

CSIR in Media



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Inaugrating the 'Young Scientists' Conclave at IISF- CSIR 2016, Union Home Minister Rajnath Singh Highlighted the contributions of Indian Scientists. He Proposes Jai Vigyan as an addition to the popular slogan Jai Jawan, Jai Kisan

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14th December 2016



INAUGURATION (CSIR)

Inaugurating 'Young Scientists' conclave Rajnath Singh, Union Minister Home Affairs proposed an addition to 'Jai Jawan, Jai Kisan, Jai Vigyan'. Dr. Harsh Vardhan, Union Minister Science was also present at the event.

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Sensitive side of the young scientist shows up during IISF 2016

Lab covered: CSIR-NPL

14th December 2016



On the penultimate day of India International Science Festival (IISF-2016) jointly organized by Ministry of Science and Technology (S&T) and Ministry of Earth Sciences in collaboration with Vijnana Bharti (VIBHA) at National Physical Laboratory (NPL), Delhi the campus was agog with activities.

An innovative programme DST-INSPIRE (Innovation and Science Pursuit for Inspired Research) a national level exhibition and project, was initiated by the Department of Science and Technology to attract talents to the excitement and study of science at an early age. The sensitivity to the societal concerns was also reflected in the projects by the young scientists such as in the device created for comfortably carrying heavy loads on head, termed Lord Carrier.

Prof. Ashutosh Sharma, Secretary, Department of Science and Technology, inaugurated the program.

According to the information, 600 students from different states of the country showcased their projects after qualifying district and state level rounds. Three students will be conferred with national level awards and 57 with consolation prizes. Later, the short listed candidates will present their projects in the 'Festival of Innovation' to be held in March, next year at Rashtrapati Bhawan

The Science Film Festival during the IISF-2016 offered a bouquet of over a dozen Indian and foreign films in the 'Best of the competitive' and the 'Non-competitive' categories. This was followed by a lively panel discussion on 'Science films as an effective tool for communicating science'. With Dr. Manoj Patariya, director, National Institute for Science Communication & Information Resources in chair, this was joined by Inger Midtkandal, the S&T counsellor from Royal Norwegian Embassy; Andreas Roles-Olson, the Science Officer from the Embassy of USA and Alexander Jmyrev, the Science & Technology expert in S&T at Russian Centre of Science & Culture apart from 5 Indian experts.

A lot of visitors continued to throng the halls and project display street on Saturday. In the start-up hall, one item on display that attracted a lot of visitors was the display of a hydroelectric cell that generates electricity using nothing except a few drops of water. In what appears to be a breakthrough, Chief Scientist RK Kotnala and his research fellow Jyoti Shah of NPL have demonstrated that this panel can generate up to about a quarter ampere current at a little less than one volt.

This device, much economical than solar panel, may revolutionize the energy generation scenario. The device has already been patented and published in an international journal. The efforts are on to shape it in a convenient form like dry cell and to improve in terms of longevity and electrical contacts, said the scientists.

During the plenary sessions, 'Cashless Transactions', use of PAYTM etc. were talked about under Information Technology, while a road map for space crafts, communication, navigation and developments in the required materials was elaborated under the session on Space & Defence.

On Sunday, the festival will conclude with the valedictory function with Dr. Harsh Vardhan, Union Minister of S&T and Minister of Earth Sciences, Sh. Y.S. Chowdary, State Minister for the same, Dr. Girish Sahni, Director General, CSIR, Prof. Ashutosh Sharma and Sh. A. Jayakumar, Secretary General, VIBHA giving away awards.

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Budding Scientists At National Level Exhibition

Lab covered: CSIR-NPL

14th December 2016
Vandita Sariya

At the on going India International Science Festival(IISF)-2016, today, DST-INSPIRE National level exhibition and project competition, projects from all over the country were presented. Approximately 600 students from Andhra Pradesh, Madhya Pradesh, New Delhi, Bihar, Odisha , Chhattisgarh and various other states and UTs showcased their sensitivity towards the societal issues.



Anti-fungal Paper



Blind turn safety device



Smart dustbin



Electricity free washing machine

Mostly the projects were aimed at relieving common man from their usual miseries. For example: projects for easy irrigation and cultivation by farmers, cleanliness, safety, substitution for electricity etc. were showed.

