping to come across more innovation and more creators.