A few of the projects were:

A student showed an anti fungal paper made from fenugreek, turmeric and other ingredients which prevents food degradation significantly.

Roads with smart speed breakers to avoid accidents at blind turns and Autonomous system for controlling accidents in Railway crossing with alarm technique.

Smart dustbins to remind municipality workers to take away the garbage with the help of an alarm when the dustbin is full.

It was certainly impossible to select any one over the other. But for the competition's sake, 3 national winners will be announced tomorrow. "We are looking for something unique, useful by someone who is sincerely passionate about science", said one of the judges.

Many of the projects were on very basic level which will later be modified.

Students, mostly in age group of 10-15 yrs, mentioned that motivation behind these projects are the problems they themselves and people in their locality face. They are trying on their level to bring a change for the furtherance of the society. Many of them are keen to take science for further studies.

It was overwhelming to see these students to possess such insight at a tender age. The exhibition will be on display tomorrow as well. Their endeavors are noteworthy and deserve all the credit. We, on our part, can go to support them and appreciate their efforts in developing India.

Venue: National Physical Laboratory, Dr. K.S. Krishnan Marg, New Delhi

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Multi drug-resistant fungus sets alarm bells ringing

Lab covered: CSIR-IGIB

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Neetu Chandra Sharma

Researchers find C.auris strains immune to all meds; doctors urge need for new antibiotics to fight it

Since a global alert on pathogenic fungus *Candida auris* in 2009, Indian scientists have been actively engaged in research on the strains of this fungi. A recent report of the study indicates that the strains found in Indian hospitals are multi-drug resistant.

The Council of Scientific and Industrial Research–Institute of Genomics and Integrative Biology (CSIR-IGIB), New Delhi, and Department of Medical Mycology, Vallabhbhai Patel Chest Institute, Delhi University, conducted a full genome sequencing on six strains of *Candida auris*, and have published their findings in the latest issue of the UK journal Elsevier.

“A full genome sequencing analysis of *Candida Auris* isolates from four Indian hospitals — three in Delhi and one in Kochi — revealed a clonal transmission, that is the same strains were circulating in Indian hospitals. All *C. auris* isolates analysed originated from cases of fungaemia (fatal fungal infection, a form of sepsis) and were resistant to fluconazole (a broad-spectrum antifungal medication),” said Dr Anuradha Choudhary, Associate Professor and Head, Department of Medical Mycology, Vallabhbhai Patel Chest Institute.

“This emerging multi-drug resistant yeast causes acute hospital-acquired infections. The emergence of this yeast is alarming doctors, as it also exhibits resistance to azoles, amphotericin B and caspofungin, all anti-fungal drugs,” she said.

Molecular identification are not part of routine testing in diagnostic laboratories, and *C. auris* can only be identified by genome sequencing. Doctors insist that due to this, fungaemia is likely to be much more prevalent than reports indicate. As per IGIB and Delhi’s Chest Institute reports, about 40 cases have been documents until 2015.

C. auris infection has been reported to occur in all age groups, and bloodstream infections have a 60 per cent mortality rate.

Hospitalised patients are at high risk. “Recent surgery, diabetes, broad-spectrum antibiotic and anti-fungal drugs, and central venous catheter use are all risk factors,” said Dr Anoop Misra, Chairman, Fortis-C-DOC, Centre for Diabetes, Metabolic Diseases and Endocrinology.

“Fungus infections, especially multiple drug-resistant ones, are difficult to treat and *C. auris* in particular carries a high mortality rate. With prevalence of suppressed immune response among patients, including those with uncontrolled diabetes, this is a big concern. Early diagnosis and treatment is crucial,” said Dr Misra.

As part of standard procedure, ICMR is already looking into this. Director General, ICMR and Secretary, Department of Health Research, Ministry of Health and Family Welfare, Dr Soumya Swaminathan, said, “We have a network of tertiary hospitals looking at fungal infections and their drug resistance. We are also looking at how common *Candida auris* is.”

Frequent use of antibiotics or anti-fungals is supposed to be a cause of origin for any multi-drug resistant fungi. Doctors have urged for the need for new antibiotics.

At least a dozen countries have reported drug-resistant *Candida Auris*, in the last five years. *C. auris* was first reported in 2009 after being isolated from the external ear canal discharge of a patient in Japan. In the same year, about 15 isolates of *C. auris* were reported in South Korea.

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